

Resilient King County

WHITE PAPER

EXECUTIVE SUMMARY

In 2010, King County adopted the *King County Strategic Plan*, envisioning “a diverse and dynamic community with a healthy economy and environment where all people and businesses have the opportunity to thrive.” This vision compels us to consider the long-term ramifications of a major catastrophe.

Recent disasters have created urgency among King County government and other leaders to come up with a comprehensive, long-term strategy for reviving our community when a catastrophic event occurs. Long-term recovery planning provides an opportunity to shape the built, natural, and social environments that will enable our recovery, and to foster the swiftest return to prosperity and the quality of life we cherish.

On September 11, 2013 King County Executive Dow Constantine launched the "Resilient King County" initiative – a county-wide, two-year planning process for crafting a comprehensive long-term strategy for recovery following a major earthquake or other catastrophe.

The Resilient King County initiative seeks to establish a framework to assist individuals, families, businesses, and government to recover our community in a manner that sustains our physical, emotional, social, and economic well-being. This framework will balance the need for rapid recovery with the deliberateness required to meet the vision and values of our communities.

The Resilient King County initiative kicked-off with a "Disaster Recovery - CEO Leadership Summit" held at the Microsoft Campus in Redmond. Several overarching themes emerged from the CEO Leadership Summit including a need for urgency, the need to synchronize recovery efforts, the importance of understanding infrastructure interdependencies, and the desire to “come back better” after a disaster.

In addition to the CEO Leadership Summit, the Resilient King County initiative is comprised of three operational workshops, a public town hall, and a final summit. The outcomes of these events will be synthesized into a final report that will guide the development of a regional long-term recovery plan.



Executive Constantine launches the “Resilient King County” initiative at the CEO Leadership Summit in September.

For more information please contact Janice Rahman,
Program Manager for the Resilient King County
initiative at Janice.Rahman@kingcounty.gov

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
BACKGROUND	4
PURPOSE	5
DEFINITION OF A RESILIENT KING COUNTY	5
GUIDING PRINCIPLES	6
EARTHQUAKE SCENARIO	7
Estimated Losses.....	7
RESILIENT KING COUNTY CRITICAL SECTORS	9
RESILIENT KING COUNTY PROCESS OVERVIEW	9
CEO Leadership Summit (complete).....	10
Workshop 1: Built Environment	10
Workshop 2: Livelihoods and Well-Being.....	10
Workshop 3: Resilient King County Framework	10
Public Town Hall.....	11
Final Summit.....	11
FREQUENTLY ASKED QUESTIONS.....	12
REFERENCE MATERIALS	13

BACKGROUND

On September 11, 2013, Executive Dow Constantine convened the CEO Leadership Summit – a group of distinguished leaders from the corporate and nonprofit sectors to build a comprehensive strategy for how King County will recover from a major catastrophe. Held at the Microsoft Campus in Redmond, the Summit launched the Resilient King County initiative. This initiative was formulated based on three different sources: King County’s Regional Capabilities Assessment, the Resilient Washington State initiative, and the National Disaster Recovery Framework.

In September 2011, the Federal Emergency Management Agency (FEMA) released the National Disaster Recovery Framework (NDRF) to guide local long-term recovery planning. FEMA also released a report in December 2011 highlighting key lessons learned from several disaster case studies for successful community recovery. The report emphasized several keys to success including but not limited to active planning, engaging the whole community, developing partnerships, and implementing effective coordination strategies.

In 2012, the Washington State Emergency Management Council’s Seismic Safety Committee released the *Resilient Washington State* report highlighting ten recommendations for improving statewide resilience. Inspired by the ten recommendations, Executive Constantine tasked the King County Office of Emergency Management to develop a comprehensive, long-term recovery plan.

King County Office of Emergency Management recently completed their 2013 Capabilities Assessment and reported the least capability in recovery and the least confidence in economic recovery. This assessment clearly indicated long-term recovery planning is lacking and greatly needed within King County. The Resilient King County initiative and the culminating regional recovery plan are intended to fill this gap.

