

**MOREnet, MODOT and RoundTrips Present:**  
***Building the Glasgow Bridge: Engaging the Public***

**Date:** February 13, 2009

**Times:** 9:00 a.m. to 10:00 a.m. and 10:30 a.m. to 11:30 a.m.

**Grade Levels:** 7-12

**Cost:** No Fee

**Abstract:**

Replacing an old river bridge with a new one raises many concerns for the public about impact on the environment, their driving habits, use of the river, etc. Join our community meeting videoconference to see how transportation officials address these concerns through public engagement meetings.

**Program Description:**

Replacing an old bridge with a new one involves far more than just destroying one bridge and building another. Significant attention must be paid to the impact the construction process will have on the life of the people, businesses, and communities near the bridge site on both sides of the river. How will people get to work? How will the environment around the bridge site be affected? What should businesses in the area expect? What happens if there's an emergency and residents have to get across the river? To determine the answers to these questions and more, members of the Missouri Department of Transportation studied a great deal of information when preparing to build a new bridge across the river at Glasgow, Missouri. But study alone was not enough. Missouri transportation officials then needed to engage the public to increase understanding of the project and answer people's questions and concerns about how their lives would be affected by it. This research and public interaction then resulted in additional decisions made before the construction process began.

For this program, the third of our ten part series developed with the Missouri Department of Transportation as it builds a new bridge across the Missouri River at Glasgow, Missouri, your students will learn about the process of engaging the public on a project of this magnitude. Students will see how the science and engineering of bridge construction combine with civic responsibility as they interact with transportation officials at a "Public Engagement Meeting." Students will be asked to take on the perspective of a member of the public to develop their questions in advance of the program and ask those questions during the videoconference. Students can choose to be a general community member, businessman, farmer, environmental activist, or historic preservationist. Whichever role they choose to take, what would they want to ask? What concerns would they have about how the construction process would affect them? What would they need to know to make sure they'd be ready to deal with the construction process? For example, if they lived on one side of the river and worked on the other, how would they get to work? If they were a farmer, how would they get their crops to the grain elevator? If they are worried about environmental impacts, are there fish or bird species that might be affected by the construction? As engineers and other transportation officials answer their questions, students will also see how people in these careers engage with the public and deal with public concerns. Data used by transportation officials as they developed plans for the

Glasgow bridge will be provided to your students in advance of the program to help them develop their questions.

**Program Objectives:**

1. The participant will explore the process of civic engagement as it applies to the construction of publicly financed projects and interact in an example of a public engagement meeting.
2. The participant will interact with experts involved in planning and executing bridge design and construction and learn about their occupations and work process.
3. The participant will gain knowledge about the engineering and construction of bridges, assessing environmental and economic impacts of those bridges, and how to deal with public concerns about both.

**Program Format:**

The program will be organized as a “Public Engagement Meeting” similar to the actual meetings engineers and transportation officials had with members of the public as they planned the construction of the new bridge at Glasgow, Missouri. Students will be asked to take on the perspective of a member of the public to develop their questions in advance of the program and ask those questions during the videoconference. Students can choose to ask questions from one of five perspectives: general community member, businessman, farmer, environmental activist, or historic preservationist. The agenda for the program will be focused on these five areas of questions.

To help us organize student areas of interest for the agenda and recognize potential overlap between participating groups, we request you e-mail us no more than two questions in each of the five areas in advance of the program. We will select some of these questions as discussion starters during the program. These advance questions should be e-mailed to us at [roundtrips@clayton.k12.mo.us](mailto:roundtrips@clayton.k12.mo.us) no later than 6:00 p.m. Central Time on February 11. We will then e-mail you back on February 12 with the advance questions that your students will be asked to offer during the program itself. Students will also have the opportunity to ask additional spontaneous questions in each of the five areas during the videoconference.

