



National Disaster Resilience Competition (NDRC)

Benefit Cost Analysis Q&A

September 17, 2015



Presenters and Experts

Presenters

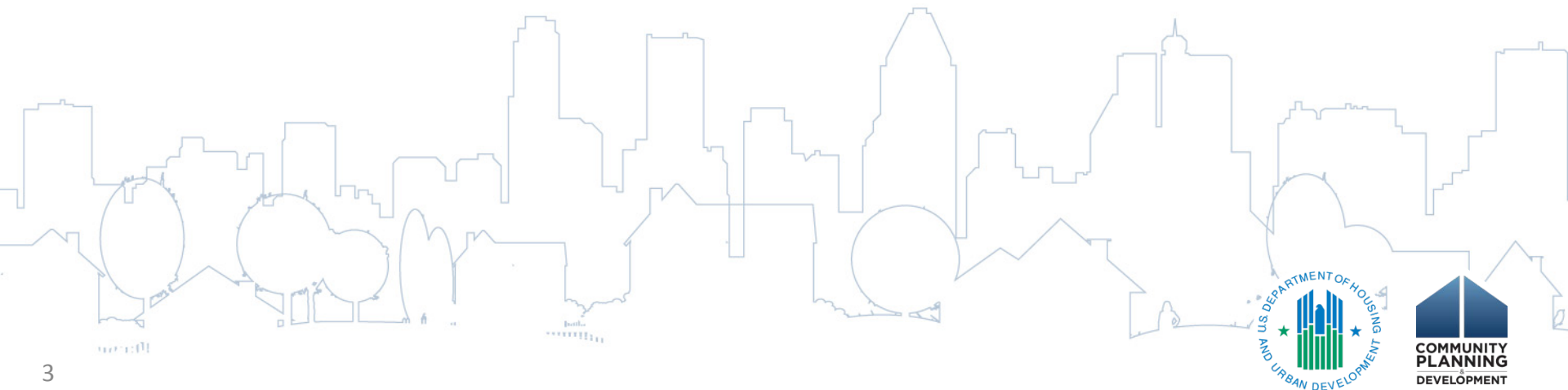
- Duncan Yetman – HUD Office of Block Grant Assistance
- Sara Jensen – HUD Office of Environment and Energy

Expert Advisors:

- Jody Springer – FEMA Benefit Costs Analysis and Grants Data Analysis and Tools Division
- Ryan Endorf – USDOT Office of Economic and Strategic Analysis
- NDRC Team Members

Agenda

1. Benefit Cost Analysis (BCA) Overview
2. Programmatic BCAs
3. Q&A



NDRC Overview - Timeline

Phase 1

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



120 DAYS
(~4 MONTHS)



Phase 2

[From Framing to Implementation]

**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

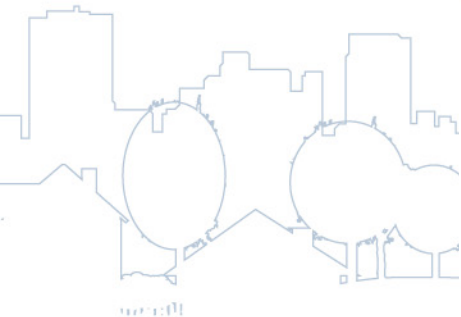
In Phase 2, each applicant will complete a benefit cost analysis for any Covered Projects. This CDBG-NDR BCA will provide a sense of the cost efficiency of the proposal, but the BCA score will not be used alone to determine soundness of approach. HUD will not fund any Phase 2 activities for which the 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.



