



# National Disaster Resilience Competition (NDRC)

## *Benefit Cost Analysis Q&A*

July 23, 2015



# Presenters and Experts

## Presenters

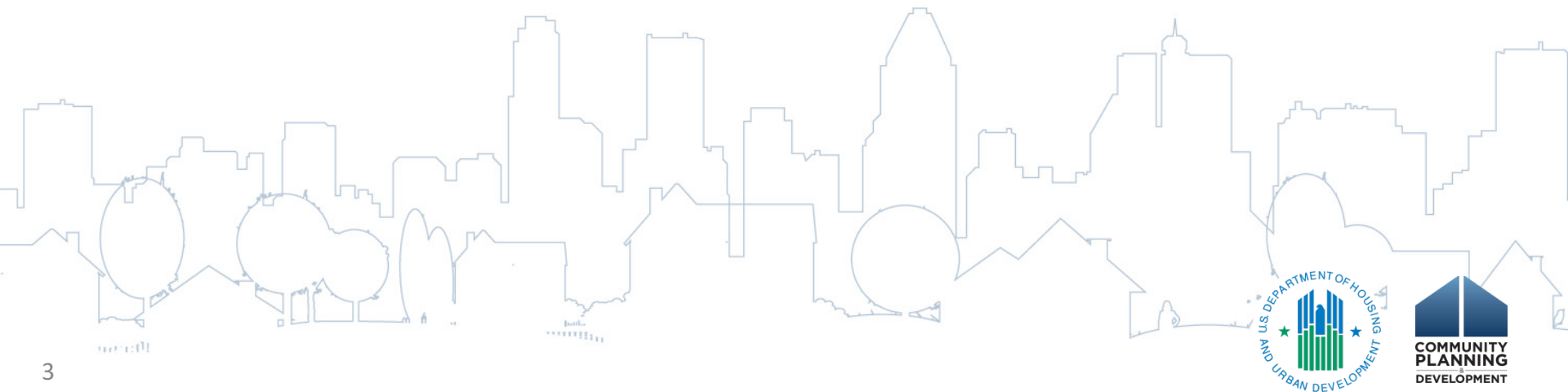
- Allison Heck – Presidential Management Fellow, FEMA, Office of Policy and Program Analysis, Policy Division (Currently on rotation with HUD Office of Economic Resilience)
- Sara Jensen – HUD Office of Environment and Energy

## Expert Advisors:

- Jody Springer – FEMA Benefit Costs Analysis and Grants Data Analysis and Tools Division
- NDRC Team Members

# Agenda

1. Benefit Cost Analysis (BCA) Overview
2. NOFA Updates
3. Related Requirements for non-covered projects
4. Q&A



# NDRC Overview - Timeline

## Phase 1

[Framing Unmet Recovery Needs, Vulnerabilities,  
and Community Development Objectives]



## Phase 2

[From Framing to Implementation]

[120 DAYS  
(~4 MONTHS)]



*\*Note: These dates are tentative and subject to change at HUD's discretion*



# Appendix H –Benefit Cost Analysis

## **Appendix H – Phase 2 Benefit-Cost Analysis (BCA) Instructions for Community Development Block Grant National Disaster Resilience (CDBG-NDR) Applicants**

In Phase 2, each applicant will complete a benefit cost analysis for any Covered Projects. This CDBG-NDR BCA will provide a sense of the cost efficiency of the proposal, but the BCA score will not be used alone to determine soundness of approach. HUD will not fund any Phase 2 activities for which the benefits to the applicant's community and to the United States as a whole are not demonstrated by the evidence submitted to justify the costs. The standard criterion for funding projects is a net present value above zero (or equivalently, a benefit-to-cost ratio greater than one). However, HUD recognizes that some benefits and costs may be difficult or impossible to quantify, and qualitative descriptions of benefits that cannot be monetized will be taken into account as evidence, as appropriate. Note that quantifying or otherwise accounting for social and ecological benefits and costs is a critical component, as is consideration of all related resources, including leverage. The methodology employed must follow OMB Circular A-94, "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs" ([link below](#)).