Data used by transportation officials as they developed plans for the Glasgow bridge will be provided to your students in advance of the program to help them develop their questions. That data will also be shared with students during the program itself to highlight how transportation officials made certain decisions. Students will also see images of the bridge construction as it is occurring as well as video of the ferry operation that is transporting vehicles across the river as the bridge is being rebuilt. Students will interact with the ferry operator as well as engineers and other transportation officials involved in the project.

**Program Order**—The videoconference program will consist of the following segments.

1. Welcome and Introduction—Student groups and experts will be introduced and welcomed to the program. General background information on the bridge project and why it is being constructed will be given as well.

2. **The Ferry Operation**—In this segment, students we'll answer student questions from the perspective of general community members, businessmen and farmers that dealt with concerns about getting across the river as the new bridge is being built. Students will see video of the ferry in operation and interact with the ferry operator.
3. **Economic Impacts of Bridge Construction**—In this segment, we'll continue to focus on questions from the perspective of general community members, businessmen and farmers about the economic impact of the construction, possible job loss, possible job increases, possible loss of retail sales in Glasgow, possible increase of retail sales, effects on tourism, getting crops to market, use of the river for barges and recreation, etc.
4. **Environmental Impacts of Bridge Construction**—In this segment, we'll look at questions from the perspective of environmental activists and learn about what the Missouri Department of Transportation has done to mitigate affects of the construction on land use near the bridge, farmland in the area, waterfowl, and endangered species like the pallid sturgeon.
5. **Historic Preservation and the Bridge**—In this segment, we'll look at any questions concerning the potential historic impacts of destroying the old bridge, and what, if anything, is being done to commemorate the original structure.
6. **Closing Segment**—We'll summarize important concepts learned in the program and answer any final questions for the engineers and transportation officials joining us.

**Featured National Standards: (Science)**

From the Center for Science, Mathematics and Engineering Education

**6.5 Science and Technology Standards**

**Grades 5- 12**

Understanding about science and technology

**Featured National Standards: (Social Studies)**

From the National Council for the Social Studies

**3. People, Places and Environments**

Social studies programs should include experiences that provide for the study of people, places and environments, so that the learner can:

**Early Grades**

h. examine the interaction of human beings and their physical environment, the use of land, building of cities, and ecosystem changes in selected locales and regions;

**Middle Grades and High School**

h. examine the interaction of human beings and their physical environment, the use of land, building of cities, and ecosystem changes in selected locales and regions;

**5. Individuals, Groups and Institutions**

Social studies programs should include experiences that provide for the study of interactions among individuals, groups, and institutions, so that the learner can:

**Early Grades**

c. identify examples of institutions and describe the interactions of people with institutions;

g. show how groups and institutions work to meet individual needs and promote the common good, and identify examples of where they fail to do so.

**Middle Grades**

g. apply knowledge of how groups and institutions work to meet individual needs and promote the common good.

**High School**

g. analyze the extent to which groups and institutions meet individual needs and promote the common good in contemporary and historical settings;

**10. Civic Ideals and Practices**

Social studies programs should include experiences that provide for the study of the ideals, principles, and practices of citizenship in a democratic republic, so that the learner can:

**Early Grades**

d. identify and practice selected forms of civic discussion and participation consistent with the ideals of citizens in a democratic republic;

**Middle Grades and High School**

d. practice forms of civic discussion and participation consistent with the ideals of citizens in a democratic republic;

**Featured State Standards (Missouri):**

Schools from across the country are invited to join in the program. Missouri state standards are provided for Missouri schools since funding for this program comes from various Missouri organizations.

**Missouri Grade Level Expectations (Science)**

Strand 4

All organisms, including humans, and their activities cause changes in their environment that affect the ecosystem.