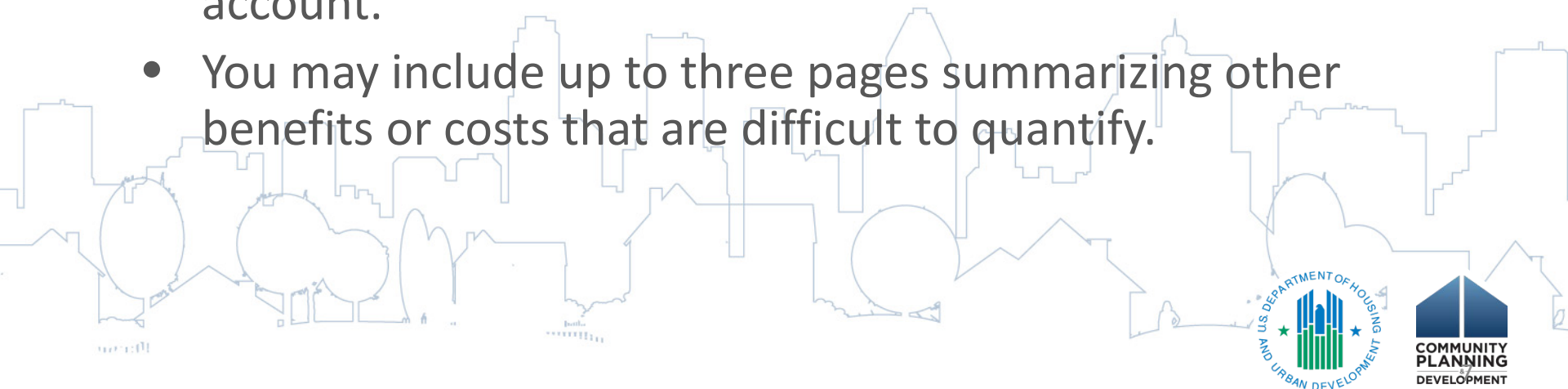
What is a Benefit Cost Analysis?

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 2 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.



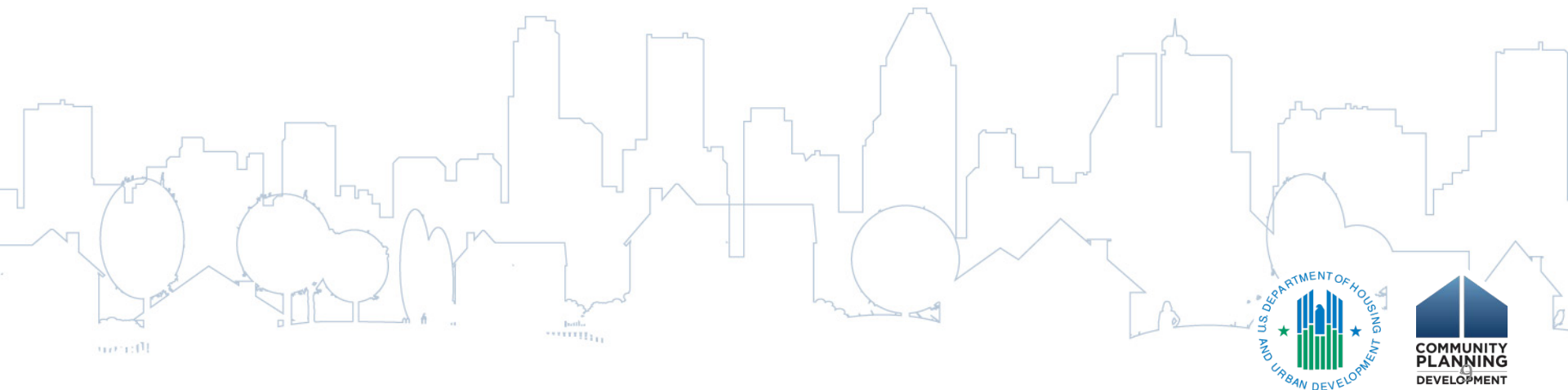
Project and Covered Project

- Project: Activity or group of integrally related activities designed to accomplish one or more specific community development objectives in whole or in part.
- Covered Project: major infrastructure project or two or more related infrastructure projects having an estimated total cost (or combined total cost) of \$50 million or more (including at least \$10 million of CDBG-DR or CDBG-NDR funds)



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.



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 a 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

A 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



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).
- A "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/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

NDRC NOFA And Resilience Webinar Series:

<https://www.hudexchange.info/news/ndrc-webinar-series/>

Questions?

resilientrecovery@hud.gov