**NOTE: The NDRC NOFA prevails if anything in this presentation conflicts or appears to conflict with the NOFA.**



# What is a Benefit Cost Analysis?

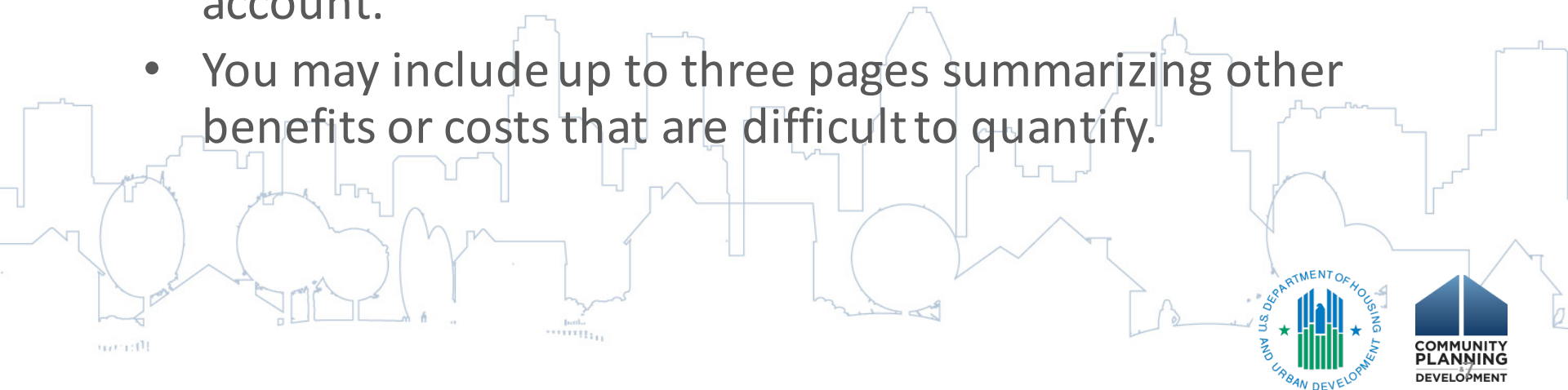
Consideration of the total costs and benefits of a project in present dollar value over the useful life of the proposal





# NDRC Benefit Cost Analysis

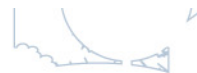
- HUD will not fund any Phase activities for covered projects for which the benefits to the applicant's community and to the United States as a whole are not demonstrated by the evidence submitted to justify the costs.
- HUD recognizes that a BCA is difficult for community development objectives and will take that into account.
- You may include up to three pages summarizing other benefits or costs that are difficult to quantify.



# Multiple Components or Phases

- If there are multiple components or phases, provide a separate analysis and description for each component or phase.
- Each component or phase should independently provide benefit or utility.

Results	Kilchis River Crossings	Wilson River Intertie	Total Project
Benefits	\$900,621	\$4,204,988	\$5,105,609
Costs	\$696,956	\$365,399	\$1,062,355
BCR	1.29	11.51	4.81





# Using an Existing BCA

- HUD will accept an existing BCA that has been accepted by USACE, FEMA or DOT provided that:
  1. The BCA is based on the project as presented in the CDBG-NDR application;
  2. The BCA accounts for economic revitalization and other social/community benefits
  3. The BCA shows how analysis would change if HUD partially funds the application
  4. Applicant justifies using modified discount rate.

Note: If discount rate or assumptions different from Appendix H, applicant must run a version that meets HUD requirements. This could be part of sensitivity analysis.



