

# BERNALILLO COUNTY/CITY OF ALBUQUERQUE MULTI-JURISDICTION HAZARD MITIGATION PLAN UPDATE



# AGENDA

- Vision and Purpose Recap
- Mitigation Planning Cycle
- Preliminary Risk Assessment
- Previous Mitigation Actions
- Potential Mitigation Actions
- Mitigation Survey
- Next Steps



# VISION AND PURPOSE

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## Goal of hazard mitigation planning

Make communities hazard and disaster resistant

## Purpose

Identify local policies and actions that can be implemented over the long term to reduce risk and future losses from hazards

# PLANNING BENEFITS

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Comprehensive hazard mitigation planning prepares a community to:

- Protect lives and property
- Avoid damages and save dollars
- Reduce or eliminate future damages by guiding new development
- Speed post-disaster recovery
- Avoid interruptions caused by hazards

# MITIGATION PLANNING CYCLE



# PRELIMINARY RISK ASSESSMENT

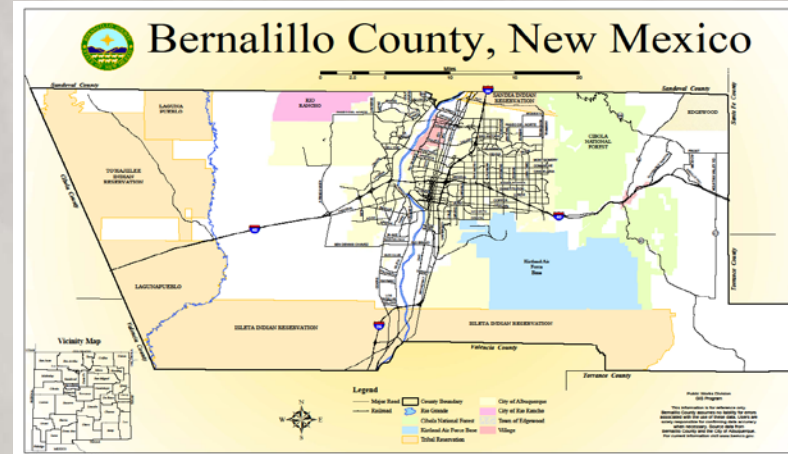
Addressed the 14 natural hazards in the State Plan including:

- Extreme Heat
- High Wind/Dust Storms
- Thunderstorm  
(Hail/Lightning)
- Tornado
- Severe Winter Storms
- Drought
- Flood
- Earthquake
- Expansive Soils
- Land Subsidence
- Volcano
- Landslide
- Wildland/Urban Interface  
Fire
- Dam Failure

# SUMMARY OF RISK ASSESSMENT

➤ Plan covers the following for each hazard\*

- Overview
- Location and Spatial Extent
- Previous Occurrences
- Probability and Extent of Future Events
- Vulnerability and Impact
- Conclusion



- \* = except of hazards with minimal probability or impact – included abbreviated profile or low probability statement

# SUMMARY OF RISK ASSESSMENT

➤ Preliminary Risk Assessment, including historical data, indicates the following hazards present the greatest threat to the planning area (includes some surveys):

- High Wind
- Thunderstorms (Includes Lightning/Hail)
- Flood
- Wildfire
- Drought



# SUMMARY OF RISK ASSESSMENT

- Wildfire
  - Ranked as High hazard in 2007 plan
  - Rio Grande bosque
  - East Mountains area - CWPP
  - Events per year reduced recently:
    - Thinning activities in the bosque
    - East Mountain Forest Health Program
  - Recent Events?
  - Status of Fuels Reduction Activities?



# SUMMARY OF RISK ASSESSMENT

## ➤ Flood

- Ranked as Medium to High hazard in 2007 Plan
- Flood Insurance Rate Maps (FIRM's) were updated in 2012
  - Adequate/Deficiencies?
- 5 Significant/Reported flood events since 1994 (Over \$100K Damages per event)\*
  - Recent Federal Disaster Declaration for flooding (DR-4148 – July 2013)
  - Additional localized flooding events?
  - Impacts?

\*Reported by National Climatic Data Center (NCDC)

# SUMMARY OF RISK ASSESSMENT

## ➤ Drought

- Ranked as High hazard in 2007 plan
- 3 major drought events in last 20 years

### ➤ Risks Include:

- Threat to Drinking Water Supply
  - Higher risk of wildfire
  - Impact on agriculture
  - Inadequate supply for industrial uses
- Local records of events?



