

**FRANKLIN D. ROOSEVELT,
MEMORIALS, AND
AMERICANS WITH DISABILITIES**



ALSO IN THIS ISSUE —

THE ERIE CANAL: AN EARLY PUBLIC WORKS PROJECT

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The Franklin D. Roosevelt National Memorial: Creating Images of Strength ... and Vulnerability

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Franklin D. Roosevelt (FDR) was a president who used his infectious smile and charismatic personality to charm the press and the people of a nation traumatized first by economic catastrophe and then by a world war. Whether we are teaching about social reforms of the 1930s, domestic relief programs during the Great Depression, or the events surrounding World War II, presenting FDR's legacy in the social studies classroom is unavoidable. But how often do teachers take the time to examine FDR's public image during his own time and now, seven decades after his death? Although FDR's contributions to his country and to the world outshine any particular image of him, there are aspects of an inquiry about "public image" that are worth pursuing with our students.

A Leader with a Disability

Despite his strength of character and skill with words, FDR had a disability that would have ended most politicians' careers. If the words "cripple" or "invalid" were applied to a candidate running for office in the 1930s (or even today), those labels probably would have assured failure.

In the summer of 1921, at the age of 39, FDR contracted poliomyelitis (infantile paralysis). Despite considerable efforts to overcome paralysis, he never regained the full use of his legs. During his last six political campaigns (two for governor of New York and four for U.S. president), FDR was incredibly crafty in the way that he stage-managed his public appearances to minimize the lasting effects of polio and instead, to inspire confidence in his physical strength and health. For example, he had steel railings built into his tour cars so that he could pull himself from a seated position, while his leg braces snapped into place and gave him the support. He commissioned the Secret Service to construct temporary barriers that would conceal his wheelchair and even hide his aids as they carried him from his rail car to his automobile. He put on a deft performance for a nation that needed a strong and capable leader during a decade and a half of national crises.¹

The only times FDR willingly appeared in public in a wheelchair was when he visited military hospitals during World War II to visit with wounded service personnel. For that audience, he was a living example of health and recovery after injury.² FDR inspired, as well as directed, the March of Dimes (which is not a government program) that funded research leading eventu-



Replica of wheelchair, designed by FDR, in the in the Memorial Entry Building

ally to an effective polio vaccine.³ Nevertheless, even in these capacities, FDR refused to be photographed in a wheelchair.

Today, we are almost three quarters of a century removed from the worries and prejudices of FDR's own time. There is a wealth of primary sources available for learning about the personal struggle and dedication behind FDR's public performances of strength. Some of this material was first made available at historic sites and museums, such as those at Roosevelt's Little White House Historic Site in Warm Springs, Georgia, or at the

FDR Presidential Museum and Library in Hyde Park, New York (both of which were Roosevelt family property). The focus in this article, however, is on the Franklin Delano Roosevelt National Memorial in Washington D.C., which offers teachers and students several ways to reflect on the many facets of FDR's life and the world he lived in.

An Interactive Memorial: Walk, Touch, and Listen

The original design of the FDR Memorial entailed four outdoor "open rooms" that would invite visitors to "walk through FDR's presidency," focusing on main themes for each of his terms in office:

1. First Term (1933–1937) — The Great Depression
2. Second Term (1937–1941) — The New Deal
3. Third Term (1941–1945) — The Second World War
4. Fourth Term (1945) — Legacy

Today, each of these spaces includes sculptures representing both specific individuals, such as First Lady Eleanor Roosevelt, and "common citizens," such as people waiting in a soup kitchen line or listening to a radio. Visitors are allowed to touch the sculptures. The walls feature inspirational quotes relating to the major issues of FDR's presidency. FDR loved the sea, and water is used to help narrate the story: a small brook recalls his love of the outdoors; rushing water over large broken rocks symbolize the violence of World War II; and a quiet pool marks his death.⁴

If the nation's capital is located within a day's drive from your school, the FDR National Memorial would be a practical and extremely valuable fieldtrip. It's free to the public, within walking distance of the National Mall, accommodating for large-group visits, and easily enjoyed by people in wheelchairs or who are visually impaired. Its position on the western side of the Tidal Basin (and neighboring the Martin Luther King, Jr. National Memorial) delivers a beautiful vantage of the Jefferson and Washington Memorials, and it provides a thought-provoking summary of FDR's accomplishments. It also presents interesting perspectives of his physical image, both his strengths and vulnerabilities.

A Storm of Protest

Monuments seem so permanent, literally fixed in stone, but they're often about debates and conflicts. Today, there are two



Listening to the president's Fireside Chat (sculpture by George Segal).

statues of FDR at the memorial, and the dichotomy between them represents a charged debate that came to its climax toward the end of the last century. (**Handout A**, timeline, p. 7) A bronze statue located at the conclusion of the monument's storyline depicts a stoic FDR surveying his legacy from a seated position. He is dramatically draped in his naval cape, which conceals most of his body. This larger-than-life statue seems to radiate an air of gravitas as it overlooks visitors from the second tier of a granite dais. (p. 9) His face shows the stress of war. This statue is typical of presidential monuments, as it tends toward immortalizing its subject through symbols of power and authority. It gives no indication that a cape or cloak might have concealed a wheelchair on public occasions.

When the details of the planned memorial became public in 1995, they instigated a storm of protest from disability rights activists.⁵ Just a few years before, the Americans with Disabilities Act (ADA) had marked the culmination of a movement that had been gaining energy for three decades.⁶ President George H.W. Bush signed the ADA into law on July 26, 1990. The controversy over the FDR Memorial inspired many people with disabilities to adopt FDR as a symbol of their cause. One activist stated, “[It] is really about disability pride, when you get right down to it. We’re at a point where we want a national hero, and Roosevelt is being fit to the task, whether he should be or not.”⁷ Many expressed the opinion that an obvious recognition of FDR’s disability ought to have been part of this memorial, and that something could be added to the memorial to do that.

Many people, however, opposed the idea of depicting FDR in a wheelchair; after all, FDR made great efforts to keep any mechanical aid (larger than a walking cane) from public view during his own life. Members of FDR’s family were initially against the idea of depicting FDR in a wheelchair, but most changed their minds during public debate. Sixteen of his grandchildren released a statement of support, explaining,

“It would be a disservice to history and the public’s interest if the impact of polio on the man were to be hidden.”⁸ However, David Roosevelt, a Member of the Memorial Commission and FDR’s grandson, hoped that FDR’s disability would not “be the primary focus of the memorial.”⁹

The President and Congress Respond

This debate was escalated by a series of demonstrations that prompted then President Bill Clinton to intervene, in hopes of forestalling any protest during the dedication ceremony scheduled for May 1997. Clinton asked Congress to mandate the addition of a second sculpture to the FDR Memorial, one that would more clearly depict FDR’s disability, and Congress approved the idea. Robert Graham, who created *bas relief* sculptures for the monument, was commissioned for this new task. The National Organization on Disability raised \$1.65 million over two years to fund the addition of another statue of the president in a wheelchair. In 2001, the memorial was rededicated with a fifth room, a Prologue, added to accommodate this second statue of FDR.

