

NDRC Benefit Cost Analysis Data Resources and Expert Tips

>> WELCOME TO OUR WEBINAR ON
EXPERT TIPS FOR BENEFIT COST
ANALYSIS.

THIS IS THE SECOND WEBINAR
RECORDED ON BENEFIT COST
ANALYSIS FOR PHASE TWO NATIONAL
DISASTER RESILIENCE COMPETITION.
FIRST DISCUSSED HUD'S
REQUIREMENTS AND EXPECTATIONS
FOR BENEFIT COST ANALYSIS
SUBMISSION.

OR BCA FOR SHORT.

TODAY, WE'LL BE SPEAKING ABOUT
WHAT MAKES A STRONG BCA, TIPS TO
FOLLOW, TRAPS TO AVOID AND
RESOURCES AVAILABLE TO HELP.

PLEASE NOTE THAT HUD IS
PRESENTING HELPFUL RESOURCES
THAT DOES NOT ENDORSE ONE
REPUTABLE DATA SOURCE.

MY NAME IS SARAH JENSON, I'M
HAPPY TO INTRODUCE TWO BENEFIT
COST ANALYSIS EXPERTS PRESENTING
WITH ME ON THIS WEBINAR.

JODY SPRINGER IS AN EMERGENCY
MANAGEMENT SPECIALIST IN THE
GRANTS DATA ANALYSIS AND TOOLS
DIVISION, AND HAS BEEN WITH FEMA
OVER NINE YEARS AND LEADS IN
BENEFIT ANALOGIES AND TRAINING,
PROVIDING GUIDANCE TO 800
QUESTIONS PER YEAR THROUGH
FEMA'S BENEFIT COST HELP LINE.

BRIAN ENDORF HAS BEEN WITH THE
DEPARTMENT TWO YEARS, AND WORKED
ON THE LAST TWO ROUNDS OF US
DOT'S POPULAR TIGER GRANT
PROGRAM, REVIEWING 40 AND 50
BCAs EACH YEAR.

HE WORKS ON AND REVIEWS IMPACT
ANALYSIS FOR THE DEPARTMENT.
HIS OFFICE CONDUCTS TRAINING FOR
NEW TIGER REVIEWER.

OUR WEBINAR WILL START WITH A
BRIEF OVERVIEW, THEN MOVE TO
TIPS, LESSONS AND SOURCES OF
DATA FROM FEMA AND DOT.

WE'LL END WITH A ROUND UP OF
SOURCES BEYOND FEMA AND DOT.
THERE ARE SEVERAL WAYS TO

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APPROACH ANALYSIS

RISK ANALYSIS, AND BENEFIT COST ANALYSIS, THE TOPIC TODAY.

A BENEFIT COST ANALYSIS IS A CONSIDERATION OF THE TOTAL COST AND BENEFITS OF A PROJECT IN PRESENT-DOLLAR VALUE OVER USEFUL LIFE OF THE PROPOSAL.

THE BCA SET APART FROM OTHER METHODS BY THIS REQUIREMENT TO DISCOUNT FUTURE DOLLARS TO PRESENT-DOLLAR VALUE.

THE CALCULATION IS STRAIGHT FORWARD.

WHAT TAKES TIME IS SETTING THE COST AND BENEFITS AND GATHERING TO SUPPORT YOUR WORK.

OUR TWO EXPERTS ARE HERE TO SHARE TIPS AND RESOURCES ON HOW TO DO JUST THAT AND NOW I'D LIKE TO HAND OVER THE PRESENTATION TO JODY SPRINGER AT FEMA.

>> FEMA CREATED A TOOL IN APPLYING FOR GRANTS IN THE HAZARD MITIGATION PROGRAM THE TOOLS, GUIDANCE AND TRAINING MATERIALS ARE ACCESSIBLE AT THE LINK PROVIDED.

FEMA INCORPORATES VALUES OF SERVICE DURING THE TIME OF NATURAL DISASTERS.

FOR MANY PROJECTS MOST BENEFITS COME FROM OTHER COSTS OTHER THAN DIRECT DAMAGES TO A FACILITY.

STORM PREPARATION, CLEAN UP AND LOSS OF USE CAN GENERATE A LOT OF BENEFITS

THE KEY TO ANY GOOD ANALYSIS IS NOT THE ANALYSIS ITSELF, BUT IS THE IDENTIFICATION OF ALL OF THE POSSIBLE BENEFITS THAT A PROJECT WILL PROVIDE THAT IS INCLUDED IN THE ANALYSIS.

SOME IS 90% RESEARCH AND 10% CALCULATION.

BENEFITS CAN BE FOLLOWED UP ONCE A PROJECT IS IMPLEMENTED AND PUT INTO PLACE.

FOR POLICE AND FIRE CREWS, STORM PREPARATION COSTS, SUCH AS SANDBAGGING AND CLEAN UP COSTS TO RECOVER AFTER A STORM AND REPAIRING A FACILITY TO A USABLE POST-STORM CONDITION.