Creating a shared vision of recovery requires the engagement of leaders from the whole community – from both public and private sectors. Engagement before a disaster occurs will expedite our return to prosperity and better support the welfare of our residents and businesses.

The Resilient King County initiative seeks to establish a framework to assist individuals, families, businesses, and government to rebuild our community in a manner that sustains our physical, emotional, social, and economic well-being. This framework will balance the need for a speedy recovery with the vision and values of the community. The Resilient King County initiative is comprised of a series of milestones including the CEO Leadership Summit, a sequence of operational workshops, a public town hall, a final summit, and a final report that will guide the development of a regional long-term recovery plan.

“A sound recovery plan begins with all of the players at the table. We see the private sector as one of our greatest allies, but we have more work to do to engage them long-term.”

– Walt Hubbard, Director - King County Office of Emergency Management

PURPOSE

The purpose of the Resilient King County initiative is to obtain collective insights and feedback from stakeholders within King County to further the development of King County's Regional Long-Term Recovery Plan. The insights and feedback uncovered by the Resilient King County initiative will be synthesized into a stand-alone report, the purpose of which is to develop a framework for conducting future principles-based tradeoffs before and during the recovery process in coordination with other King County jurisdictions and key stakeholders.

The intent of the Resilient King County initiative is to take into consideration and be compatible with a number of existing and developing frameworks including:

- 1) FEMA National Disaster Recovery Framework
- 2) Resilient Washington State
- 3) Washington Restoration Framework
- 4) Local recovery plans (City of Seattle, Pierce County, Snohomish County, Regional Catastrophic Planning Group, etc.)

The objectives of the Resilient King County initiative are based on information from King County staff and officials, attendees of the CEO Leadership Summit, and existing recovery frameworks.

- Identify critical stakeholders of catastrophic recovery that can assist in facilitating effective recovery.
- Identify the needs, resources, and roles of stakeholders and partners.
- Understand how stakeholders and partners can work together before and after a catastrophe to achieve a shared vision of recovery.
- Identify obstacles and opportunities for catastrophic recovery, including legal, political, coordination, physical, and cultural elements.
- Gain feedback on how the public can and wants to participate in recovery from a future catastrophe.

DEFINITION OF A RESILIENT KING COUNTY

A resilient King County has the capacity to maintain the services and livelihoods that its residents rely on after a catastrophic hazard event. In the event that these services and livelihoods are disrupted, recovery within King County occurs in a systematic, defensible, and transparent manner that balances speed and opportunity.

GUIDING PRINCIPLES

King County's guiding principles will form the basis for making tradeoff decisions between King County's core values during the recovery process. Based on these guiding principles, a framework will be created to ensure future decisions are made in a systematic, defensible, and transparent manner. The five Resilient King County guiding principles are listed below in no particular order.

Resilience

Recovery is used as an opportunity to improve King County's resilience to future catastrophes and climate change. This includes improving future resilience of life safety, human health, and building and infrastructure integrity.

Quality of Life

Recovery strives to rapidly restore the social and economic quality of life for King County residents. Recovery is used as an opportunity to improve not only the economic security for the community, but also seeks to restore and advance the physical, emotional, and cultural vibrancy of our County.

Community Continuity

The community's character and identity is maintained or restored rapidly. Community continuity includes elements such as social networks and unique aspects of King County that promote our strong sense of place.

Social Justice and Equity

Recovery minimizes the creation of winners and losers during the process. Every effort is made to restore all communities to pre-disaster condition. Additionally, recovery activities are used to further objectives codified in frameworks such as the King County's Strategic Plan: Equity and Social Justice Goals.

Environmental Quality

Recovery seeks to avoid further degradation of environmental quality in King County. A catastrophe is an opportunity to improve environmental quality wherever possible. Recovery is used to advance existing objectives codified in frameworks such as King County's Strategic Plan: Environmental Sustainability Goals.