The second statue embodies a very different sentiment from

C.M. Highsmith/Library of Congress



Bronze sculptured by George Segal (*The Rural Couple* and *The Breadline*) in Room Two of the FDR National Memorial.

the first: it's a life-size representation of FDR seated in one of the wheelchairs he designed (p. 8). He wears his familiar campaigning fedora, pince-nez glasses, and a subtle smile above the pronounced jaw (which was a gift to political cartoonists of the day). The sculpture is on eye-level with visitors and sits toward the center of the courtyard, which makes it feel less intimidating and more inviting than the grand representation of FDR at the conclusion of the memorial's narrative. FDR looks lively and vigorous, not yet burdened by the war years. Visitors often place a hand on FDR's shoulder or hat while they "take a selfie." On a wall behind this statue is a bronze bas-relief quote by Eleanor Roosevelt, 40 feet in length:

*Franklin's illness gave him strength and courage
he had not had before.*

*He had to think out the fundamentals of living and learn the
greatest of all lessons—infinite patience and
never-ending persistence.*

Many Lessons in One Place

The FDR National Memorial—which covers the largest acreage (more than 7.5) of any monument on or near the National Mall—offers a bounty of teaching options. First, we should study the lifetime achievements of FDR that are the theme of the memorial. Second, we can consider the debate surrounding the addition of the second statue, a controversy well covered in the press at the time. Invite students to consider quotations by supporters (**Handout B**, p. 8) and opponents (**Handout C**, p. 9) of the proposal to add a second statue. If students work with these handouts in small groups, it could fuel discussion, mock debates, and even serve as a springboard for a research project in which students find their own primary historical sources concerning this historical debate.

Assuming that you have already taught a unit on the Great Depression and World War II, the FDR Memorial provides an opportunity to reinforce content through words and images. There are many quality, close-up shots of the various artworks in the five rooms on tripadvisor.com and flickr.com (search on "FDR Memorial"). If you managed to organize a fieldtrip, students can touch and interact with the statues of citizens in a soup kitchen line or the citizen sitting next to his radio, listening to one of FDR's 30 "fireside chats," for example.

There are many inspirational quotations inscribed at the memorial, and all of them are online (sequentially as they appear in the memorial) at www.nps.gov/frde/learn/photosmultimedia/

[quotations.htm](#). Consider asking students to choose three favorite quotes, explain why they like each one, and describe what mental images each quotation provokes. What did they see, and what did they think about as they read a quote? Who is the source of the quote, and why would these words matter?¹⁰

Compare and Contrast

Consider combining this activity with identifying similarities and differences. Start with comparing and contrasting the two statues of FDR. Each was intended to portray a different aspect of FDR's life: one statue symbolizes a political and presidential image; the other embodies a more personal and intimate form. As a result, despite their common subject, there are several stark contrasts between the two. Ask students to make statements about what each statue symbolizes to them, and then ask them to support those claims using evidence from their observations. Unlike other monuments to FDR (such as Four Freedoms Park in New York City, or the simple marble block that FDR himself requested be placed in front of the National Archives), the FDR National Memorial in Washington, D.C. provides some conflicting elements that are useful for challenging students to make interesting comparisons. Students could also investigate questions such as "How are monuments created? Who gets to decide what is put there? Who pays for the monument—a government or a private organization?"

Any memorial that includes a physical representation of its subject (e.g., those on the National Mall honoring Jefferson, Lincoln, and Martin Luther King, Jr.) might be used to spark a worthy discussion of how we choose to represent our leaders and why.¹¹ Ask students: "How are the seated statues of Lincoln and FDR different, and how are they alike?" "Now compare those statues to that of Thomas Jefferson standing tall under a dome at his memorial beside the Tidal Pool. What does a monument say about its subject if the statue is standing vs. sitting?" "How are words, images, shapes, and materials used to evoke specific emotions?"

Celebrating Interdependence

The FDR Memorial surrounds its visitors with opportunities to relate to historic events with touch, sight, and hearing, as well as to contemplate the more abstract concept of a person's public image. It begs students to think deeply about not only the culture of the United States in the 1930s and '40s, but also during the end of the 20th century, and during their own lifetimes. There are many rich inquiries that students could con-

sider when they consider this president who could take a few steps only with the assistance of an escort's (often his eldest son James's) strong arm to hold onto, a cane, and 12 pounds of steel bracing wrapped around his legs.

Consider posing some of these questions for students: "Why don't we see more people with disabilities in history?" "Would I feel comfortable electing a man or woman to office today if they had a physical, mental, or emotional disability?" "When does a disability impact a person's capability to perform a specific task?" "And what is a fair and accurate way to determine that?" At some point in the discussion, share FDR's thought,

*We know that equality of individual ability has never existed and never will, but we do insist that equality of opportunity still must be sought.*¹²

We celebrate American Independence, but the FDR National Memorial is a perfect place for students and teachers alike to think about our interdependence. Even a champion athlete has a team that includes their sports buddies—but also coaches, supporting family, and people who do their laundry, cook their food, and help them get places. Can we build physical and social environments that recognize our interdependence? If FDR could have used a wheelchair freely in environments that were built for one, maybe he wouldn't have had to struggle so much to get around, or to reassure the public of his strengths.

Notes

1. Hugh Gregory Gallagher, *FDR's Splendid Deception: The Moving Story of Roosevelt's Massive Disability and the Intense Efforts to Conceal It from the Public*, 3d. ed. (St. Petersburg, FL: Vandamere Press, 1999); Davis W. Houck and Amos Kiewe, *FDR's Body Politics: The Rhetoric of Disability* (College Station, TX: Texas A&M University Press, 2003); Dave Reynolds, "Statue to Show 'Whole FDR,'" *Inclusion Daily Express* (January 9, 2001), www.inclusiondaily.com/news/special/fdr.htm; James Tobin, *The Man He Became: How FDR Defied Polio to Win the Presidency*, reprint ed. (New York: Simon and Schuster, 2014).
2. Michael Kilian, "Revised FDR Memorial Shows Disability," *Chicago Tribune* (January 10, 2001), articles.chicagotribune.com/2001-01-10/news/0101100187_1_fdr-memorial-new-sculpture-disability.
3. FDR Presidential Library and Museum, www.fdrlibrary.marist.edu/education/resources/bio_fdr.html.
4. National Park Service, "Franklin Delano Roosevelt Memorial" (2015). As of this writing, the NPS main webpage for the FDR Memorial (www.nps.gov/nr/travel/presidents/fdr_memorial.html) provides a description of the monument and leads to 12 photographs, but none show the statue of FDR in a wheelchair at the Prologue. Quotations inscribed at the memorial can be found at www.nps.gov/frde/learn/photosmultimedia/quotations.htm. A sense of the scale might be had by visiting washington.org/DC-guide-to/franklin-delano-roosevelt-memorial.