ANY COSTS THAT A PROJECT WILL

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BE QUANTIFIED.

A MAJOR BENEFIT IS THOROUGH DOCUMENTATION.

VALUE USED SHOULD BE TIED TO A DUM TAGS.

EITHER A STANDARD VALUE OR SOME TYPE OF DOCUMENTATION.

THIS IS IMPORTANT TO ENSURE THAT THE ANALYSIS CAN BE REPLICATED BY OTHERS, SUCH AS THE AGENCY PROVIDING THE GRANT, OR AUDITORS.

DOCUMENT, DOCUMENT, DOCUMENT.

PROJECTS THAT ARE THOROUGHLY AND CLEARLY DOCUMENTED HAVE A MUCH-BETTER CHANCE OF BEING FUNDED AS ANALYSIS CAN BE VERIFIED.

PROJECTS WHERE SUPPORTING DOCUMENTATION IS UNORGANIZED, HARD TO FOLLOW, OR NOT INCLUDED MAY NOT BE FUNDED.

FEMA USES THE VALUE OF STATISTICAL LIFE AND ABBREVIATED INJURY SCALE FOR BENEFIT COST ANALYSIS FOR FUNDING SAFE ROOMS, SEISMIC RETRO FIT PROJECTS.

THE VALUE COULD BE INLEWDED FOR FLOOD PROJECTS IF THE APPLICANT DEMONSTRATES LOSS OF LIFE OCCURRED AT THE SITE FROM INCLUSION OF NEWSPAPER ARTICLES OR LETTERS ARE FROM LOCAL AUTHORITIES

THE PROJECT WOULD HAVE TO ELIMINATE THOSE FUTURE LOSS OF LIVES, INCLUDING THE VALUE OF LIFE CAN PROVIDE HUGE BENEFITS BUT EXTRAORDINARY CLAIMS REQUIRE EXTRAORDINARY JUSTIFICATION.

FEMA RECENTLY INCORPORATED VALUES.

THE VALUES ARE ONE TIME VALUES FEMA ALLOWS TO BE INCLUDED.

TREATMENT COSTS ARE ALLOWED FOR EVERY INDIVIDUAL IMPACTED IN THE PROJECT AREA.

THAT WILL BENEFIT FROM COMPLETION.

PRODUCTIVITY LOSS, DUE TO MENTAL ILLNESS ONLY APPLIES TO WORKING ADULTS THAT WILL BENEFIT FROM THE PROJECT COMPLETION.

WHEN CONDUCTING ANALYSIS, THESE VALUES ARE ALLOWED TO BE

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INCLUDED ONLY ONCE, NOT FOR EVERY YEAR OF A PROJECT LIFE. THE VALUES ARE SPREAD OUT OVER 30 MONTHS

THESE VALUES ARE MOSTLY USED WHEN PERFORMING MITIGATION FOR HOUSING.

THE ONLY DOCUMENTATION REQUIRED ARE THE NUMBER OF PEOPLE.

IN 2012, FEMA INCORPORATED BENEFITS FOR OPEN GREEN SPACE AND REPAIRING AN AREA CREATION. FEMA ONLY ALLOWS BENEFITS FOR ACQUISITION RELATED PROJECTS FUNDED BY THE MITIGATION PROGRAM.

THE TOTAL BENEFITS ARE YEARLY VALUE PER ACRE.

THE BENEFITS ARE DISCOUNTED OVER 100 YEAR PROJECT USEFUL LIFE AT 7% DISCOUNT RATE.

WHEN APPLYING VALUES FOR PROJECTS, APPLICANTS MUST PROVIDE DOCUMENTATION OF THE LOT SIZE FROM THE COUNTY ASSESSOR. AS FEMA'S MITIGATION GOES, ARE TO AVOID DAMAGES TO PROPERTY AND LOSS OF LIFE, THE ENVIRONMENTAL BENEFITS CAN ONLY BE INCLUDED WHEN A PROJECT ACHIEVES A 0.75 COST RATIO ON AVOIDED DAMAGES THE POLICY CAN BE FOUND IN THE LINK PROVIDED ON THE SLIDE.

INCLUDING SEA LEVEL RISE ESTIMATES.

IN DECEMBER, 2013, FEMA RELEASED A GUIDANCE MEMO THAT INCLUDES ESTIMATES AND BENEFIT COST ANALYSIS.

THIS EMá--áHAS BEEN USED FOR CRITICAL FACILITIES AND SERVICES FEMA REQUIRES THE USE OF THE U.S. ARMY CORPS OF ENGINEERS WHICH ARE PROVIDED IN A LINK ON THE SLIDE.