**Missouri Grade Level Expectations (Social Studies)**

**Strand 3 Knowledge of Principles and Process of Governance Systems**

Grades K-4

Knowledge of democratic principles of governance, especially as applied to school, community and state

A general knowledge of how and by whom authoritative decisions are made, enforced and interpreted within these governance systems

Grades 5-8

Principles and processes of governments in a democracy

Grades 9-12

Principles and purposes of government

**Participant Preparation:**

1. Participants should come to the program with an interest in bridges, engineering, math or science or with a social science interest in how public projects are answerable to public concerns.
2. Participants should utilize preparatory materials provided for the program and other resources of their own to better understand the context of the program's subject and to think in advance of questions they wish to ask the experts. Any questions determined in advance, can be e-mailed to us prior to the program at [roundtrips@clayton.k12.mo.us](mailto:roundtrips@clayton.k12.mo.us).
3. Participants should have pencil and paper ready to use during the program to jot down ideas and additional questions as they come to mind.

### **Pre-Program Activity Suggestions:**

1. Break your class into small groups based on the five perspectives to be used for community members in our community meeting: general community member, businessman, farmer, environmental activist, and historic preservationist. Have students choose their perspective or determine that via another method of your choice. To begin with, have students brainstorm questions they'd like to ask from their perspective. What logical questions do they come up with automatically? Help them phrase these questions in the clearest way possible to reflect their concern.

2. If you are interested in students delving more deeply into their perspective, they can also refer to documents developed by Missouri transportation officials building the Glasgow bridge to help them develop questions. Those documents are included on our RoundTrips website at <http://www.roundtrips.org> and also available on the Missouri Department of Transportation website at <http://www.modot.mo.gov/northcentral/glasgowbridgeproject.htm>. A short description of what those documents contain is provided below:

1. ConnectionsArticle.pdf—a general description of the project, how community meetings were included and some issues addressed during the process.
2. GlasgowBridgeHistory.doc—information on the history of the bridge since its original completion as well as information on the history of the area around Glasgow, Missouri.
3. GlasgowBridgeTraffic.pdf—A graph showing the amount of vehicles that used the old bridge on a daily basis.
4. GlasgowInformation.pdf—General information about the condition of the old bridge and the advantages to the new type of bridge to be built. Information is also included on a potential ferry operation or other methods to help transportation needs during the construction.
5. November2007NEPAUpdate.pdf—Information on how the project is taking into account environmental, economic and infrastructure impacts that will occur during construction.
6. Route240FinalEA8-15-07.pdf—The final environmental assessment of the project published by the Federal Highway Administration.
7. Quotes.pdf—Quotes from local political leaders supporting the project.

3. Have the class participate in a community meeting of their own as they share the questions they have developed and discuss the questions they believe are the most important to ask during the videoconference. During the meeting, have students select the questions they want to send us in advance of the program. As is mentioned in the “Program Format” section of this document please limit your advance questions to no more than two from each of the five perspectives and submit these questions to us no later than 6:00 p.m. Central Time February 11, 2009. We will then e-mail you back on February 12 with the questions your students will definitely be asking. Should you not have time to do this “community meeting” activity, have students submit their questions to you to select the ones you want to send us in advance.

4. For students interested in knowing more about the Glasgow bridge project, have them surf to the Missouri Department of Transportation website at <http://www.modot.mo.gov/northcentral/glasgowbridgeproject.htm>. The site includes information about the original bridge, plans for the new bridge, and a web cam showing current work on the bridge.

**Post-Program Activity Suggestions:**

1. Have students reflect on their participation in this example of “public engagement.” What did they like about such a meeting? What frustrated them? What similar meetings could they attend in their own area? Have they attended such meetings in other places? How were those meetings similar or different?
2. Develop a “Public Engagement Meeting” about a school or local issue important to your students. Have students select an issue, research it and then offer a community forum on that issue to address questions and concerns from other members of their school community. Some students could act as moderators for the meeting, others as experts who answer questions, and others as people who are asking questions along with the rest of the guests attending.
3. Have students attend a “Public Engagement Meeting” in their community and then report back to you on their experience. The report could be written or oral. Students should describe the purpose of the meeting, where it was held, how it was organized, what kinds of questions were asked, and how they thought the meeting went. Did they ask questions at the meeting? If so, what were they?