5. "FDR Memorial Omits Handicap," *Chicago Tribune* (April 26, 1996), articles.chicagotribune.com/1996-04-29/news/9604290039_1_75-acre-memorial-disability-wheelchair.
6. Jerry Alan Winter, "The Development of the Disability Rights Movement as a Social Problem Solver," *Disability Studies Quarterly* 23, no. 1 (2003).
7. Mary Johnson, "FDR: Rolling in his Grave," *Electric EDGE* (May-June 1997), www.raggededge.com/archive/fdr.htm.
8. FDR's Grandchildren gave early testimony favoring a second statue, in *Congressional Record*, 142, no. 69 (May 16, 1996); Nancy Benac, "FDR Grandchildren Push for Resolution of Memorial Dispute," *Associated Press* (April 10, 1997); Senator Inouye gave testimony revealing that grandchildren's opinions, evolved: *Congressional Record* 143, no. 55 (May 1, 1997);
9. "Where I Stand: Clinton Jumps into the Middle of FDR Memorial Argument." *Las Vegas Sun*, May 1, 1997. www.lasvegassun.com/news/1997/may/01/where-i-stand-clinton-jumps-into-middle-of-fdr-mem.
10. On a field trip, students may also consider the more abstract designs lining five columns in Room Two. "Social Programs" contains images of the 54 programs initiated under the New Deal. Within each panel, images symbolize the essence of a program, set within a background of the hands and faces of workers. The name of each program is also written in braille (www.robertgraham-artist.com/civic_monuments/fdr_memorial.html) although in a size too large to be read by the blind. Familiarize students with some of the major programs and ask them to critique the monument's representation of them. For example: How is the Public Works Administration depicted in these *bas relief* sculptures? Can you find the panel showing the efforts of the Civilian Conservation Corps? How are these two programs represented differently?
11. The cover of the September 2007 *Middle Level Learning* shows students and a teacher discussing the statue of a popular (but racist) former mayor of Dearborn, Michigan. That issue, with two related articles, can be found at www.socialstudies.org/publications/archives.
12. Quoted in Dave Reynolds's article (note 1). Some disability activists preferred this quote by FDR for the Prelude over Eleanor's (cited earlier), arguing that selecting her quote was just another instance of the nondisabled speaking on behalf of disabled people.

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Dylan, a seventh grader, visited the FDR National Memorial in April 2016.

Steven S. Lapham

The FDR National Memorial and Disability Rights

1945 President Franklin Delano Roosevelt (FDR) dies of a stroke while serving a fourth term as U.S. president, and as World War II is coming to an end.

1955 U.S. Congress establishes the FDR Memorial Commission.

1964 The Civil Rights Act is signed by President Lyndon B. Johnson. It forbids discrimination on the basis of sex or race in hiring, promotion, and firing. It will become the model for subsequent laws promising “equal protection under the law” and “equal opportunity” to all Americans.

1974 Architect Lawrence Halprin is selected to design the FDR National Memorial, a linear park of more than 7.5 acres. Sculptures throughout the memorial will be created by various artists.

1975 The Education for All Handicapped Children Act (EAHCA) is signed by President Gerald Ford. Today we know this law as the Individuals with Disabilities Education Act (IDEA).

1990 The Americans with Disabilities Act (ADA) is signed by President George H. W. Bush.

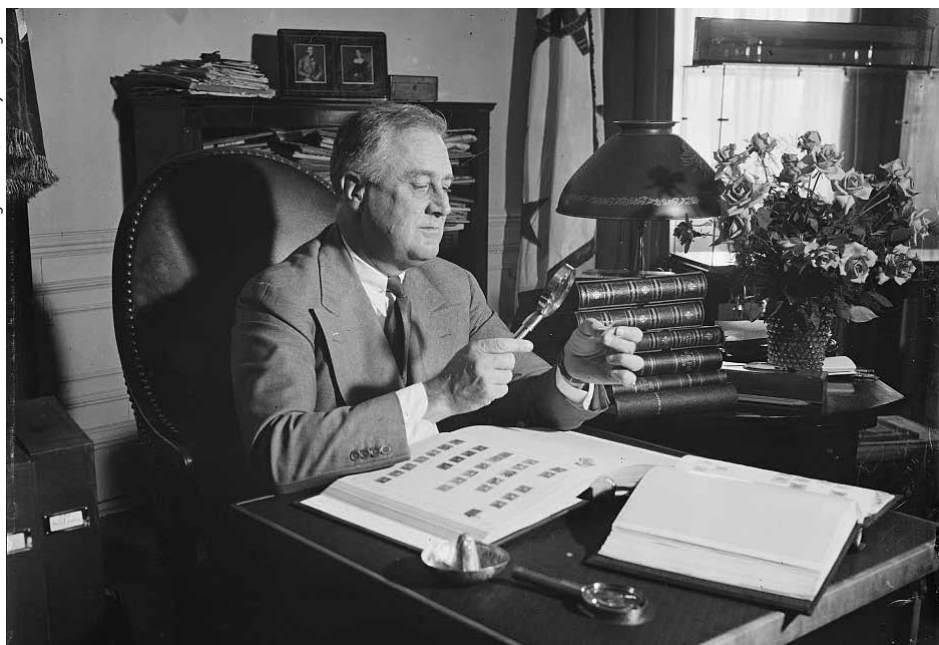
1995 The National Organization on Disability and others object to one aspect of the plans for the FDR National Memorial, which would be accessible for people with all kinds of disabilities, but would have no image of FDR in a wheelchair anywhere on the grounds.

1997 On May 2, 1997, the FDR National Memorial is dedicated by President Bill Clinton and others. A replica of the wheelchair that FDR designed for himself is in the Memorial Entry Building.

Sixteen of FDR’s grandchildren ask that the image of FDR in a wheelchair be added to the memorial. President Clinton asks Congress to approve the concept, and it does.

1998 The National Organization on Disability begins raising \$1.65 million to fund another statue.

2001 A life-size statue of FDR seated in a wheelchair, created by Robert Graham, is added to the FDR National Memorial and dedicated by President Clinton.