IF AN APPLICANT USES A LOCAL OR STATE REDUCED STUDY, IT HAS TO BE CONSIDERED RELIABLE AND MUST BE INCLUDED WITH BENEFIT COST ANALYSIS SUBMISSION FOR FEMA TO VERIFY AND VALIDATE.

DETERMINING HAZARD FREQUENCIES. THE TOOLS INCLUDE HAZARD FREQUENCIES FOR TORNADO SAFE ROOMS, HURRICANE SAFE ROOMS, AND

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THESE ARE PULLED IN BASED ON PROJECT LOCATION ENTERED BY THE USER.

OTHER PROJECTS WILL REQUIRE THE USER TO IDENTIFY THE FREQUENCY WHEN USING THE ASSESSMENT TOOL AND FEMA'S BENEFIT COST ANALYSIS SOFTWARE.

THE MODULE DOES INCLUDE A FREQUENCY CALCULATOR.

THE USER MUST SUPPLY THREE EVENTS WHERE THERE HAVE BEEN DOLLARS OR DAMAGE DOCUMENTED. WHEN PROVIDING FREQUENCY, IT'S IMPORTANT TO DETERMINE HOW IT WAS DETERMINED AS THE FREQUENCY IS ONE OF THE PRIMARY DRIVERS ON WHETHER THE PROJECT IS COST EFFECTIVE AS DETERMINED.

FOR OTHERS APPLICANTS MUST APPLY DETERMINATION METHODS.

IDENTIFYING HAZARD FREQUENCIES.

LINKS PROVIDE GOOD SOURCES OF INFORMATION FOR HAZARDS AND INFORMATION.

WHEN APPLICANTS USE OTHER SOURCES SUCH AS INFORMATION AT THESE WEB SITES, CONFIDENCE OF THE ANALYSIS IS HIGHER.

WHEN USING THESE, IT MUST INCLUDE A PRESENT OUT FOR VERIFICATION.

ASSUME THE REVIEWER DOES NOT HAVE ACCESS TO YOUR TOOLS AND RESOURCES.

>> THANK YOU.

NOW, I'D LIKE TO TURN IT OVER TO RYAN ENDORF FROM U.S. DOT.

>> GOOD AFTERNOON, I WORK AT U.S. DEPARTMENT OF

TRANSPORTATION, IN THE OFFICE OF THE SECRETARY AND I'D LIKE TO THANK SARAH AND THE TEAM HERE FOR THE OPPORTUNITY TO DISCUSS OUR TIGER GRANT PROGRAM.

OVER SIX YEARS, DOT AWARDED GRANTS WORTH BILLIONS OF DOLLARS AND OUR APPLICATIONS CLOSED AND WE'RE REVIEWING THE APPLICATIONS IN ANTICIPATION OF AWARDS.

OUR APPLICANT ARE REQUIRED TO SUBMIT A BENEFIT COST ANALYSIS AND THE DEPARTMENT HAS A TEAM OF ECONOMISTS REVIEW ANALYSIS.

WHEN WE DO, WE'RE ATTEMPTING TO

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DETERMINE THE LIKELIHOOD THE BENEFITS WILL EXCEED COST. SO AT THE BOTTOM OF THE SLIDE, YOU CAN SEE THE RANGE OF ASSESSMENTS. BENEFITS COULD EXCEED COSTS, BE LESS THAN COSTS, AND THEN UNCERTAIN. THE VAST MAJORITY OF OUR RATINGS END UP BEING IN THAT UNCERTAIN CATEGORY. IT'S RARE THAT YOU CAN SEE ANALYSIS WHERE THE BENEFITS IN OUR ESTIMATION ARE EXCEEDING COSTS AND RARE THAT THE BENEFITS ARE CLEARLY LESS THAN THE COSTS WE RECOGNIZE THAT THERE IS UNCERTAINTY IN ANY OF THESE ANALYSIS AND WE RECOGNIZE THAT AND TRY TO APPLY THAT IN TERMS OF HOW WE REVIEW THE PROJECT. SO THIS SLIDE PROVIDES A DESCRIPTION OF PROJECTS. WE'RE LOOKING FOR A DESCRIPTION OF THE PROJECT. WHAT IS THE PROJECT GOING TO CHANGE? WE'RE LOOKING TO SEE THE COST AND BENEFITS OUTLINED, WE'D LIKE TO SEE THEM DESCRIBED, IF POSSIBLE, ESPECIALLY ASSUMPTIONS THAT ARE MADE, AND WE LIKE TO SEE SPREAD SHEETS THAT SHOW CALCULATIONS WE GET SPREAD SHEETS IN A PDF FORM, IT'S TYPICAL TO SEE CALCULATIONS SO GETTING THEM IN EXCEL IS USEFUL FOR US. BASE LINE. IT'S IMPORTANT TO DEFINE BECAUSE WHEN YOU'RE TRYING TO CALCULATE BENEFITS IT'S IMPORTANT TO SEE WHAT YOU'RE MEASURING AGAINST. SO WHEN YOU HAVE A PROJECT IT'S GOING TO MAKE A POSITIVE DIFFERENCE FOR THE COMMUNITY BUT YOU NEED A BASE LINE TO SET THE APPROPRIATE LEVEL FOR WHAT THE BENEFITS ARE GOING TO BE. SO BASE LINE IS WHAT WOULD HAPPEN IN LIEU OF THE PROJECT. IT COULD BE STATUS QUO MAINTAINS, IT COULD BE CONDITIONS GET WORSE. THE IMPORTANT THING IS THAT IT'S

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REALISTIC.