EARTHQUAKE SCENARIO

SEATTLE FAULT MAGNITUDE 7.2

The Resilient King County initiative is based on a specific scenario to enable more detailed planning. The Seattle Fault 7.2 magnitude earthquake scenario (developed by Art Frankel, USGS) was selected because it poses severe risk to King County (see Figures 1-3). The data presented in this scenario is derived from preliminary modeling for King County's Regional Hazard Mitigation Plan. This scenario occurs at the hypothetical time of 2 p.m. and is a shallow or crustal earthquake. Shallow earthquakes tend to be more damaging than deep quakes of comparable magnitude (such as the deep 6.8 magnitude Nisqually earthquake in 2001) because they are much closer to the earth's surface.

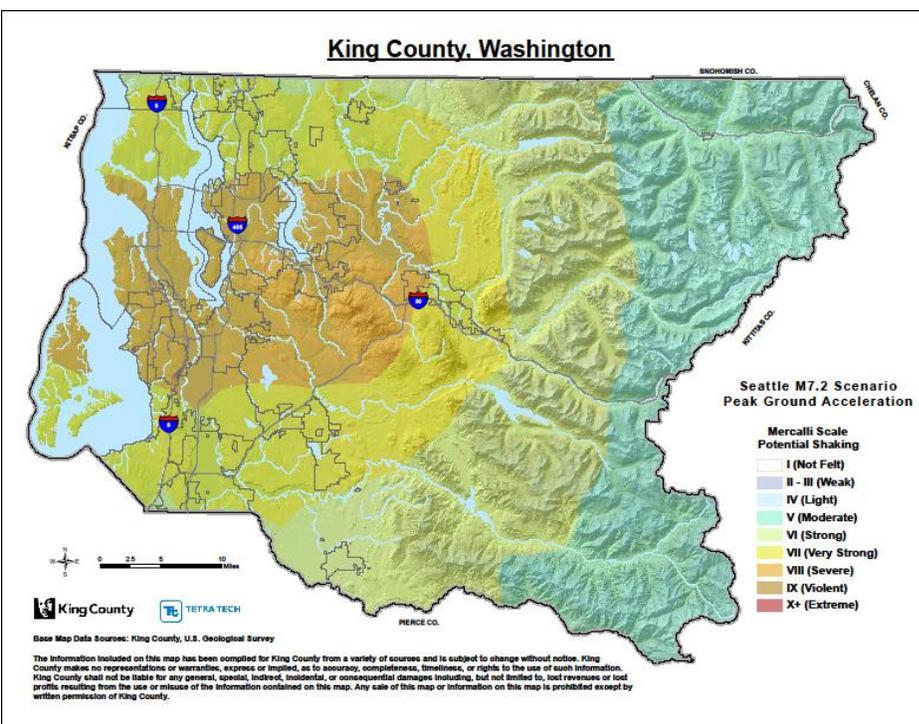


Figure 1. Map of modeled shaking intensity for the Seattle Fault Magnitude 7.2 earthquake scenario.

Estimated Losses

Damage to Buildings: more than \$38 billion, representing 8% of King County's building stock (includes structural, non-structural, and building content damages).

Debris Removal: 14 million tons (brick, wood, concrete, and steel).

Injuries: 18,865 people.

Households: more than 27,000 displaced households and 14,600 residents requiring short-term shelter.

NUMBER OF CRITICAL FACILITIES DAMAGED FROM SEATTLE FAULT M7.2 EARTHQUAKE					
	No Damage	Slight Damage	Moderate Damage	Extensive Damage	Complete Damage
Medical and health EOC's	4	196	49	21	213
Police & fire stations	1	11	6	0	11
Schools	7	86	22	13	145
Bridges	0	240	54	31	370
Water supply	948	0	2	29	64
Wastewater	22	85	176	41	3
Power	89	66	98	6	1
Transportation	0	13	17	2	0
Communications	21	215	30	5	36
Total	2	6	31	23	0
	1094	918	485	171	843

Figure 2. Number of critical facilities damaged in King County following a 7.2 magnitude earthquake on the Seattle Fault.