FDR examining postage stamps, June 5, 1936, in a setting where his disability is not obvious.

The Memorial Statue Debate, 1997: **IN FAVOR OF** Including a Second Statue showing FDR in a Wheelchair



President FDR in wheelchair, sculpted by Robert Graham, at the National Memorial.

Tasks:

1. List common themes throughout these statements, which were made in 1997.
2. What are the strong and weak points in these quotes? Underline words or phrases that you think strengthen an argument. Circle words or phrases that you think weaken an argument.
3. Using specific details, summarize why these individuals WANTED TO include a reference to FDR's disability in this national memorial. Use their best arguments in your summary.

“Hiding FDR’s disability is an affront to every American with and without a disability.”

—Jim Dickson, Disability Activist

“The source of his courage was in fact his disability.”

—I. King Jordan, Gallaudet University President

“He probably would not have become president without passing through the furnace of polio.” —George Will, columnist, *Washington Post*

“Omission of FDR’s handicap is a crime against his spirit.” —Hugh Sidey, *Time Magazine*

“It is important to Americans with disabilities—and important as a symbol of how American society perceives its disabled people—that the Memorial depict the man as he was: tall, strong, heroic and disabled. Don’t let them steal our hero!”

—Hugh Gregory Gallagher, Disability Activist and Author of *FDR’s Splendid Deception: The Moving Story of Roosevelt’s Massive Disability and the Intense Efforts to Conceal It from the Public*

“For FDR, concealing his disability was an expression of courage. For the custodians of his memory, concealing his disability is a lack of courage.”

—Maureen Dowd, columnist, *New York Times*

“It would be a disservice to history and the public’s interest if the impact of polio on the man were to be hidden.”

—Statement eventually signed by 16 of FDR’s Grandchildren

“[It] is really about disability pride, when you get right down to it. We’re at a point where we want a national hero, and Roosevelt is being fit to the task, whether he should be or not.”

—Joe Meecham, Disability Activist

SOURCES: All quotes appear in “FDR: Rolling in his Grave” by Mary Johnson, in *Electric Edge* (May-June 1997), www.raggededgemagazine.com/archive/fdr.htm except the last is from Nancy Benac, “FDR Grandchildren Push for Resolution of Memorial Dispute,” *Associated Press* (April 10, 1997), www.apnewsarchive.com/1997/FDR-grandchildren-push-for-resolution-of-memorial-dispute/id-5b7e5d0d0f67830e34e1aca59b909316.

The Memorial Statue Debate, 1997: **OPPOSED TO** Creating a Second Statue showing FDR in a Wheelchair



FDR in cape with Fala nearby, sculpted by Neil Estern, at the National Memorial.

Tasks:

1. List common themes throughout these statements, which were made in 1997.
2. What are the strong and weak points in these quotes? Underline words or phrases that you think strengthen an argument. Circle words or phrases that you think weaken an argument.
3. Using specific details, summarize why these individuals DID NOT WANT to include a reference to FDR's disability in this national memorial. Use their best arguments in your summary.

“Of the 10 sculptures in the memorial, three depict the public persons of FDR as president, commander-in-chief and world leader. These FDR sculptures were inspired by real-life situations, and they show the president as he actually appeared at the time, seated, without a wheelchair or crutches present. This is, of course, the way FDR deliberately and painstakingly presented himself to the public. ...

“We know from FDR's two eldest grandchildren, ... both of whom lived for several years in the Roosevelt White House, that FDR was an intensely private person who considered his disability a very private matter. They both confirm the historical accuracy of the memorial's portrayal of their grandfather.”
—Senator Daniel Inouye,
Member of the Memorial Commission

“[FDR] hid his physical disability because he was afraid it might distract people from listening to his message. This was his personal decision, and the media of that era

honored his desires. Why can't we continue to respect his feelings in any monument built in his memory? ...

“Despite what we know about the man's personal courage, some of the advocates for the disabled want us to believe that FDR was only great because he suffered the crippling effects of polio. This is pure speculation and loaded with political and advocacy nonsense of the 1990s.” — *Las Vegas Sun* (Editorial Opinion)

“At no time did this commission consider ‘hiding’ FDR's disability. His disability will be depicted for all to see, but it will not—and in my opinion, should not—be the primary focus of the memorial.”

—David Roosevelt, FDR's Grandson,
Member of the Memorial Commission
(referring to the three depictions of
FDR in the original memorial plan)

SOURCE: “Where I Stand: Clinton Jumps into the Middle of FDR Memorial Argument,” *Las Vegas Sun* (May 1, 1997), www.lasvegassun.com/news/1997/may/01/where-i-stand-clinton-jumps-into-middle-of-fdr-mem.

The Erie Canal: From Public Works to National Wealth

S. Kay Gandy

*Low bridge, everybody down
Low bridge cause we're coming to a town
And you'll always know your neighbor
You'll always know your pal
If you've ever navigated on the Erie Canal*

from the song *Low Bridge* by Thomas S. Allen (1905)

America's "great outdoor school of engineering and technology" from 1776 until the 1830s was the construction of canals.¹ Proposed in 1808 and completed in 1825, the Erie Canal linked the waters of Lake Erie (and the city of Buffalo) in the west to the Hudson River (and the state capital, Albany) in the east. Constructed with human—and animal—power, the 363-mile canal was completed in 1825, two years ahead of its ten-year project schedule. The Erie Canal made transport from any of the Great Lakes to the east coast much easier and less expensive. It brought grain, lumber, coal, and other products from America's western states and territories to a world market, propelling the United States into a giant in the world economy.

There's an abundance of primary and secondary sources to help students develop a meaningful understanding of the economic, geographic, historical, and civic dimensions of the canal. This article will summarize the history, offer resources, and describe successful strategies used to teach about the effect of the Erie Canal on New York State and the youthful United States. It was an early, successful public works project that helped business and industry prosper.

More than a "Big Ditch"?

Although the canal is often attributed to then Governor De Witt Clinton, the concept of a canal linking west to east was made in 1784 by George Washington.² Washington worried that the western settlements beyond the Appalachian Mountains might break away from the 13 original states and form their own

country, as would indeed happen later in Texas.³ Convinced that a commercial link would bind the territories, Washington began an effort to build the canal along the Potomac River that would become the Chesapeake and Ohio (C&O) Canal. For that project, Washington did some of the initial surveying himself.