FOR EXAMPLE, YOU MAY HAVE A BRIDGE PROJECT.

THE BRIDGE MAY BE DEFICIENT STRUCTURALLY.

AN APPROPRIATE BASE LINE WOULD NOT ASSUME IT'S GOING TO COLLAPSE IN TWO YEARS BUT RATHER THAT THE BRIDGE IS GOING TO CONTINUE TO BE STRUCTURALLY DEFICIENT AND WOULD NEED TO BE REPLACED.

SO IT'S IMPORTANT TO SET A REALISTIC BASE LINE.

IT'S ALSO IMPORTANT THE PROJECT HAVE INDEPENDENT UTILITIES.

IF THE PROJECT COMES IN AND LET'S SAY YOU'RE BUILDING A NEW DOCK BECAUSE YOU'RE EXPECTING A GROWTH IN CARGO.

IF YOU DON'T HAVE AN ACCESS ROAD FOR THE DOCK IT'S NOT GOING TO BE ABLE TO GET TO THE MAIN LINE. SO THE PROJECT DOESN'T HAVE INDEPENDENT UTILITY.

COMMON MYSTICS ARE THAT THE BASE LINE IS UNREALISTIC.

WE'RE INTERESTED IN SOMETHING THAT IS REALISTIC, NOT BASED ON WHAT THE CURRENT GROWTH RATE MIGHT BE.

WHEN YOU USE A GROWTH RATE THAT IS FAR TOO HIGH, IT INFLATES BENEFITS.

ANOTHER EXAMPLE WOULD BE NOT TO CONSIDER THE POSITIVE IMPACT OF OTHER PLAN PROJECTS.

SO IF ANOTHER PROJECT HAS FUNDING YOUR BASE LINE SHOULD ASSUME THAT THAT IS PART OF THE BASE LINE AND ALREADY THERE. FOR THIS POINT, CLAIMING BENEFITS FROM A PROJECT THAT ONLY COSTS WAS A GRANT FUNDED PART.

IT'S REALLY APPLES TO ORANGES OUR PERSPECTIVE IS THAT IF YOU'RE GOING TO COUNT THE COST YOU SHOULD COUNT THE BENEFITS. IF YOUR GRANT IS ONLY FUNDING ONE COMPONENT, IF YOU'RE GOING TO COUNT THE COST YOU CAN ALSO COUNT THE BENEFITS FROM THE LARGER PROJECT.

ANOTHER IMPORTANT THING IS

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DEFINE THE AFFECTED POPULATION.
THIS IS IMPORTANT FOR WHEN
CALCULATING OUT BENEFITS.
OFTEN, YOU'LL HAVE AN AFFECTED
POPULATION, THAT MAY NOT BE THE
ENTIRE POPULATION.
SO MIGHT BE A TRANSIT PROJECT.
THE STATION IS NOT GOING TO
GENERATE BENEFITS FOR EVERYONE
LIVING IN THAT AREA.
IT'S GOING TO GENERATE BENEFITS
FOR THE SUBSET THAT MIGHT USE A
TRANSIT STATION.
IT'S IMPORTANT TO LINK YOUR
POPULATION TOGETHER.
AND IMPORTANT TO CONSIDER
ALTERNATIVE PROJECTS.
SO AN EXAMPLE IS IN REPLACING A
PIER, ALTERNATIVE WOULD BE
REHABILITATING A PIER INSTEAD OF
NEW CONSTRUCTION.
SO IT'S IMPORTANT TO CONSIDER
THESE BECAUSE YOU MAY FIND THE
BENEFIT RATIO IS BETTER FOR ONE
COMPARED TO ANOTHER.
ECONOMIC TRANSFERS ARE NOT
BENEFITS.
SO WE'RE INTERESTED IN BENEFITS
FROM NATIONAL PERSPECTIVE.
SO WE AREN'T LOOKING FOR IS
BENEFITS THAT TRANSFER FROM ONE
REGION TO ANOTHER REGION.
AN EXAMPLE WOULD BE A PROJECT
AND PORT AND ONE STATE THAT
WOULD LEAD TO NEW BUSINESS
GROWTH AT THAT PORT.
IF THAT COMES FROM ANOTHER PORT,
YOU'RE NOT CREATING ANY BENEFITS
JUST TRANSFERRING BENEFITS FROM
ONE PORT TO ANOTHER.
JOB CREATION IS ONE THING WE
VIEW SKEPTICALLY BECAUSE OFTEN,
THOSE JOBS MAY JUST BE
TRANSFERRING FROM SOMEWHERE
ELSE.
SO IN ORDER TO CLAIM BENEFITS
FROM JOB CREATION, YOU NEED TO
SHOW BENEFITS ARE NOT BEING
TRANSFERS FROM A LOCAL
COMMUNITY, BUT THE PROJECT IS
CREATING JOBS THAT AREN'T MOVING
FROM ELSEWHERE IN THE COUNTRY.
ONE OF THE MOST-IMPORTANT THINGS
WE TELL OUR GRANTEES, AND THIS
IS SOMETHING JODY MENTIONED, IS