# SUMMARY OF RISK ASSESSMENT

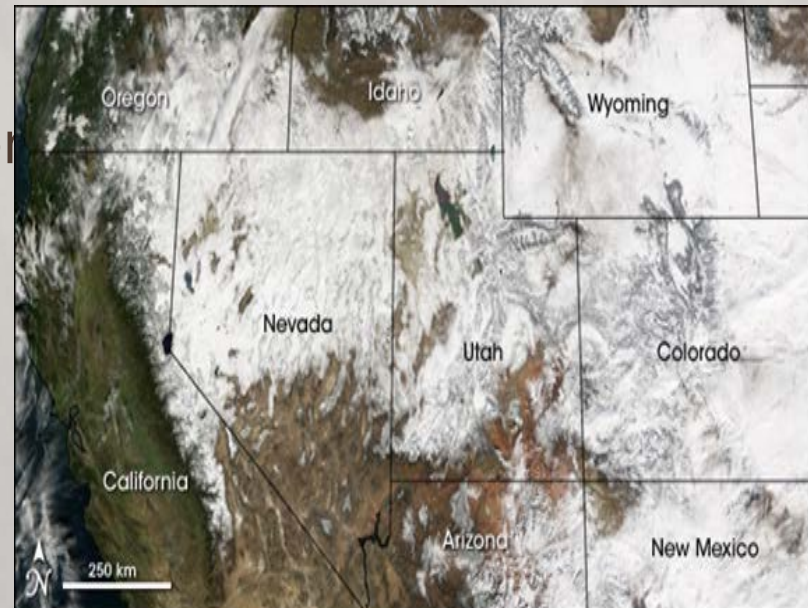
- High Wind
  - Ranked as Medium to High hazard in 2007 plan
  - 8 Recorded wind events in last 20 years over \$50K\*
  - Risks Include:
    - Dangerous driving conditions
    - Potential HAZMAT events
    - Damage to structures
    - Power Outages
  - Local records of events?



\*National Climatic Data Center (NCDC) Includes Thunderstorm wind and high wind events

# SUMMARY OF RISK ASSESSMENT

- Severe Winter Storm
  - Ranked as Medium to High hazard in 2007 plan
  - No Recorded major winter storm events in last 20 years (from previous plan and NCDC)
  - Risks Include:
    - Dangerous driving conditions
    - Long-Term Power Outages
    - Low temperatures
    - Damage to structures
  - Local records of events?



# SUMMARY OF RISK ASSESSMENT

- Thunderstorms (Lightning and Hail)
  - Thunderstorm and Lightning Ranked as Medium to High hazard in 2007 plan
  - 3 Major Hail/Lightning Events in Bernalillo County from 1994 to 2014 (over \$50K)
  - October 2004 – 4.0 Million in Damages from Hail Event
  - October 2010– 6.0 Million in Damages from Hail Event

# SUMMARY OF RISK ASSESSMENT

- Lesser Hazards posing a threat to the Bernalillo County planning area include:
  - Earthquake\*
  - Dam Failure
  - Tornado
  - Extreme Heat  
(persistent condition)

\*While Probability is extremely low, the potential impact is significant

# SUMMARY OF RISK ASSESSMENT

- Hazards posing a minimal threat or insignificant impact to the Bernalillo County planning area include:

- **Landslide**
- **Volcano**
- **Land Subsidence**
- **Expansive Soils**

These hazards will be briefly addressed in the plan but are not profiled due to their low probability and/or minimal impact.



# REVIEW OF RISK ASSESSMENT

- Hazard ranking is preliminary and subject to change based on local knowledge and input:
  - HMPT Meetings
  - Public Input
  - Survey Results



# HAZARD MITIGATION PLAN

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## Previous Mitigation Actions

- Actions identified in the 2007 Bernalillo County Multi-Jurisdiction HMP must be included in the updated plan and revised to reflect the current status
- Action items that no longer meet the needs or goals of the community may be eliminated FOR FUTURE CONSIDERATION

# PREVIOUS MITIGATION ACTIONS

2007 Bernalillo County Multi-Jurisdiction HMP included the following mitigation actions:

- Increase number of sirens and radios/televisions with warning capabilities, in public buildings, parks, and recreational areas to announce alerts from the Emergency Alert System and National Weather Radio.
- Develop and implement a county-wide StormReady Program.

# PREVIOUS MITIGATION ACTIONS

- Wildland Urban Interface Code for entire County
- Continue training fire fighters in advanced Wildland fire fighting techniques to respond and control wildfires
- Create and maintain defensible space around all critical facilities and structures, including housing, administrative, and other structures
- Integrated Wildland Resource Group



# PREVIOUS MITIGATION ACTIONS (CONT.)

- Create a State Drought Management Plan Work Group.
- Create a Wellhead Protection Awareness Program.
- Further investigations to examine the vulnerability of structures to severe weather and hailstorms.
- Create water conservation programs for residential, commercial and industrial users.
- Expand existing projects to use treated effluent for non-potable uses