Another American Revolutionary War general, Philip Schuyler, had pioneered the idea of canals in northern New York. Though he died in 1804, and did not see the fruition of his dreams, his plans and drawings went into the design and creation of a successful canal system in New York State.⁴

A failed businessman, Jesse Hawley, popularized the idea by writing anonymous articles from a prison cell (placed there due to his unpaid debts) that envisioned a canal connecting Lake Erie to the Hudson River.⁵ Fourteen essays appeared in the *Genessee Messenger* detailing methods of construction, projected costs, provision of supplies, and so on.⁶ In 1808, the New York State Legislature funded a survey for a canal, and then followed years of debate in government and popular press. Finally, on July 4, 1817, Governor Clinton broke ground for construction to begin. Detractors of the project called it "Clinton's Big Ditch," but its commercial success soon belied their skepticism.

Wealth from a Public Works Project

West-to-east trade was minimal before the Erie Canal. The logistics of traveling over rough roads with freight rates at \$32 per 100 miles (roughly \$500 today) hindered farmers wanting to get their products to markets in the east.⁷ To move goods by water, produce had to travel down the Ohio River to the Mississippi River, into the Gulf of Mexico, around Florida, and then to points north. After the canal opened, the cost of transporting freight dropped approximately 90 percent.⁸

Financed entirely by the State of New York, the Erie Canal was so successful that in a little over 50 years the state eliminated its toll charges, having recuperated about 15 times the cost of construction.⁹

According to a 1925 pamphlet published by the New York

State Canal Corporation, the value of real estate in New York increased nearly four times its former value, manufacturing was three times as great, and the number of people following commercial pursuits increased five times as a result of commerce supported by the canal within the first 16 years of its opening.¹⁰ By 1882, use of the canal by over 20 million people had generated \$121 million (close to \$3 billion today). This major achievement of America's "first economic stimulus package"¹¹ clearly needs to be recognized and studied in the social studies classroom.

Those Who Build and Used the Canal

Many of the laborers who dug the canal were Irish immigrants. In the early stages of the canal construction, contracts were given to local people for digging short distances. The commissioners felt that locals would take great pride in building near their homes and were most familiar with their countryside.¹² Often, local workers were farmers and had to leave construction sites to attend to their crops. A large contingent of immigrants came in later to work on the more challenging aspects of the canal. As many as 3,000 Irish immigrants helped build the Irondequoit embankment, a two-year project to fill a u-shaped valley. Irish immigrants were brought in to do the hard labor required to complete the Genesee aqueduct to allow the canal to cross the Genesee River. In Lockport, many of the 2,000 laborers brought in to build the locks and channel were Irish, who ended up settling there.

The business of moving goods and people along the completed canal involved thousands of boats and their crews. By 1845, there were 4,000 boats on the canal, operated by 25,000 men, women, and children. "Packet boats, which carried passengers, were largely operated by boat companies, while cargo boats tended to be family owned. A typical crew included a captain, a steersman, a cook, a deckhand—and drivers, who led the teams that pulled the canal boats."¹³ Thousands were employed to maintain and operate the canal, including lock tenders, toll collectors, bridge operators, surveyors, and repair crews. "Bank patrollers" would walk and inspect a ten-mile stretch of canal looking for leaks and breaks in the canal bank (a job called "bankwatching"). There were also merchants, hostellers, liverymen, and shopkeepers along the route who fed, clothed, housed, and supplied those employed on the canal.

Challenges Lead to Innovation

Geographic features in New York created obstacles for construc-

tion. For example, the canal needed to cross over streams that flowed north or south, requiring the construction of aqueducts. Locks had to be built to gently raise or lower boats to parallel changes in elevation of the surrounding landscape. Laborers had to battle mosquitoes in the Montezuma Marshes of central New York (which are now a National Wildlife Refuge).

A variety of engineering problems had to be solved along the way, including the making of a type of cement that hardened underwater. Several clever (animal- or human-powered) inventions made the digging process faster, such as a stump-pulling machines for removing trees, an "endless screw" used to fell trees, a plow with extra set of sharp blades, and a one-wheel wheelbarrow. Building aqueducts to provide passage of the canal over swift streams was especially challenging.¹⁴



Historical post card of apple barrels and Erie Canal, ca. 1870.

A Superhighway, ca. 1830

In 1825, the finished Erie Canal was about 40 feet wide and 4 feet deep, with a towpath, typically on the north sides, for mules to pull the barges. Over its length of 363 miles, it rose 573 feet through a series of 83 locks, cutting a nearly linear path across the state—an engineering marvel of its day.¹⁵

The very first fleet to travel the full length of the canal left Buffalo on the morning of October 26, 1825 and was led by the *Seneca Chief*, which bore Governor Clinton and other distinguished citizens.¹⁶ The lead boat carried two barrels of water from Lake Erie which, at the end of the journey, the governor emptied during a formal ceremony known as the "Marriage (or Wedding) of the Waters" at New York City.

Early canal boats were 75 feet long and 12 feet wide and sometimes carried up to 75 tons of goods. Freight boats traveled at about 2 miles per hour, while passenger boats traveled 4 to 6 miles per hour. Fresh teams of mules rode on the boats

and were alternated every 6 hours. Freight charges ran about \$4 per ton, while passenger tickets cost about \$15 (about \$365 today) and included room and meals. It took about 10 days for a passenger boat to travel the entire length of the canal.

Very soon after the opening of the canal, it was apparent that single locks significantly impeded the flow of traffic. In 1832 an enlargement was planned to replace the single locks with double locks (allowing two boats into the lock at a time).¹⁷ The Erie Canal also carried new ideas in the form of newspapers, pamphlets, printed sermons, and songs. It became an “information superhighway” for new ideas. “Social reforms like abolitionism, women’s rights, utopianism, and various religious movements thrived in the canal corridor.”¹⁸

A New Life for “Old” Technology

With the success of the Erie Canal, other regions of New York and other states envisioned their own canals. In the 1830s and 1840s, a frenzy of construction began, some with success and others complete failures. In addition, transportation technology was changing rapidly. By 1835, the Baltimore and Ohio (B&O) Railroad was running 7 steam locomotives, 44 passenger cars, and almost 1,100 freight cars.¹⁹ These early steam-powered train engines heralded a cheaper, faster way to move freight and people across the vast continent of North America.

Moving freight by inland waterways, however, did not pass away as a mode of transportation. In the early 1900s, a canal of cast concrete structures and electronic controls was begun. The Barge Canal system, utilizing canalized rivers and lakes and enlarged sections of the old Erie Canal, opened in 1918. Today it continues to use several of the old routes and has been renamed the New York State Canal System.²⁰ Products still shipped on the Canal System include pre-fabricated rebar caissons, liquid calcium chloride, radar dome material, commercial paper dryers, shipping containers, turbines, commercial boilers, transformers, and other over-sized cargo.²¹

Recreation has given the canal a new purpose. Today, the Canalway Water Trail is part of a growing system of water trails across New York State, enjoyed by both paddlers and bicyclists (who enjoy the flat, linear paths along a canal). Both the Eastern Erie Canal and Champlain Canal sections join up with the Hudson River Greenway Water Trail, designated a National Water Trail by the United States Department of Interior in 2012. Recreational boaters enjoy the New York Canal System from early May until early November each year.