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THAT YOUR ANALYSIS NEEDS TO BE
TRANSPARENT AND REPRODUCIBLE.
WE NEED TO BE ABLE TO SEE HOW
YOU DERIVE CALCULATIONS AND
NUMBERS.
WHERE DID BENEFITS COME FROM?
WHERE DID VALUES YOU HAD COME
FROM?
IF YOU HAVE ASSUMPTIONS IT'S
IMPORTANT TO PROVIDE
DOCUMENTATION SO WE CAN MAKE
SURE IT'S REALISTIC.
IF YOU'RE TAKING AN ASSUMPTION
FROM LITERATURE.
LET'S SAY YOU'RE ASSUMING THAT
THERE WOULD BE PROPERTY VALUE
INCREASE.
IT'S IMPORTANT TO GET THE
ESTIMATE AS A RESULT OF THE
PROJECT.
FROM THE LITERATURE, USING A
NUMBER FROM LITERATURE, YOU NEED
TO JUSTIFY IT'S APPROPRIATE FOR
YOUR COMMUNITY.
THAT CAN SOMETIMES OVERESTIMATE
BENEFITS.
WHEN YOU CITE OUTSIDE DATA
SOURCES WE EXPECT THAT YOU'LL
PRESENT THAT INFORMATION TO US.
SO WE CAN MAKE SURE THE NUMBER
IS CORRECT THAT YOU'RE USING.
FINALLY IF YOU'RE USING A
PREPACKAGED MODEL FOR YOUR
ANALYSIS, WE TELL OUR APPLICANTS
WE NEED TO SEE DETAILS OF THE
MODEL AS WELL AS INPUT.
SO IT'S IMPORTANT THAT WE SEE
AND UNDERSTAND HOW THEED WHO
MODEL COMES UP AND BENEFIT COST
RATIO THAT IT HAS.
THIS SLIDE PROVIDES A NUMBER OF
TRANSPORTATION BENEFITS THAT WE
CAN SEE IN OUR TIGER GRANT
PROGRAM.
THIS ARE QUALITY OF LIFE,
ECONOMIC COMPETITIVENESS,
SAFETY, AND ENVIRONMENTAL
SUSTAINABILITY.
WE HAVE GUIDANCE THAT PROVIDES
SOME VALUES SO OUR VALUES AND
SAFETY SECTION IS 9.4MILLION.
THOSE VARY ON WHETHER PERSONAL
OR BUSINESS RELATED.
SO THESE ARE THE MAIN BENEFITS.
THE LARGEST SOURCES ARE IN THE

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SAFETY AND TRAVEL TIME SAVINGS
AREA.
YOU CAN SEE OPERATIONAL COST
SAVINGS AND POTENTIALLY PROPERTY
VALUE INCREASES.
SO FOR COSTS, IT'S IMPORTANT
THAT YOUR COSTS REFLECT WHAT
YOU'RE MEASURING.
SO IF YOU'RE PLANNING TO
DISCOUNT THE COSTS OF THE GRANT
FUNDED PORTION, THEN YOUR
BENEFITS SHOULD JUST BE FOR THE
GRANT FUNDED PORTION.
AND HE EXPECT LIFE CYCLE COSTS
ARE ALSO COUNTED.
A PROJECT WILL EXPECT BENEFIT
COSTS WILL GO OUT ABOUT 20
YEARS.
SO FOR A BRIDGE IT MAY BE 50
YEARS.
AND WE EXPECT TO SEE IT OUT
THROUGH THEN OR DISCOUNTED AT 7%
OR 3% RATES.
BENEFITS SHOULD BE DISCOUNTED AT
7% OR 3%.
WE LIKE TO SEE BOTH JUST FOR
COMPARISON.
BUT 7% IS PREFERRED.
VARA ASKED ME TO TALK ABOUT THE
DATA SOURCES WE CAN SEE.
SO DATA FROM GOVERNMENT ENTITIES
IS ACCESSIBLE.
EVERY PROJECT IS DIFFERENT.
SO LOCAL DATA IS PREFERRED.
BUT, IT'S ALSO USUAL THAT LOCAL
DATA CAN BE INCONSISTENT.
WE ACCEPT DATA IF YOU'RE GOING
TO USE OTHER DATA YOU NEED TO
JUSTIFY IT AND JUSTIFY IT'S
ACCEPTABLE FOR USE.
BE CAREFUL ABOUT USING ESTIMATES
FROM LITERATURE.
YOU NEED TO BE ABLE TO SHOW IT'S
TRANSFERRABLE TO YOUR PROJECT
AND COMMUNITY.
FOR SOME, THERE ISN'T ADEQUATE
DATA.
WE PREFER THAT THEY'RE
DESCRIBED, WHO IS GOING TO BE
AFFECTED?
EXPLAIN WHY YOU CAN'T MONETIZE
THEM.
SO IF YOU CAN, ESTIMATE WHAT YOU
THINK BENEFITS OR RANGE.
IT'S BETTER TO DESCRIBE A

