

# FTA

FEDERAL TRANSIT ADMINISTRATION

## Unit 1: Welcome and Course Overview

### Hazard Mitigation Cost Effectiveness Analysis Course

January 2014



U.S. Department of Transportation  
Federal Transit Administration

# Course Purpose

The purpose of the course is to provide participants with an understanding of the Hazard Mitigation Cost Effectiveness (HMCE) methodology and tools necessary to assess the cost effectiveness of transit resilience projects for Competitive Resilience awards submitted under the FTA Public Transportation Emergency Relief Program.

# Course Objectives

- 1) Estimate resilience project costs.
- 2) Compute resilience project benefits.
- 3) Understand how to use FTA's HMCE Tool.
- 4) Identify, gather, and analyze documentation required in the FTA Competitive Resilience grant application process.
- 5) Determine the benefit-cost ratio for a hypothetical resilience project using the FTA HMCE Tool.

# Course Agenda

Unit	Description	Time
Intro	Review of the NOFA	15 minutes
Unit 1	Welcome and Course Overview	15 minutes
Unit 2	Benefits and Costs of Resilience Projects	45 minutes
Unit 3	Overview of the HMCE Tool	60 minutes
Unit 4	Data Documentation and Case Study	75 minutes
Wrap Up	Question and Answer	30 minutes

# Administrative Announcements and Ground Rules

- FTA Announcements
- Ground Rules
  - Be considerate and respectful of other course participants
    - room participants
    - online participants
  - Be considerate of schedule: Hold questions until the end of the unit
  - Be considerate of course instructors

# Reminder of Key Terms

- Resilience Projects: Projects designed and built to address current and future vulnerabilities of a public transportation facility or system due to future occurrence or recurrence of emergencies or major disasters that are likely to occur in the geographic area in which the public transportation system is located; or projected changes in development, demographics, or climate/weather patterns. Also known as Hazard Mitigation Projects.

# Reminder of Key Terms (continued)

- Hazard Mitigation Cost Effectiveness Analysis: Analysis of project benefits and project costs intended to demonstrate that the benefits of constructing the resilience project outweigh the costs, or the benefit-cost ratio (BCR) is greater than 1.0

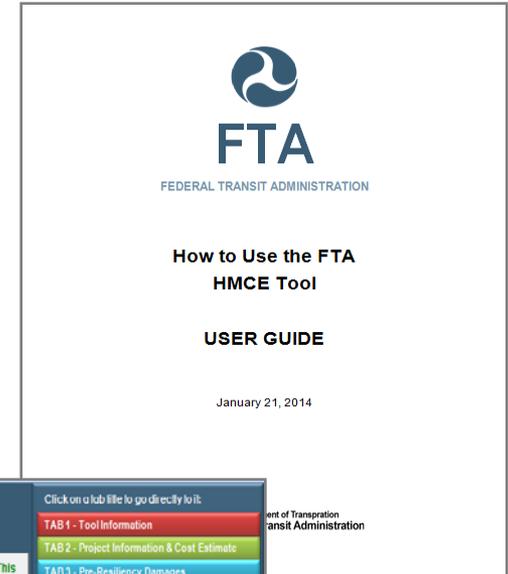
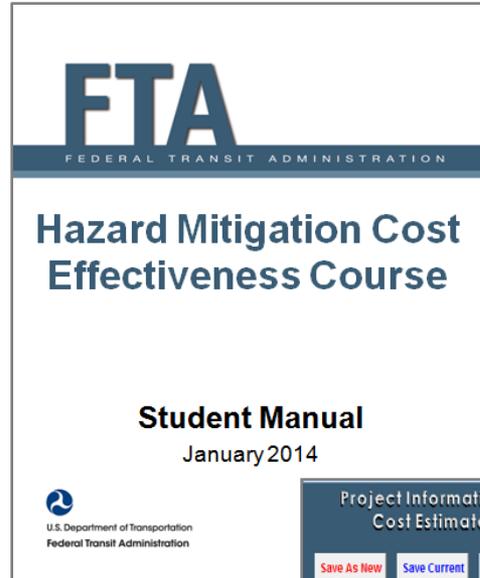
$$\frac{\text{Project Benefits}}{\text{Project Costs}} = \text{Benefit-Cost Ratio (BCR)}$$

Hazard Mitigation Cost Effectiveness Analysis approach is consistent with FEMA's Hazard Mitigation Benefit Cost Analysis (BCA) approach.

# Course Materials

The following materials are available for download:

- Student Manual
- HMCE Tool
- HMCE Tool User Guide
- Class activity worksheets



Project Information & Cost Estimate

Click on a tab title to go directly to it:

- TAB 1 - Tool Information
- TAB 2 - Project Information & Cost Estimate
- TAB 3 - Pre-Resiliency Damages
- TAB 4 - Post-Resiliency Damages
- TAB 5 - Analysis Results & Qualitative Benefits

Save As New Project | Save Current Project | Print This Tab

U.S. Department of Transportation  
Federal Transit Administration

Section I - Applicant Information

Applicant: \_\_\_\_\_  
 Address Line 1: \_\_\_\_\_  
 Address Line 2: \_\_\_\_\_  
 City: \_\_\_\_\_ Select State: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone 1: \_\_\_\_\_ Ext.: \_\_\_\_\_ Phone 2: \_\_\_\_\_ Ext.: \_\_\_\_\_

Section II - Project Information

Project Name: \_\_\_\_\_

Application Date: \_\_\_\_\_ Analyst: \_\_\_\_\_  
 Analysis Year: 2014 Analysis Date: \_\_\_\_\_

Transit Mode(s) Protected by Project:  Suburban/Local City Rail  Metrolink/Commuter Rail  Light Rail  Heavy Passenger Rail  Other

Primary Hazard Protected by Project:  Flood  Monsoon/Coastal Storm  Wildfire  Damages/Storm

Secondary Hazard(s) Protected by Project:  Flood  Monsoon/Coastal Storm  Wildfire  Damages/Storm

Final Project Description: \_\_\_\_\_

# Other HMCE Resources

The screenshot shows the homepage of the U.S. Department of Transportation Federal Transit Administration website. The main headline is "U.S. Department of Transportation Announces \$3 Billion to Strengthen Resiliency of Transit Agencies Affected by Hurricane Sandy". Below the headline is a sub-headline: "Competitively awarded resiliency funds complement \$5.7 billion already allocated for recovery and locally prioritized resiliency projects". The article text includes the date "12/23/13" and contact information for Angela Cabe. A photograph shows a flooded transit station with water reaching the platform level. The website footer contains navigation links for "DEPARTMENT OF TRANSPORTATION", "CONNECT WITH FTA", "GOV & OTHER SITES & SOURCES", and "FTA POLICIES".

- FTA Website
- FEMA Flood Map Site

# HMCE Technical Assistance

- Use FTA website <http://www.fta.dot.gov/> for application-specific information and other assistance needed in preparing a complete grant proposal.
- E-mail [FTASandyResilience@dot.gov](mailto:FTASandyResilience@dot.gov) for program-specific questions about applying for the funds as outlined in the NOFA, or contact

Adam Schildge

FTA - Office of Program Management

1200 New Jersey Ave. SE

Washington, DC 20590

Phone: (202) 366-0778

# Questions and Answers