Notes

1. Dennis Karwatka, “The Erie Canal,” *Tech Directions* 72, no. 3 (2012): 10. Karwatka is professor emeritus, Department of Industrial and Engineering Technology, Morehead (KY) State University.
2. Wilford H. Schoff, “New York State Barge Canal: Part 1,” *Bulletin of the American Geographical Society* 47, no. 5 (1915): 321–333.
3. Peter L. Bernstein, *Wedding of the Waters: The Erie Canal and the Making of a Great Nation* (New York: W.W. Norton, 2005), 62.
4. “Erie Canalway History and Culture,” www.nps.gov/erie/learn/historyculture/index.htm.
5. Rachel Dickinson, “A Hundred Miles on the Erie Canal,” *Atlantic Monthly* 304, no. 3 (2009): 32–33.
6. Bernstein, 104.
7. D. Maurizi, “Erie Canal,” *New York State Conservationist* 57, no. 4 (2003): 2.
8. Timothy McDonnell, ed., *The Grand Erie Canal: A Geographic Perspective* (Rochester, NY: New York Geographic Alliance, 2013): 7.
9. Karwatka, 10–11
10. Roy G. Finch, *The Story of the New York State Canals: Historical and Commercial Information* [pamphlet] (New York: New York State Canal Corporation, 1925): 9.
11. Dickinson, 32–33.
12. Bernstein is the main source for this section, 207, 269, 281–282.
13. Frank E. Sadowski, Jr., “Bankwatch: Views of the Erie Canal,” www.eriecanal.org/UnionCollege/Bankwatch.html.
14. See sections in Dickinson; Finch; and McDonnell.
15. Karwatka, 10–11, is the main source for the data in this section.
16. Finch, 7.
17. “Making It Work: The Lock,” www.eriecanal.org/UnionCollege/The_Lock.html.
18. NPS, “Erie Canalway,” www.nps.gov/erie/learn/historyculture/index.htm.
19. B&O Railroad Museum, “Reading 2: Bigger and Faster,” www.eduborail.org/NPS-7/Reading-2-NPS-7.aspx.
20. Erie Canal Museum, “A Brief History,” eriecanalmuseum.org/history.
21. The New York State website www.canals.ny.gov is the main source for this section.

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Lesson Materials & Activities Online

These online resources are listed in order of ease of use by students and teachers

New York State Archives—Lessons Ready for the Classroom
Search on the term “Erie Canal” (in the Search Lessons box) to access 16 lessons based on primary sources from the state archives, www.archives.nysed.gov/projects/eriecanal/index.shtml.

Library of Congress—An Online Student Activity
“Marco Paul’s Journey on the Erie Canal” invites students to learn about “the impact of the Erie Canal on the economic and social growth of New York and the nation while using a variety of resources (dialog, photographs, maps, text, music, video, etc.),” www.loc.gov/teachers/classroommaterials/lessons/marco-paul/index.html. Hear the song “Low Bridge! Everybody Down!” at www.loc.gov/jukebox/recordings/detail/id/2949.

The Erie Canal Museum—An Overview
The museum, in Syracuse, New York, resides in the only weighlock building still standing in America. A brief history at the website explains how the canal grew in scope and complexity, eriecanalmuseum.org/history.

City Lore—Timeline and Lesson Plans
City Lore is a cultural organization, located on Manhattan’s Lower East Side, whose mission is to document, preserve and present the living cultural heritage of New York City. Find a timeline and lesson plans at “The Story in the Song: Teaching the Erie Canal through Music,” citylore.org/wp-content/uploads/2011/11/gotham-newsletter_winter09.pdf.

Erie Canal History (New York State)—A Concise History
A concise history of the canal with data and details about its effect on the state and the nation. Based on Roy Finch’s writing as a New York State employee in 1925, www.canals.ny.gov/history/history.html.
View an interactive map of the current New York State Canal System at www.canals.ny.gov/

[maps/ index.html](http://maps/index.html). Read about current recreational uses at Parks and Trails New York, www.ptny.org.

Erie Canalway (National Heritage Corridor)—An Overview and Videos
Text, images, a timeline, and short videos tell about engineering, building a nation, and social innovation and reform along the canal’s path, www.nps.gov/erie/learn/historyculture/index.htm.

The Erie Canal (curator, Frank E. Sadowski, Jr.)—Neat Details
Useful links and historical documents relating to the Erie Canal, some as scans of the original and some as transcriptions: images, maps, and a brief “tour” (that employs prints, photos, postcards, maps). There’s also an animated gif and historical images that show how a lock works, www.eriecanal.org/locks.html.

Canal Society of New York State—Primary Documents
“The Erie Canal Time Machine: Using Archival Documents to Tell the Story.” Scrolling through this PDF of photos, maps, pamphlets, and other primary sources is interesting, but one wishes for more complete captions. Maybe your students could write some, after learning about the canal, www.newyorkcanals.org/_pdfs/Daniels.pdf.

New York Geographic Alliance
In the summer of 2007, the NYGA invited teachers from all across the state to participate in a weeklong institute along the Erie’s

path. It included time on the water and on land to the many historic canal sites and down the Hudson River. The websites of about 20 organizations that signed on as partners in this venture are linked throughout the lively, 7-page travel log, “The Tale of Three Canals,” www.nygeo.org/eriecanal.html.



Connections to Standards & the C3 Framework

Teaching about the Erie Canal fits well with The College, Career, and Civic Life (C3) Framework for Social Studies State Standards (www.socialstudies.org/c3):

D2.Civ.6.6-8. Describe the roles of political, civil, and economic organizations in shaping people's lives.

D2.Eco.1.6-8. Explain how economic decisions affect the well-being of individuals, businesses, and society.

D2.Geo.7.6-8. Explain how changes in transportation and communication technology influence the spatial connections among human settlements and affect the diffusion of ideas and cultural practices.

D2.His.10.6-8. Detect possible limitations in the historical record based on evidence collected from different kinds of historical sources.