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BENEFIT THAT IS TO ESTIMATE.
THE IMPORTANT THINGS WE TELL OUR
GRANTEES IS DOCUMENT AND PROVIDE
SOURCES FOR YOUR DATA AND
CALCULATION.

AND ALSO, ALLOW US TO ADJUST IF
WE THINK THAT ESTIMATE IS A
LITTLE BIT TOO HIGH.

SECOND, BE REALISTIC IN
ASSUMPTIONS THAT YOU USE.

MAKE SURE THAT THEY'RE
APPROPRIATE FOR YOUR PROJECT.

IF YOU HAVE BENEFITS THAT YOU
DON'T, AREN'T ABLE TO MONETIZE,
AND LASTLY, CONSIDER THE

VIEWPOINT ON OBJECTIVE
REVIEWERS, IN THIS CASE, US.

WE'RE GOING TO BE THINKING
WHETHER THEY'RE REASONABLE.

SO AS YOU'RE DOING ANALYSIS,
THINK ABOUT ARE THESE
REASONABLE?

THANK YOU, RYAN.

BEFORE DISCUSSING ADDITIONAL
SOURCES LET ME REIT RATE,
WHENEVER POSSIBLE USE FEDERAL
DATA SOURCES.

ANOTHER ADVANTAGE THAT YOUR
FEDERAL REVIEWERS LIKE LIE HAVE
ACCESS TO THESE SOURCES.

THERE MAY BE OTHER DATA SOURCES
MORE TARGETED TO YOUR PROJECT OR
REGION AND MAY BE PREFERABLE TO
MORE NATIONAL DATA SOURCES.

YOU CAN USE THESE THAT YOU CITE
AND PROVIDE DETAILED
INFORMATION.

EXAMPLES COULD INCLUDE ACADEMIC
PAPERS OR INFORMATION FROM LAW
ENFORCEMENT YOU MIGHT LOOK FOR
DATA FROM YOUR QUALIFYING
FACTOR.

JODY GIVES EXAMPLE OF USING DATA
FROM LOSS OF LIFE FROM
QUALIFYING DISASTER IN COUNTING
THE VALUE OF LIFE IN A FLOOD
EVENT.

THIS IS A GOOD SOURCE FOR
DOCUMENTING YOUR PROJECT USEFUL
LIFE.

LET'S GO THROUGH A NUMBER OF
GUIDANCE DOCUMENTS AND DATA
SOURCES.

ELLEN B IS THE OFFICE OF BUDGET.
THE LINK IS AT THE TOP OF SLIDE.

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IT HAS A SISHG YU LAR A 4 THAT HAS GOOD GUIDANCE ON HOW TO MEASURE, AND MONETIZE COST AND BENEFITS.

AND THE ARMY CORPS AND OTHER AGENCIES FOR THEIR BCA.

IN ADDITION THERE ARE TWO DOCUMENTS WE'VE POSTED ON THIS WEBINAR.

THEY'RE INCORPORATED INTO FEMA'S TOOL KIT SO WE HAVE POSTED THEM HERE SO YOU CAN REVIEW AND USE THIS HELPFUL INFORMATION OUTSIDE OF THE TOOL KIT.

WE'VE POSTED A LINK TO CASE STUDIES THAT MIGHT BE HELPFUL. EPA HAS GUIDANCE THAT IS MORE ACADEMIC IN NATURE.

THERE IS GOOD INFORMATION HERE INCLUDING CASE STUDIES IN THE FIRST LINK.

THERE ARE EXCELLENT TOOLS TO HELP YOU DEFINE THE BASE LINE. BOTH ARE GIS BASED AND CAN PROVIDE INFORMATION ABOUT CURRENT CONDITIONS ON THE SITE. THE SCREEN TOOL LOOKS AT GEOGRAPHIC DATA.

IT WAS DESIGNED TO HELP WITH ENVIRONMENTAL REVIEWS AND CONTAINS MANY DATA LAYERS. INCLUDING DEMOGRAPHIC INFORMATION.