FUNCTIONALITY OF CRITICAL FACILITIES FOLLOWING SEATTLE FAULT M7.2 EARTHQUAKE						
	Probability of Being Fully Functional (%)					
	Day 1	Day 3	Day 7	Day 14	Day 30	Day 90
Medical and health EOC's	1.74	2.25	23.72	24.26	44.67	53.70
Police & fire stations	4.27	4.79	27.38	27.96	47.24	56.20
Schools	2.73	3.15	21.19	21.66	39.06	47.71
Bridges	0.74	1.18	19.78	20.25	38.08	46.83
Water supply	74.83	79.00	81.68	82.22	82.92	88.00
Wastewater	38.94	65.08	75.08	78.69	84.46	94.62
Power	40.83	68.48	82.72	85.02	89.07	96.51
Transportation	37.58	64.59	83.13	91.06	95.61	99.47
Communications	59	69.92	73.94	74.70	76.73	85.40
Total/average	51.5	70.82	77.87	87.82	93.64	98.80
	31.22	42.93	56.65	59.36	69.15	76.72

Figure 3. Estimated functionality of critical facilities in King County following a 7.2 magnitude earthquake on the Seattle Fault.

RESILIENT KING COUNTY CRITICAL SECTORS

There are five Resilient King County critical sectors: lifeline infrastructure, building stock, commerce, health & social services, and natural & cultural resources (see Figure 5). Full recovery must be achieved for each sector after a catastrophe to achieve overall recovery for King County. The critical sectors were developed based on reference to FEMA's National Disaster Recovery Framework (NDRF) Recovery Support Functions (RSF's) and Resilient Washington State sectors.

LIFELINE INFRASTRUCTURE	BUILDING STOCK	COMMERCE	HEALTH & SOCIAL SERVICES	NATURAL & CULTURAL RESOURCES
<ul style="list-style-type: none"> •Utilities •Communication & information technology •Transportation •Dams & levees 	<ul style="list-style-type: none"> •Housing •Commercial & industrial facilities •Public buildings •Planning and community development 	<ul style="list-style-type: none"> •Finance & banking •Retail, wholesale & services •Real estate & construction •Manufacturing 	<ul style="list-style-type: none"> •Medical care •Mental health •Education •Government programs •Security & law enforcement 	<ul style="list-style-type: none"> •Historic places •Sense of place •Food & farming •Ecosystem services •Climate change •Environmental planning

Figure 5. Resilient King County critical sectors and corresponding subsectors.

RESILIENT KING COUNTY PROCESS OVERVIEW

The Resilient King County initiative kicked-off with the CEO Leadership Summit in September 2013. Upcoming events in the Resilient King County initiative include three workshops, a public town hall, and a final summit (Figure 6). Findings from the Resilient King County initiative will be summarized into a final Resilient King County report which will inform the development of a regional long-term recovery plan.

The Resilient King County workshops are organized into three thematic categories: Built Environment, Livelihoods & Well-Being, and Frameworks for Recovery. The first two workshops are focused on the Resilient King County critical sectors. The third workshop will be dedicated to developing decision, coordination, and legal frameworks for recovery. The majority of stakeholder participation and efforts will take place at these workshops. Data gathered and synthesized from the workshops will be presented at a public town hall for feedback. The public town hall will promote public interest and participation in the recovery planning process. The concluding event in the Resilient King County initiative is a final summit where the Resilient King County report will be presented. King County's regional long-term recovery plan will be finalized in 2015.

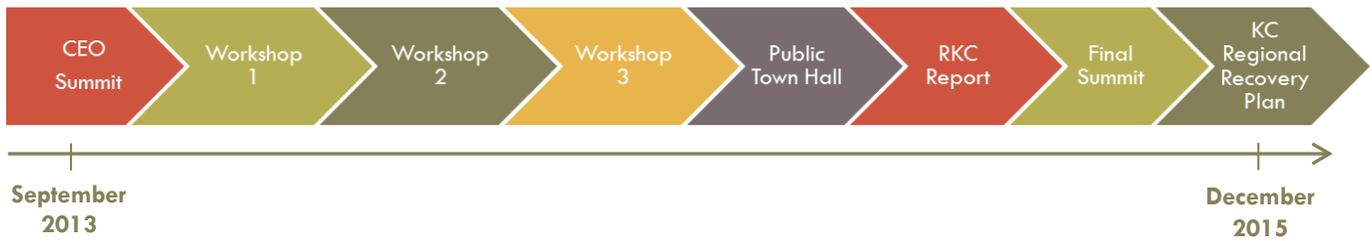


Figure 6. Timeline of the Resilient King County initiative (September 2013 – December 2015).