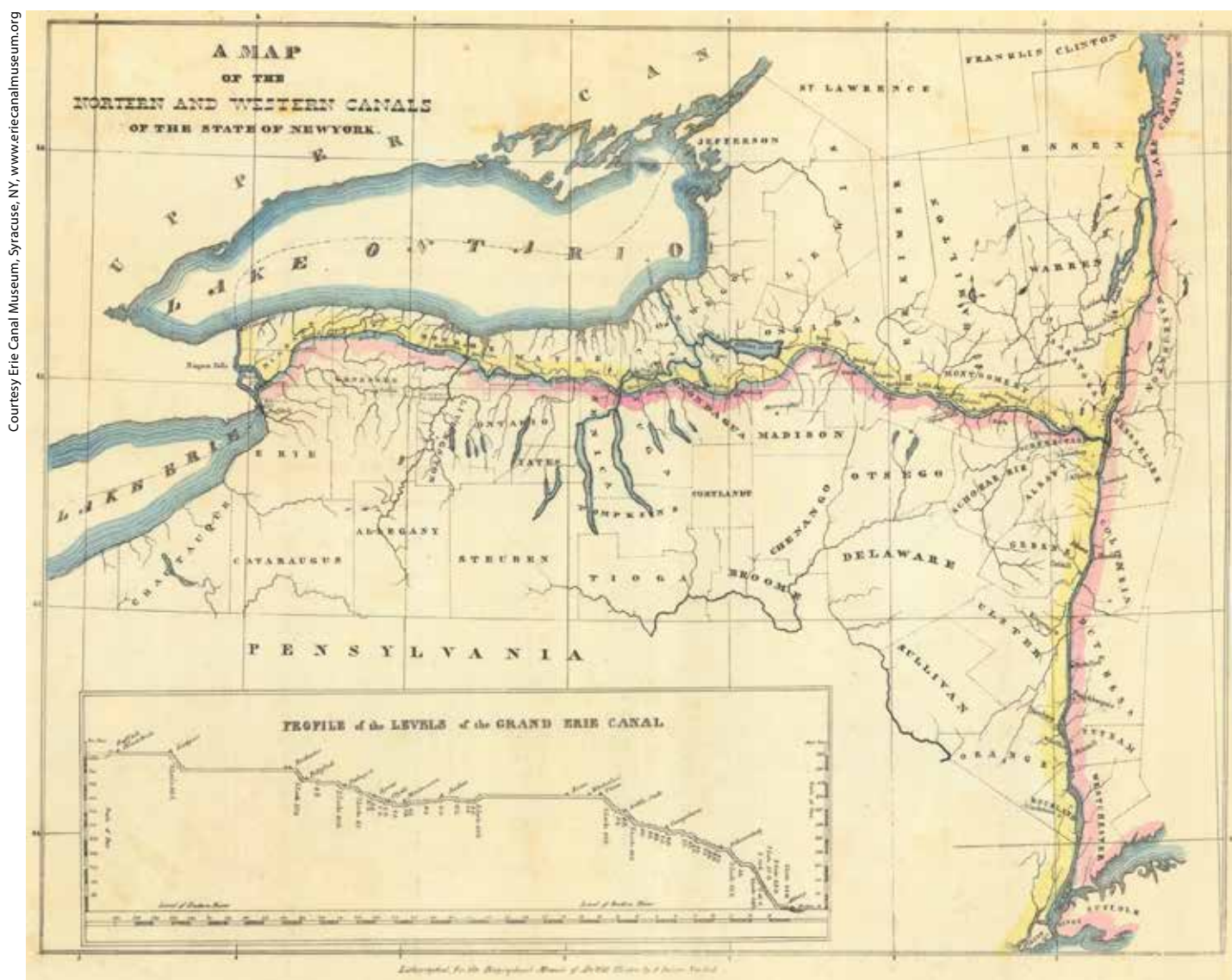
D2.His.14.6-8. Explain multiple causes and effects of events and developments in the past.

D3.1.6-8. Gather relevant information from multiple sources while using the origin, authority, structure, context, and corroborative value of the sources to guide the selection.

In addition, the lesson plan meets the English/Language Arts Standards from the Common Core State Standards Initiative (www.corestandards.org/ELA-Literacy/RH/6-8/):

CCSS.ELA-LITERACY.RH.6-8.1. Cite specific textual evidence to support analysis of primary and secondary sources.

CCSS.ELA-LITERACY.RH.6-8.2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.



Map of the New York State canals in 1829, with inset showing elevations of the Erie Canal.

Annotated Books for Youth

Although three of these books are elementary-level reading, their content—rich in words and images—make them useful for middle school research

Harness, Cheryl. *The Amazing Impossible Erie Canal*. Boston, MA: Aladin Picture Books/ Houghton Mifflin. 1997

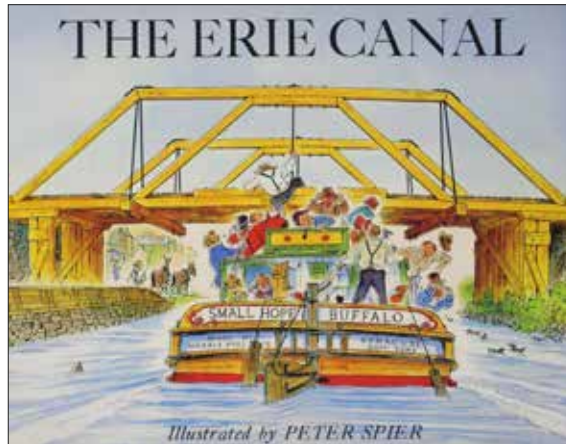
This beautifully illustrated book follows the journey and ceremony of the first boats on the Erie Canal. Words, maps, photos, and pictures present the history and commerce of the area, constructions and mechanics of the canal, and the politics of planning and building a major public works project. Back matter includes lyrics and music to “Low Bridge, Everybody Down” and a bibliography. Reading level 1–4.

Lourie, Peter. *Erie Canal*. Honesdale, PA: Boyds Mills Press, 1997

This book is a photo journal of the author’s modern-day trip along the Barge Canal, interspersed with historical photos of daily life alongside the canal and on the canal boats. The author includes tales about tugboat captains and other folks he meets along the way. This story shows the Erie Canal is a real place that students can visit. A lot of history is presented, but sources

are lacking. Reading level 1–4.

Spier, Peter. *The Erie Canal*. Garden City, NY: Doubleday. 1970
This book describes traveling from Albany to Buffalo on the historical Erie Canal. Paintings illustrate each line of two verses of the song *Low Bridge* and depict life on and along the canal. The music score and words to the song are included. Reading level 1–4.