JODY DISCUSSED FEMA'S APPROACH AND HERE ARE RESOURCES FROM EPA AND USDA FOREST SERVICE WITH LINKS TO DATA SOURCES TO HELP VALUE SERVICES.

IT IS DEFINED AS BENEFITS THAT ENHANCE HUMAN WELL BEING. THERE IS AN ACKNOWLEDGEMENT THAT NATURE HAS VALUE AND VALUE CAN BE MEASURED AND USED TO SUPPORT PROJECT DECISIONS.

ALSO, INCLUDED ON THE SLIDE ARE THE HINGE TO USDA WILDFIRE AND CLIMATE CHANGE INFORMATION. BOTH CONTAIN LINKS TO MULTIPLE SOURCES OF DATA ON VALUING ECO SYSTEM BENEFITS.

SOME IS FREE AND SOME IS NOT. JODY SHARED THE POLICY EARLIER IN THE PRESENTATION.

HERE ARE THE RESOURCES PULLED FROM THAT POLICY AND OTHER

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SOURCES.

AS WITH OTHER DATA, FEDERAL SOURCES THAT HAVE BEEN VETTED AND ACCEPTED BY OTHER AGENCIES IS THE BEST PLACE TO START. CHOOSE A SOURCE OF THE DATA BEST SUITED FOR YOUR PROJECT AREA AND EXPLAIN WHY IT IS THE BEST DATA. WE'VE INCLUDED HERE LINKS TO NOA AND U.S. FARMING CORPS DATA SETS AND NATIONAL CLIMATE ASSESSMENT, SUMMARIZING CLIMATE CHANGE ON THE UNITED STATES.

A TEAM OF 300 EXPERTS GUIDED BY A 60 MEMBER COMMITTEE PRODUCED THIS REPORT.

AS YOU MIGHT IMAGINE THERE IS QUITE A BIT OF DETAILED DATA FOR THE HURRICANE SANDY REGION.

IF YOUR REGION HAS DATA ACCEPTED BY LOCAL ENTITIES YOU CAN USE THAT.

WE RECOMMEND YOU SUBMIT THE DATA WITH YOUR BCA.

I'VE POSTED GUIDANCE ON THIS SLIDE AT THE BOTTOM.

ALSO POSTED IS THE WHITE HOUSE TECHNICAL SUPPORT DOCUMENT CALLED SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS WITH THIS 2013 UPDATE.

IF YOUR PROJECT WILL RESULT IN A DECREASE IN EMISSIONS THIS IS THE BENEFIT YOU'LL WANT TO INCLUDE IN YOUR ANALYSIS.

FEMA HAS A TOOL THAT ESTIMATES POTENTIAL LOSSES FOR NATURAL DISASTER.

JODY?

>> THANK YOU, SARAH.

IT IS A COMPUTER SOFTWARE APPLICATION THAT STANDS FOR TAZ YARDS, U.S.

THIS PROVIDES HAZARD ESTIMATION FOR HURRICANE AND FLOODING EVENTS.

THE TOOL IS AVAILABLE FREE ON FEMA.GOV BUT REQUIRES GIS AND SPASHL ANALYSIS TO RUN.

IT CAN BE BENEFICIAL FORKED INTOING EVENTS OR HURRICANES AND WE SEE APPLICANTS USING THIS INFORMATION PERFORM FORWARD GRANTS.

>> THANK YOU, JODY.

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THE BASE LINE RESELL YENS IS USED BY THE ARMY CORPS WHEN THEY SET BASE LINES.

THE SOCIAL VULNERABILITY INDEX IS BASED ON RESEARCH BY THE RESEARCH INSTITUTE IN THE DEPARTMENT OF GEOGRAPHY AT THE UNIVERSITY OF SOUTH CAROLINA.

THIS PUTS THEM TOGETHER INTO A SCORE OF SOCIAL ENVIRONMENT TO ENVIRONMENTAL HAZARDS

HERE IS A MAP AT NATIONWIDE SCALE.

RED REPRESENTS HIGHLY VULNERABLE AREAS.

BLUE REPRESENTS BLOW VULNERABILITY.

THIS INFORMATION COULD BE HELPFUL IN ESTABLISHING A BASE LINE FOR YOUR BCA.

TAKE THIS IDEA.

WHEN YOU SUBMIT A BCA, EXPLAIN WHERE DATA COMES FROM, AND WHY YOU CHOSE IT.

PROVIDE YOUR FORMULAS AND BASIS FOR CALCULATION.

STATE YOUR ASSUMPTION.

USE RELIABLE SOURCES OF DATA.

DON'T RELY ON GOOGLE.

WORK WITH FEDERAL DATA OR TALK TO STATE, LOCAL, TRIBAL OR UNIVERSITY PARTNERS FOR GOOD SOURCES.