# PREVIOUS MITIGATION ACTIONS (CONT.)

- Wildfire – Actions for Jurisdictions
  - Increase water storage capacity for fire suppression in the Bosque. (BC & CABQ)
  - Continue thinning and fuel reduction projects in Bosque. (BC & CABQ)
  - Remove jetty jacks from along the Rio Grande in targeted high-risk areas to aid first responder access to the Bosque during wildfires. (BC , CABQ & Los Ranchos)



# PREVIOUS MITIGATION ACTIONS (CONT.)

- **Wildfire – Actions for Jurisdictions**
  - Participate in State's program to use bio mass fuels as a way to dispose of tree thinning debris in the Bosque and East Mountain areas (BC & CABQ) and the Village of Tijeras (Tijeras).
  - Create Firewise Communities through the National Wildland-Urban Interface Fire Program in Los Ranchos (Los Ranchos).



# PREVIOUS MITIGATION ACTIONS (CONT.)

- **Wildfire – Actions for Jurisdictions**
  - Continue efforts as a Firewise Community through the National Wildland/Urban Interface Fire Program to educate the community in defensible space (Tijeras).
  - Improve access to identified East Mountain areas for emergency response (BC & Tijeras)





# PREVIOUS MITIGATION ACTIONS (CONT.)

## ➤ Flood

- ❖ Develop mitigation strategies for known roads and buildings in flood areas in Bernalillo County (BC).
- ❖ Develop mitigation strategies for known roads and buildings in flood areas in Bernalillo County (CABQ).
- ❖ Update first floor elevation certificates and incorporate them into City of Albuquerque GIS system.(CABQ)

# PREVIOUS MITIGATION ACTIONS (CONT.)

## ➤ Flood

- ❖ Flood Control Projects: Arroyo Crossing Points. (Tijeras).
- ❖ Flood Control Projects Stabilization of Arroyos. (Tijeras)
- ❖ Hire a Floodplain Manager for the Village. (Tijeras)



# MITIGATION ACTION UPDATE

- FEMA requires a comprehensive range of specific mitigation projects for each profiled hazard
  - ❖ A minimum of 2 projects are required for each hazard
  - ❖ Appropriate mitigation alternatives from the 2007 plan that were not previously implemented may be included to meet this requirement
  - ❖ NOIs for projects you are planning to submit for 2013 Disaster Declaration



# ALTERNATIVE MITIGATION MEASURES

## ➤ Mitigation Project Actions examples:

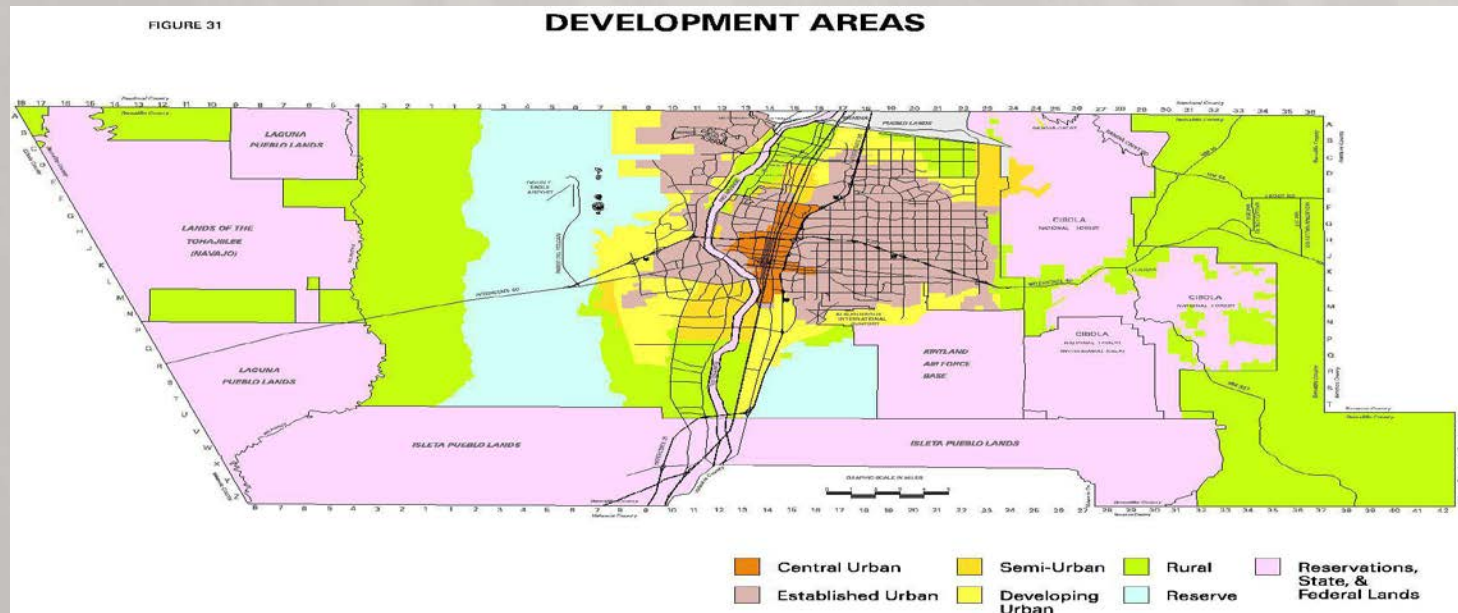
### Existing Structures:

