

HISTORY IN MOTION

Discovering History and
Science through Public
Transportation

A
Seashore Trolley Museum
Curriculum



**“Trolleys, Textile Mills, and Tourists: How Maine’s Electric Railways were
an Economic Engine”**

**The first in a unit of Three Lesson Plans
for Third to Fifth Graders
Integrating U.S. History and Science with Language Arts**

by

**Patricia Pierce Erikson, Ph.D.
Whitecap Consulting Services
whitecapconsulting@gmail.com**



www.trolleymuseum.org

Unit Description and Background

This *History in Motion* curriculum is designed to help elementary students strengthen their skills in history and science through their exploration of public transportation systems in the past, present, and future, with a focus upon Maine.

Following the guidance of the Maine Department of Education, *History in Motion* targets the 2007 Maine Learning Results (MLR) Performance Indicators, the goals of Science-Technology-Education-Math (STEM) education, and the award-winning pedagogical standards set by the Engineering is Elementary (EiE) Program based at the Boston Museum of Science.

The lesson plans in this social studies unit may be combined with either “An Alarming Idea” or “The Attraction is Obvious” EiE units. See www.trolley museum.org for more information.

The research upon which this unit is based stemmed from development of the exhibit *History in Motion: Public Transportation Connecting Maine Communities* that opened at Seashore Trolley Museum in September, 2009.

Seashore Trolley Museum extends its gratitude to the following generous supporters who made the Atlantic Shore Line Railway #100 Restoration Project possible, including its associated exhibit and educational programming:

- Historic Transportation Enhancement Funds through the Federal Highway Administration and the Maine Department of Transportation
- H. Albert Webb Memorial Railroad Preservation Award through the Massachusetts Bay Railroad Enthusiasts, Inc.
- Kennebunk Savings Bank
- Amherst Railway Society
- The 470 Railroad Club
- Kennebunkport Business Association
- Ocean National Bank
- Henry Bowen Brainerd Bequest
- Charles Murray and Mary Elizabeth Cott Memorial Fund
- Richard Perkins Memorial Fund
- Members of the New England Electric Railway Historical Society
- Library at York County Community College
- O.R. Cummings
- AC Electric Corporation

Unit Outline:

Lesson 1: Trolleys, Textile Mills, and Tourists: How Maine's Electric Railways were an Economic Engine

Lesson 2: A Seat for Everyone: Public Transportation Weaving the Fabric of Society

Lesson 3: Birth of the Bus: Science, Invention and You

Unit Objectives

Essential Understandings:

*public transportation has been a vital part of the social structure of the United States for most of our nation's history

*transportation strategies and technologies overcome geographic obstacles and enable communities and cultural groups to connect with one another, enabling economic growth and sometimes cultural conflict

*industrialization, in general, and the invention of electric railways, buses, and automobiles, in particular, changed the diversity of Maine and the social mobility of its population

*natural resources, such as rivers, coal, and timber, were used to power trolleys and factories with steam power and electricity.

Essential Questions:

- *What types of public transportation have existed in Maine history?
- *How do electric railways differ from railroads?
- *Who used electric railways and why?
- *How and why were buses invented?
- *How did diverse cultural groups use, or were prevented from using, public transportation in Maine and beyond?
- What is invention and engineering and how do we use these ideas to design an electrical circuit? (i.e. the "Alarming Idea" EiE Unit)

Lesson 1: “Trolleys, Textile Mills, and Tourists: Maine’s Electric Railways as Economic Engines”