CEO Leadership Summit (complete)

The CEO Leadership Summit was the kick-off event for the Resilient King County initiative. The Summit was attended by leadership from the private and public sector to set the direction and common values of the Resilient King County initiative. Data gathered at the CEO Summit was used to develop King County's definition of resilience, the Resilient King County guiding principles, and the critical sectors of Resilient King County.

Workshop 1: Built Environment

The Built Environment workshop will focus on lifeline infrastructure and building stock. Representatives from the built environment sectors serving King County are invited to attend these workshops. Agenda items include a proposed vision for recovery of the built environment, an inventory of recovery obstacles and opportunities, a summary of stakeholder needs and required resources, and a discussion of potential recovery tradeoff decisions.

Workshop 2: Livelihoods and Well-Being

The Livelihoods and Well-Being workshop will focus on commerce, health and social services, and natural and cultural resources. Representatives from the livelihoods and well-being sectors serving King County are invited to attend these workshops. Agenda items include a proposed vision for recovery of the livelihoods and well-being of King County residents and businesses, an inventory of recovery obstacles and opportunities, a summary of stakeholder needs and required resources, and a discussion of potential recovery tradeoff decisions.

Workshop 3: Resilient King County Framework

The third and final workshop of the Resilient King County initiative is intended to develop three frameworks for post-disaster long-term recovery: a decision-making framework, a coordination framework, and a legal framework. Participants of this workshop will include state and local elected official representatives, state and local emergency managers, and legal representatives. This workshop will also involve an assessment of public involvement needs and proposed methods for ensuring public ownership of the Resilient King County initiative.

Public Town Hall

The public town hall will be utilized to gain qualitative and quantitative feedback on the core components of the Resilient King County initiative. The town hall is also intended promote public interest and engagement in the recovery process.

Final Summit

The final summit will present the Resilient King County report to the attendees of the CEO Leadership Summit and other executive-level representatives from the public and private sectors. Feedback on the Resilient King County report will be used to develop King County's regional long-term recovery plan.

FREQUENTLY ASKED QUESTIONS

What is recovery?

Recovery is defined as the capabilities necessary to assist communities to come back effectively from a catastrophe. These capabilities include:

- Rebuilding infrastructure systems
- Providing long-term housing
- Restoring health and social services
- Promoting economic development
- Restoring natural and cultural resources

How does recovery differ from other emergency management responsibilities?

When most people think of emergency management, they think about preparedness, mitigation and response. Planning for long-term recovery is different. It provides an opportunity for us to re-consider past policy and investment choices, to shape the built, natural, and human environments that will enable our recovery, and to foster the swiftest possible return to prosperity and the quality of life we cherish.

Why is King County government focused on recovery?

Recent disasters have created urgency among King County government and other leaders to come up with a comprehensive long-term strategy for reviving our community when a catastrophic event occurs. Implementation of lessons learned from Hurricane Katrina and other catastrophes have been slow to materialize. We can and should do better.

How does this initiative tie in with other existing and developing efforts?

The intent of the Resilient King County initiative is to take into consideration and be compatible with a number of existing and developing frameworks including the National Disaster Recovery Framework (NDRF), Resilient Washington State, and other local recovery efforts.

What are the next stages of this process?

The Resilient King County initiative will consist of three operational workshops, a public town hall, and a final summit. Findings from the Resilient King County initiative will be synthesized into a final Resilient King County report. The Resilient King County report will be used to develop King County's regional long-term recovery plan.

REFERENCE MATERIALS

Resilient King County Webpage

<http://www.kingcounty.gov/safety/prepare/ResilientKC.aspx>

Resilient Washington State

http://www.emd.wa.gov/about/documents/haz_FinalRWSReport.pdf

National Disaster Recovery Framework

<http://www.fema.gov/pdf/recoveryframework/ndrf.pdf>



King County

King County Office of Emergency Management

3511 NE 2nd St.
Renton, WA 98056
(206) 296-3830