# NDRC Benefit Cost Analysis

## Quantitative

- Benefit Cost Analysis
- Narrative Description that is clear, concise, evidence-based, quantified, and designed for reviewers with limited economic background
  - Narrative Description includes a required table describing benefits and costs

## Qualitative

- Three pages summarizing benefits or costs that are difficult to quantify

# NDRC BCA Narrative Description

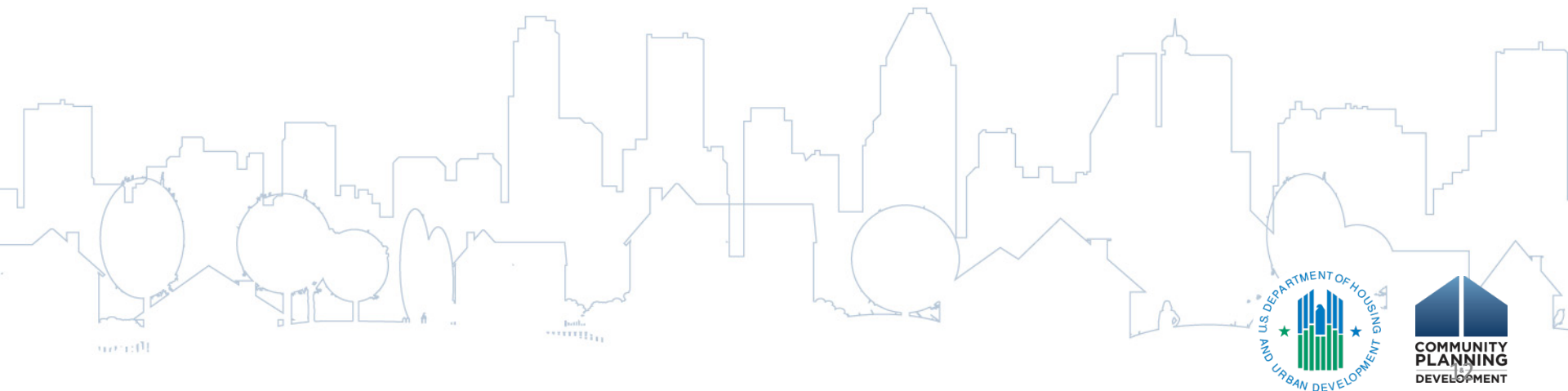
list of the benefits and costs of the proposal and the rationale for including each effect using the table provided

- a) Lifecycle Costs
- b) Resilience Value
- c) Environmental Value
- d) Social Value
- e) Economic Revitalization Value



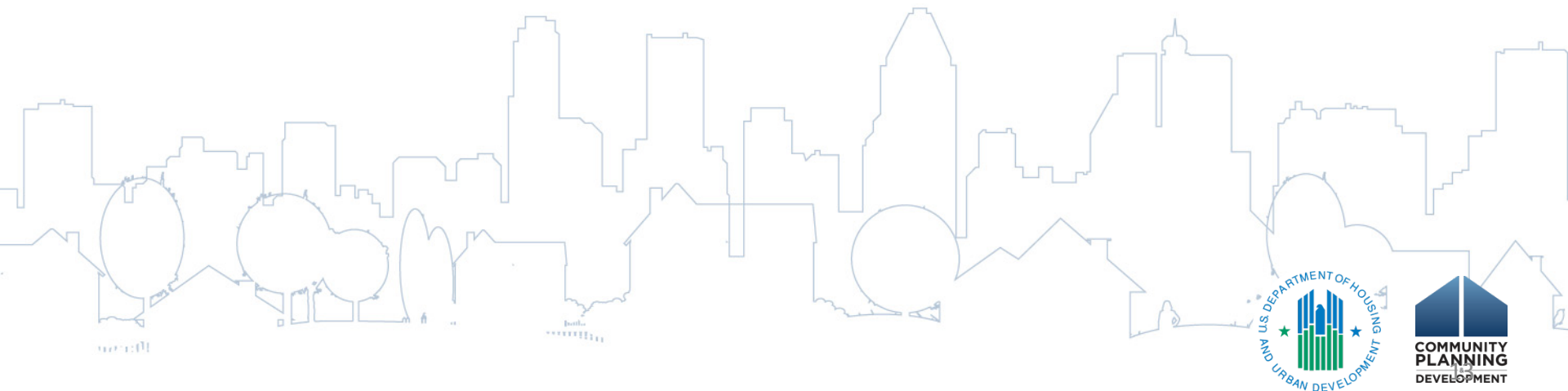
# Phase 2 Factor 3 Requirements for ALL Projects