ASSUME THE REVIEWER DOES NOT HAVE THE INFORMATION YOU DO.

ERR ON THE SIDE OF MORE

EXPLANATION AND INFORMATION.

QUANTIFY DATA WHEN YOU HAVE WAYS TO DO SO, FOR EXAMPLE, USING GUIDANCE FROM FEMA, DOT, EPA OR RELEVANT ECONOMIC THEORY.

IT'S IMPORTANT TO MAKE SURE YOU FOLLOW THE REQUIREMENTS SET OUT BY YOUR FUNDING AGENCY.

YOU MUST FOLLOW APPENDIX H FOR HEAD GRANTS WHICH LAYS OUT DISCOUNT RATE AND VALUE OF LIFE YOU MUST USE IN YOUR ANALYSIS.

ANOTHER EXAMPLE IS RESTRICTION ON INCLUDING ECO SYSTEM BENEFITS ONLY WHEN THE BASE BCA IS AT LEAST .75.

IT DOES NOT APPLY TO HUD NDRC APPLICANTS.

SO FOLLOW INSTRUCTION THAT YOU

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CAN PULL INFORMATION FROM OTHER SOURCES.

AS RYAN MEKS V MENTIONED, MANY AGENCIES THAT REQUIRE BCAs RECOGNIZE THAT THERE ARE A NUMBER OF BENEFITS THAT ARE DIFFICULT TO MONETIZE.

INCLUDING LONG TERM SERVICE IMPACTS, SOCIAL IMPACTS, AND EDUCATION AND OUTREACH.

THESE AGENCIES INCLUDING HUD FOR NDRC ALLOW APPLICANTS TO DETERMINE WHETHER BENEFITS OUTWEIGH THE COSTS.

NO AGENCY WANTS TO YOU MAKEUP INFORMATION AND STICK IT INTO THE CALCULATION

THE KEY IS TO STATE YOUR VIEWS FOR INCLUDING THE BENEFIT AND OBJECTIVE.

LET'S LOOK AT AN EXAMPLE.

HERE IS AN EXAMPLE WITH EDUCATION.

IF A BENEFIT IS DEVELOPING A CURRICULUM, QUANTIFY HOW MANY YEARS IT WILL BE TAUT.

STATE THE OBJECTIVE OF INCLUDING AN EDUCATION COMPONENT.

ALSO, KNOW THAT THERE IS A COST ASSOCIATED WITH THIS BENEFIT, TIME AND MATERIALS TO DEVELOP, AND YOU MUST INCLUDE THAT IN YOUR BCA.

ANOTHER EXAMPLE MIGHT BE JOB CREATION.

RYAN MENTIONED DIFFICULTY OF COUNTING SALARIES IN YOUR BCA.

THIS IS A CONTROVERSIAL TOPIC.

IF YOU PLAN TO CLAIM PRODUCTIVITY OR OTHER JOB BENEFITS, YOU NEED TO DOCUMENT CAREFULLY HOW YOU'RE DOING THOSE AND MAKE SURE YOU'RE NOT COUNTING A TRANSFER OF THE BENEFITS.

HUD IS INTERESTED IN JOB CREATION, WHICH CAN BE USED TO MEET A NATIONAL OBJECTIVE.

IF YOU'RE UNABLE TO MONETIZE, THIS MIGHT BE AN EXAMPLE OF A BENEFIT YOU MIGHT WANT TO INCLUDE.

COST AND BENEFITS WILL RANGE FROM VERY CERTAIN, FIRST-YEAR COSTS TO VERY UNCERTAIN.

NDRC Benefit Cost Analysis Data Resources and Expert Tips Webinar

BENEFITS BASED ON AVOIDANCE OF A FEW TOUR DISASTER.

THE SENSITIVITY ANALYSIS TAKES UNCERTAINTY INTO ACCOUNT BY ASKING IF A COST OR BENEFIT DEVIATES FROM THE PROJECTED VALUE, WHAT WILL BE THE AFFECT ON MY BCA OUTCOME?

TAKE A LOOK AT THE SENSITIVITY OF COST AND BENEFITS FOR THE PROJECT.

RUNNING WITH A ALTERNATE RATE IS ANOTHER FORM OF SENSITIVITY ANALYSIS

IT CAN HELP YOU UNDERSTAND RISKS ASSOCIATED WITH YOUR PROJECT, HELP CONSIDER ALTERNATIVES AND LINK TO YOUR REVIEW.

TO CONCLUDE, IF YOU HAVE QUESTIONS ABOUT A FEMA BCA, CONTRACT JODY SPRINGER.

IF YOU HAVE QUESTIONS ABOUT A U.S. DOT BCA, CONTRACT RYAN ENDOR.

AND FOR QUESTIONS PLEASE WRITE TO RESILIENT RECOVERY AT HUD.GOV.

THANKS FOR WATCHING.
GOODBYE.