AASHTO STEM OUTREACH SOLUTIONS

This module meets the following National Standards of Learning

Activity 1: How Much Traffic Can the Road Handle?

National Council of Teachers of Mathematics Standards

The algebra standard indicates students should use "mathematical models, including graphs, tables, and equations."

Activity 2: Not in My Backyard!

National Council for the Social Studies Standards

Strand 8 Science, Technology, and Society: (relationships among science, technology, and society) asks "How can we manage technology so that the greatest number of people benefit from it?"

Activity 3: How Much Does It Cost?

National Council of Teachers of Mathematics Standards

The Data Analysis and Probability Standard indicates that students should "understand scatterplots and use them to display data ... conduct analyses of the relationships between two sets of measurement data ...produce lines that fit the data .... [and] discuss what best fit might mean"

PAC 2

This module contains four activities to provide a comprehensive overview of the design and construction of roadways.

Activities

Activity 1: How Much Traffic Can the Road Handle?

Activity 1 consists of two sections that explain the concept of traffic flow rates at varying traffic densities and also demonstrates how there is a maximum number of cars able to move through a lane within an hour.

Activity 2: Not in My Backyard!

Activity 2 asks students to determine how to align a road that will go from point A to point B on a map, given that there is no optimal location for the road.

Activity 3: How Much Does It Cost?

Activity 3 uses a map to explain how real estate prices are determined.

Activity 4: Construction Estimating

Activity 4 is an exercise in estimating the cost of construction, including labor, equipment, material, overhead, and profit.

The AASHTO STEM Outreach Solutions Program is a hands-on education outreach program designed for use in science, math, technology, and social science classes. By engaging students in solving real-world problems, sending volunteer mentors in the classroom, and supplying teachers with the needed materials. It connects K–12 students to the working world of transportation professionals and civil engineers, and inspires them to consider careers in these fields. The modules are designed for students in middle school and high school. The Roadways Into Developing Elementary Students module is designed for Pre K–8th grade and introduces elementary school students to basic transportation concepts.

Visit TRANSPORTATION.ORG/STEM-OUTREACH-SOLUTIONS to learn about the program.

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