- ❖ Elevation of structure
- ❖ Acquisition/Demolition of structure in floodplain
- ❖ Stormwater/Drainage Improvement
- ❖ Reroof for wildfire mitigation
- ❖ Harden structures to mitigate damages
  - Shatterproof glass, Tie downs

# ALTERNATIVE MITIGATION MEASURES (CONT.)

## Future Development

- ❖ Development Restrictions (land use planning)
- ❖ Comprehensive Planning/Capital Improvements
- ❖ Building Codes



# POTENTIAL MITIGATION ACTIONS (CONT.)

## ➤ Flood

- ❖ Acquisition/Demolition or elevation of flood prone structures
- ❖ Drainage Improvements (in arroyos, streets)
- ❖ Revise floodplain ordinance to include stricter standards for floodplain development (all)
- ❖ Improve CRS class level



# POTENTIAL MITIGATION ACTIONS (CONT.)

- **Wildfire**
  - Implement and expand fuels reduction program
  - Bury power lines (multi-hazard action)



# POTENTIAL MITIGATION ACTIONS (CONT.)

- High Wind
  - Automated Warning system – Portable LED signs for use along Interstates 40 and 25 (multi-hazard action)
  - Retrofit critical facilities
  - Adopt higher building codes for new development – enforce current building code requirements by increasing inspection/permitting capacity (multi-hazard action)



# POTENTIAL MITIGATION ACTIONS (CONT.)

- Thunderstorms
  - Establish lightning safety program
  - Install surge protector system at critical facilities
  - Utilize hail-resistant materials in roofing for new public buildings



# POTENTIAL MITIGATION ACTIONS (CONT.)

- Drought
  - Establish drought indicator/early warning system
  - Prepare agricultural adaptations during drought conditions – planting drought resistant crops
  - Mandate drought resistant landscaping at local parks, government facilities and common grounds



# POTENTIAL MITIGATION ACTIONS (CONT.)

## ➤ Earthquake

- Conduct earthquake safety awareness program
- Adopt seismic building codes
- Retrofit/harden critical facilities

## ➤ Severe Winter Storms

- Distribute educational material for winterizing measures to citizens
- Insulate water pipes on exterior of public buildings

# POTENTIAL MITIGATION ACTIONS (CONT.)

- **Tornado**
  - Safe room rebate program
  - Install upgraded warning system/sirens
- **Extreme Heat**
  - Establish designated community cooling centers
  - Collect and distribute fans to vulnerable citizens



# POTENTIAL MITIGATION ACTIONS (CONT.)

- All Hazards
  - ❖ Education/Outreach program on preparedness



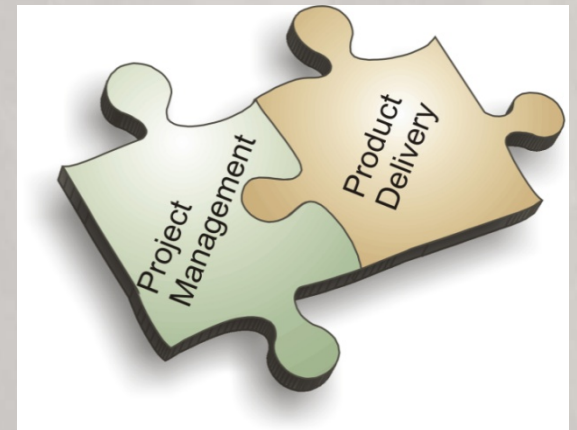
# SURVEY INVITATION

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- Survey results will be incorporated into the updated Plan
- Input is welcome from residents in the planning area as well as all Hazard Mitigation Planning Team members
- Please complete survey prior to leaving today

# NEXT STEPS

- URS will review comments and surveys
- Create Draft Hazard Mitigation Plan
- Set up Draft Plan review meeting



# PROJECT MANAGEMENT

## Project Schedule

- ❖ Kickoff Meeting February 27, 2014
- ❖ Risk Assessment & Mitigation Action Meeting June 19, 2014
- ❖ Draft plan review Meeting (projected) Early August 2014
- ❖ Plan to State for Review (projected) Late August 2014
- ❖ Plan to FEMA for approval (projected) Early September 2014
- ❖ Plan accepted pending adoption from FEMA Late September 2014



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**QUESTIONS?**

**THANK YOU!**