Recommended Teacher Resources

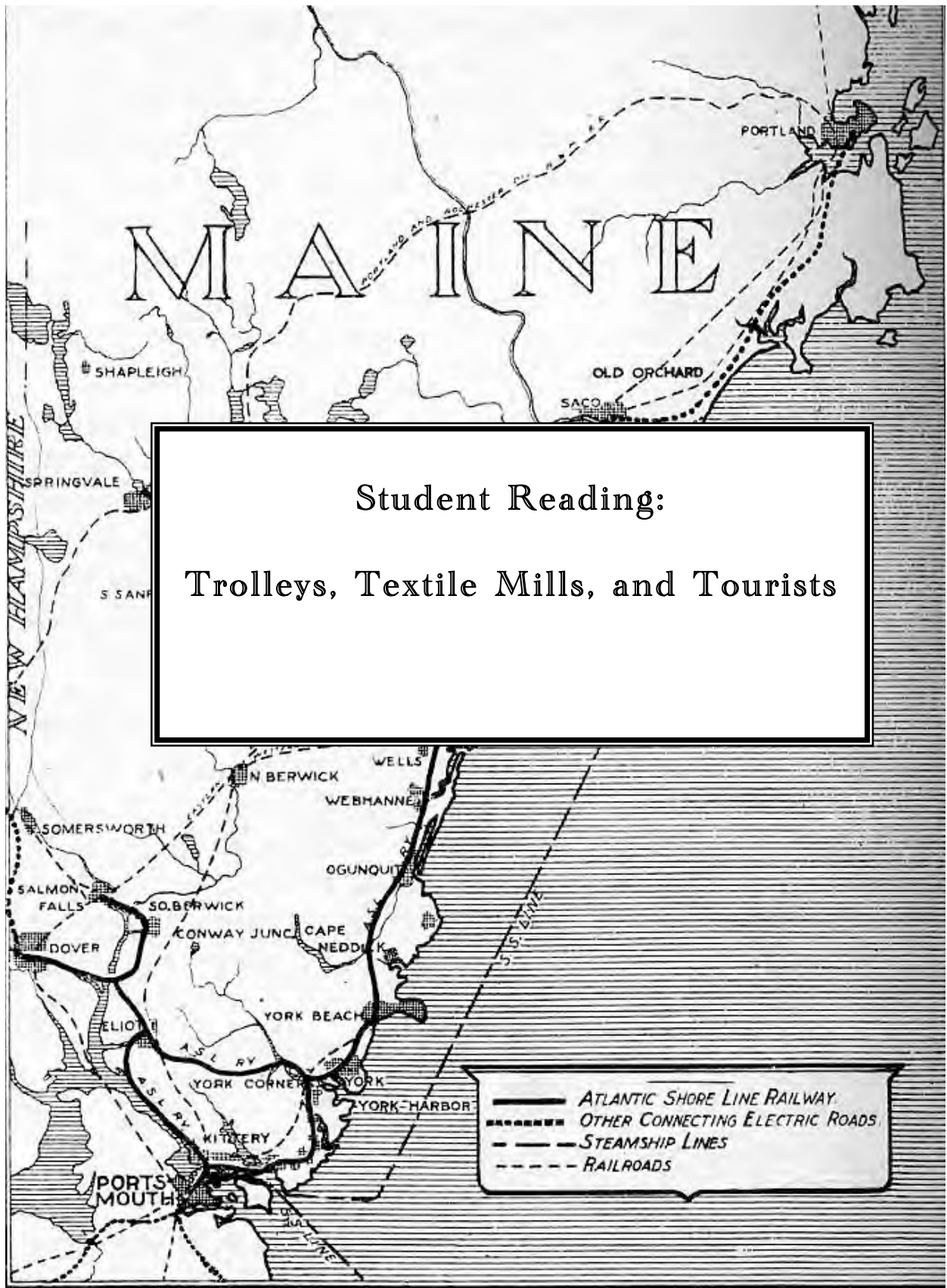
- “York County Trolleys,” 1999, O.R. Cummings, Acadia Publishing.
- “Woven Together in York County, Maine,” 1999, Madge Baker
- “History in Motion” Maine Memory Network online exhibit <http://www.mainememory.net/mho/>

Instructional Materials

- Grandfather’s Trolley, Bruce MacMillan, Candlewick Press, 1995
- Seven-minute historic film footage showing View from Electric Streetcar in San Francisco 1905 showing pedestrians, horse-drawn carriages, trolleys, and automobiles (also available at www.trolleymuseum.org)
<http://www.youtube.com/watch?v=NINORxze9k>
- Student Reading (provided) “Trolleys, Textile Mills, and Tourists”
- Atlantic Shore Line Railway Map (provided)

Procedure

1. Teacher reviews Recommended Teacher Resources and Instructional Materials
2. Read Grandfather’s Trolley to your class
3. Project the historic footage on a screen for your class; encourage observation skills and critical thinking along these suggested lines:
 - *how many types of transportation can you see in this film? Make a list and count them.
 - *what surprises you about how the different ways of traveling (horse vs. walking vs. streetcar) relate to each other?
 - *how are people dressed differently in this time period?
4. Assign the Student Reading and associated questions for discussion or written response as in-class or home work
5. (Optional) Ask students to return to the reading and circle geographic place names that they encounter. Have them locate and circle these on the historic map.



Atlantic Shore Line Railway—Map of Line and Connections

The Trolleys



Electric streetcars rolled on rails and connected to an electrical wire overhead (see above) with a round wheel called a “trolley.” “Trolley” became a nickname for this new invention that changed people’s daily lives.

By the late 1800s, a person who once needed a day or longer to reach their **destination**, could finish their trip in only an hour or two. Streetcars traveled an average of ten miles per hour, or faster, for long distances. This was much faster than a person could walk or ride a horse.

Not only did trolley companies offer **transportation** to the **public**, they also offered jobs. Trolley companies needed motormen and conductors (see right) to drive or operate and fix the streetcars. They also needed workers to build the rail lines and **engineers** to design the electrical systems.



- ◆ why are electric streetcars called “trolleys”?
- ◆ how did trolleys change how people traveled?
- ◆ what kinds of jobs did electric streetcars create?

The Textile Mills



Throughout Maine's history, factories (see above) have been built beside rivers. River water running over dams (see right) was one way to power the mills. In 1893, the Goodall family needed to solve a problem: how can we bring **raw materials** from the steam-powered Boston and Maine Railroad a few miles away to our Sanford mill? How can we carry the newly-made cloth or **textiles** back to the train depot? Their solution: create an **electric railway** named the Mousam River Railroad. Later, the electric-powered trolleys carried workers who **commuted** to the mills from distances that were too far to walk.