Stein, R. Conrad. *The Story of the Erie Canal*. Littleton, CO: Avyx, 1985

This book provides background knowledge of the decisions to build the canal, the effort that went into it, and the amazing results. Several primary sources are quoted throughout the book, which also includes several canal songs. The illustrations are black and white sketches and lend support to the historical content. However, there is no documentation for source content. Reading level 3–6

DISCUSSION QUESTIONS to go with the Handout and Song “Low Bridge” (p. 16)

1. What does “everybody down” mean?
2. What were some of the products transported on the Erie Canal? (Hint: Search the lyrics.)
3. Is there a town or city in New York State with the name of “Rome”? Is it on the canal path? What other major cities in the state are on that path?
4. Why was the power provided by animals (horses, mules, and cattle) so important to human civilization around the world before the industrial revolution?
5. What does the word “nostalgic” mean, and why would this song have been considered nostalgic when it was written? (Hint: Engines were first used with barges in the 1880s.)
6. Why might the boatman and his mule be looking for a job? (Hint: Do working animals ever retire? Also, what other mode of transportation was being built in the mid- and late-1800s?)

Note: The song’s composer, Thomas S. Allen, was a vaudeville songwriter. His lyrics use terms and images that would have been familiar to the retired boatmen and drivers who had depended on animal power and canals for their livelihood. Some words changed, and new lyrics were added, as performers popularized the song. Visit citylore.org/wp-content/uploads/2011/11/gotham-newsletter_winter09.pdf.

Low Bridge/Everybody Down

Written in 1905 by Thomas S. Allen (1876–1919)
aka “Fifteen Years on the Erie Canal.”

I’ve got a mule, and her name is Sal,
Fifteen years on the Erie Canal.
She’s a good ol’ worker
An’ a good ol’ pal,
Fifteen years on the Erie Canal!

We’d better look around for a job, ol’ gal,
Fifteen years on the Erie Canal!
’Cause you bet your life
I’d never part with Sal,
Fifteen years on the Erie Canal!

We’ve hauled some barges in our day,
Filled with lumber, coal, and hay,
And we know every inch of the way
From Albany to Buffalo—oh.

Git up there, Sal, we’ve passed that lock,
And we’ll make Rome ’bout six o’clock,
One more trip and back we’ll go
Right back home to Buffalo—oh.

(chorus)

Low bridge, everybody down!
Low bridge, ‘cause we’re comin’ to a town!
And you’ll always know your neighbor,
You’ll always know your pal,
If you’ve ever navigated on
The Erie Canal.

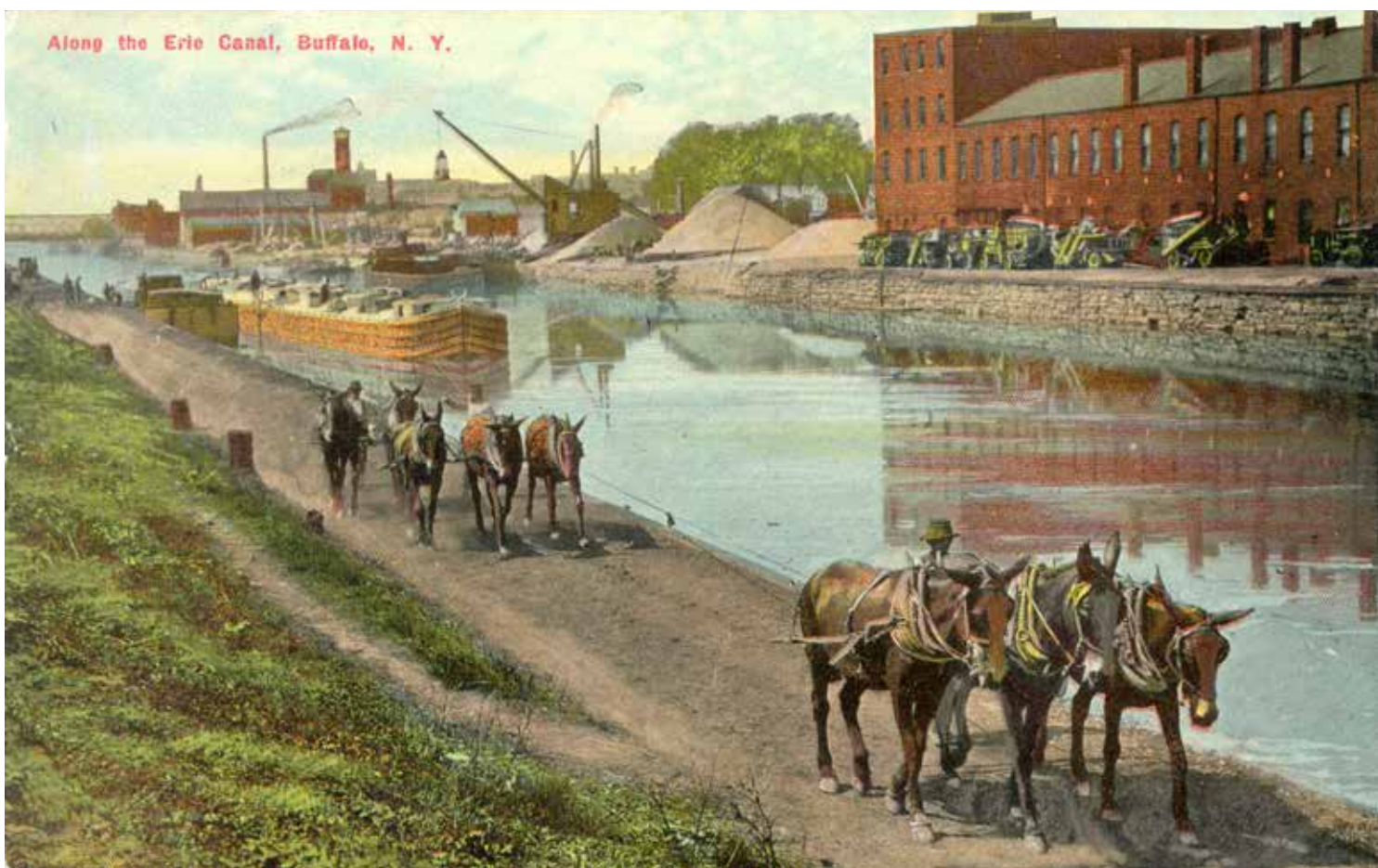
(chorus repeats)

HEAR THE SONG FREE AT THE LIBRARY OF CONGRESS
www.loc.gov/jukebox/recordings/detail/id/2949.

GRAND CANAL BALLADS, CD & DOWNLOAD FOR SALE
www.folkways.si.edu.

The version printed here is a folk variation. See a discussion of these lyrics (and other verses) at www.eriecanalsong.com.

A colorized postcard showing eight mules pulling heavy barges along the Erie Canal in Buffalo, New York (date unknown)



Middle Level Learning

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