



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

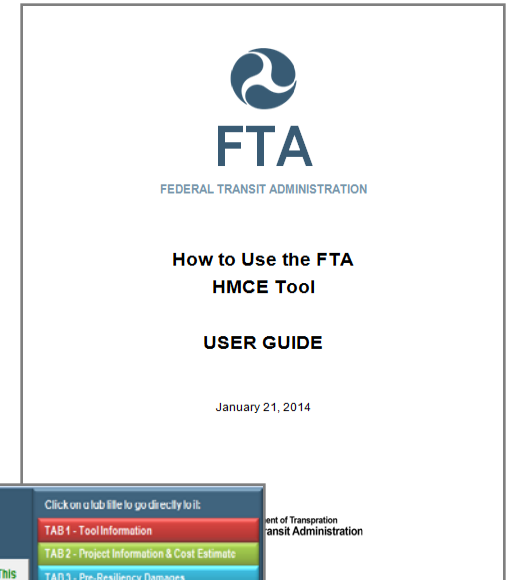
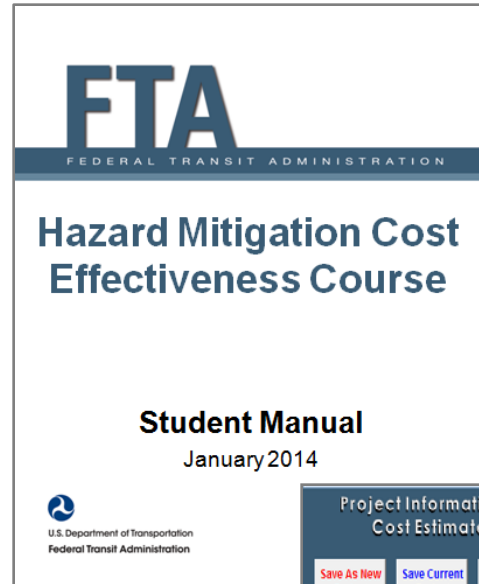
$$\frac{\text{Project Benefits}}{\text{Project Costs}} = \text{Benefit-Cost Ratio (BCR)}$$

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 & Quantitative Benefits

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

**Section I - Applicant Information**

Applicant: \_\_\_\_\_  
 Address Line 1: \_\_\_\_\_  
 Address Line 2: \_\_\_\_\_  
 City: \_\_\_\_\_ 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: ☐ Subway/Heavy City Rail ☐ Bus ☐ Light/Commuter Rail ☐ Ferry ☐ Heavy Passenger Rail ☐ Other \_\_\_\_\_

If Transit Mode is "Other," please specify: \_\_\_\_\_

Primary Hazard Protected by Project: ☐ Flood ☐ Hurricane/Cyclonic Storm ☐ Wild ☐ Seismic Storm

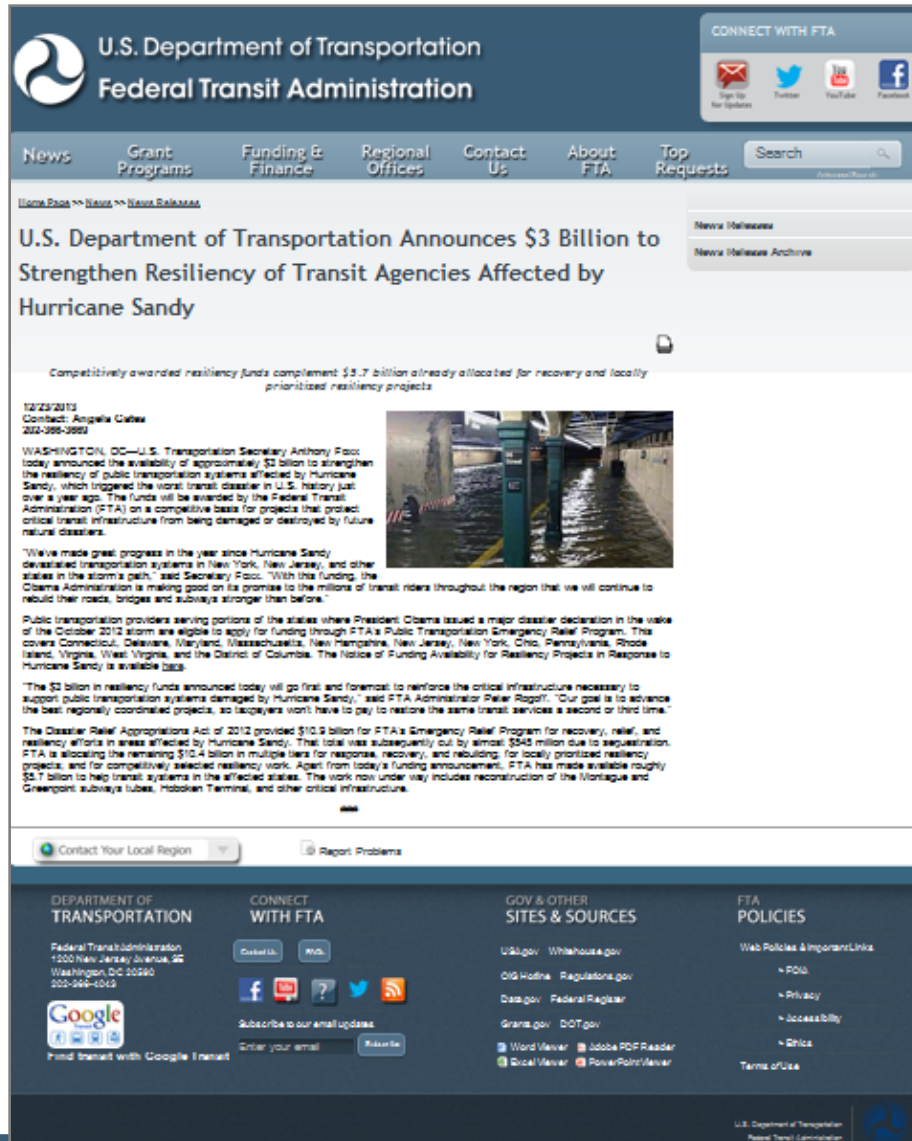
Secondary Hazard(s) Protected by Project: ☐ Flood ☐ Hurricane/Cyclonic Storm ☐ Wild ☐ Seismic Storm

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



# Other HMCE Resources

- 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