- Select at least one metric per category to track for each proposed project.
- Applicant sets the outcome and metrics, but they must be clearly relevant to measuring the success of your project.
- Track outcomes not outputs.



# NOFA Updates

- Programmatic BCAs
- Statistical Value of Life



# Programmatic BCAs

**For Applicants proposing a Program rather than specific Covered Project, HUD will accept a BCA at the program level provided that:**

- The program level BCA methodology is consistent with the guidance in this Appendix to the greatest extent feasible;
- The Applicant includes a description of the BCA methodology the Applicant will use to inform its project or activity funding decisions;
- The Applicant's schedule submitted in response to Factor 3 takes the time necessary for such reviews into account and still complies with the statutory timeframes for availability of CDBG-NDR funds; and
- The BCA methodology or approach used for the Program is consistent with the general principles outlined in OMB Circular A-94 (A-94).
- “Program” refers to a set of related measures or activities with a particular long-term goal or objective. A Program is implemented by a specified agency that uses defined policies and procedures to select projects or activities to assist.





# NDRC Basic Assumptions for BCA

- **Analysis Period** Useful life of the proposal
- **Price Level:** 2015 constant prices
- **Inflation** no general price inflation
- **Discount Rate** Base-case discount rate in OMB Circular A-94 (7%). Applicants may **also** use alternate discount rates (not less than 3%) provided they are adequately justified
- **Value of statistical life** FEMA's estimates based on Federal Aviation Administrations 2008 ratings.



# NDRC Basic Assumptions for BCA

FEMA's current value of statistical life

Table 5: AIS Injury Severity Levels, Fraction of VSL, and Economic Values (2012 Dollars)

AIS Code	Description of Injury	Fraction of VSL	Economic Value
AIS 1	Minor	.0020	\$13,000
AIS 2	Moderate	.0155	\$102,000
AIS 3	Serious	.0575	\$379,000
AIS 4	Severe	.1875	\$1,237,000
AIS 5	Critical	.7625	\$5,032,000
AIS 6	Fatal	1.0000	\$6,600,000

Source for Fraction of VSL: FAA, 2008.



# Other BCA Resources

OMB Circular A-94:

<https://www.whitehouse.gov/sites/default/files/omb/assets/a94/a094.pdf>

OMB Circular A-4 (provides additional guidance on how to quantify and monetize Benefits and Costs):

[https://www.whitehouse.gov/omb/circulars\\_a004\\_a-4/](https://www.whitehouse.gov/omb/circulars_a004_a-4/)

[https://www.whitehouse.gov/sites/default/files/omb/assets/OMB/circulars/a004/a-4\\_FAQ.pdf](https://www.whitehouse.gov/sites/default/files/omb/assets/OMB/circulars/a004/a-4_FAQ.pdf)

FEMA BCA resources:

<http://www.fema.gov/benefit-cost-analysis>

<http://www.fema.gov/media-library/assets/documents/33295> (2013 Mitigation Policy on Env. Benefits)

DOT BCA Resources:

<http://www.dot.gov/tiger/guidance>

<http://www.dot.gov/tiger/outreach>

Submit NDRC questions to: [resilientrecovery@hud.gov](mailto:resilientrecovery@hud.gov)

NDRC NOFA And Resilience Webinar Series: <https://www.hudexchange.info/news/ndrc-webinar-series/>

# Questions?

[resilientrecovery@hud.gov](mailto:resilientrecovery@hud.gov)