- ◆ how was the power source for Mousam River Railroad different than that of Boston and Maine Railroad?
- ◆ what kinds of things did the electric railway carry?

The Tourists



By the late 1800s, Maine people worked in cities and rode electric streetcars or trolleys to work in factories. Trolleys also carried local **tourists** to popular vacation spots, known as **resorts**, where they could relax and picnic with family and friends.

The town of Old Orchard Beach offered grand hotels (see above) and a long wharf or **pier** with many popular games and amusements. You can still visit Old Orchard pier today. Trolleys also took people to other **destinations** such as York Beach. Sometimes, the trolley companies built their own parks so that people would ride trolleys to get there; Riverside Trolley Park and the Cape Porpoise Casino are examples of this.

- ◆ what are popular tourist destinations in Maine today?
- ◆ can tourists use public transportation to travel there?

FREE FIREWORKS

OLD ORCHARD

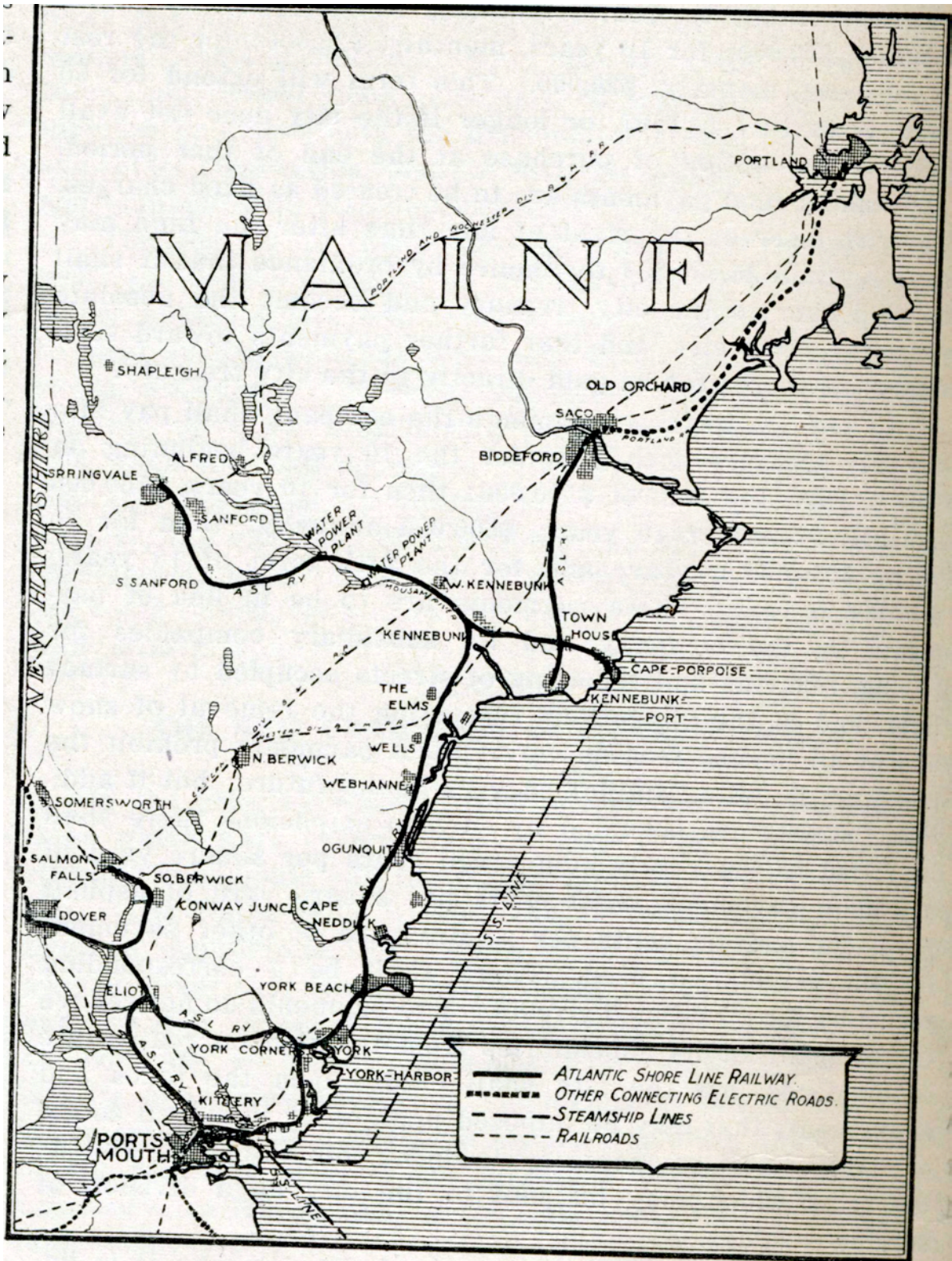
TOMORROW NIGHT

Extra Street Cars

A seat for everybody---No crowding
 •Cars waiting to take you home after the show
 No parking worries---No rushing

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Atlantic Shore Line Railway—Map of Line and Connections.

Can you find and circle town names that were mentioned in your reading?