



TRANSFORMATIVE HISTORICAL INFRASTRUCTURES: THE CASE OF THE ERIE CANAL

Overview

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- The Canal Era
- Erie Canal “Quick Facts”
- Economic Impact
 - ▣ Boom-bust cycle following the War of 1812
 - ▣ Canal Investment for Economic Recovery
 - ▣ Population Growth hand-in-hand with Economic Growth & A Changing Landscape
- Social Impact
- Environmental Impact



Figure 1: A Lock on the Erie Canal (From Thompson)



Figure 2: A postcard depicting Canal Life (From Thompson)

The Canal Era (Post Revolutionary War)

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- Overland travel was long and arduous.
- Water travel was only efficient downstream, and only where the rivers were deep and wide.
- Half of the population lived west of the Appalachian foothills
- Western territory resources segregated from eastern coastal ports:
 - ▣ Furs
 - ▣ Lumber
 - ▣ Wheat
 - ▣ Whisky
 - ▣ Iron
- By 1790: ~ 35 privately owned canal companies
 - ▣ subsidized in part by local and state funds
 - ▣ public stock was sold, expecting that there would be profits from tolls



Figure 3: Poling along the Mohawk River (From Thompson)

The Erie Canal

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- ❑ **Constructed 1817-1825**
- ❑ **1st 2-way transport corridor**
- ❑ **Crossed the Appalachian Mountain Range**
- ❑ **“1st American School of Civil Engineering”**
- ❑ **Largest Canal in the world at the time:**
 - ❑ 363 miles long
 - ❑ 84 locks
 - ❑ 18 aqueducts



Figure 4: Route of the Erie Canal (Thompson)

Boom-bust cycle following the War of 1812

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- **1817: Stock prices up 30% over 3 years**
- **1819: 1/3 of the nation's population “distressed”
10% of New York City on “poor relief”**
- **1821: Canal contracts at 30-40% 1817-19 costs**
 - Low interest rates decreased construction cost
 - High unemployment decreased labor cost
- **1821: 9,000 men employed constructing the Erie Canal. The canal was one of the few places jobs were growing rather than shrinking**



Figure 5: Canal construction workers (from Thompson)

Canal Investment for Economic Recovery

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- **“Canal Papers” from the Bank for Savings let citizen savers invest in Canal construction.**
 - 1818 loan to Canal Commission \$200,000:
69 subscribers, 51 at less than \$2,000.
- **Nearly \$8,000,000 borrowed for Canal Construction, at approx. 5% interest.**
- **All loans repaid within a decade**
 - \$500,000 were raised in tolls in just 1826, five times the interest due on outstanding bonds.

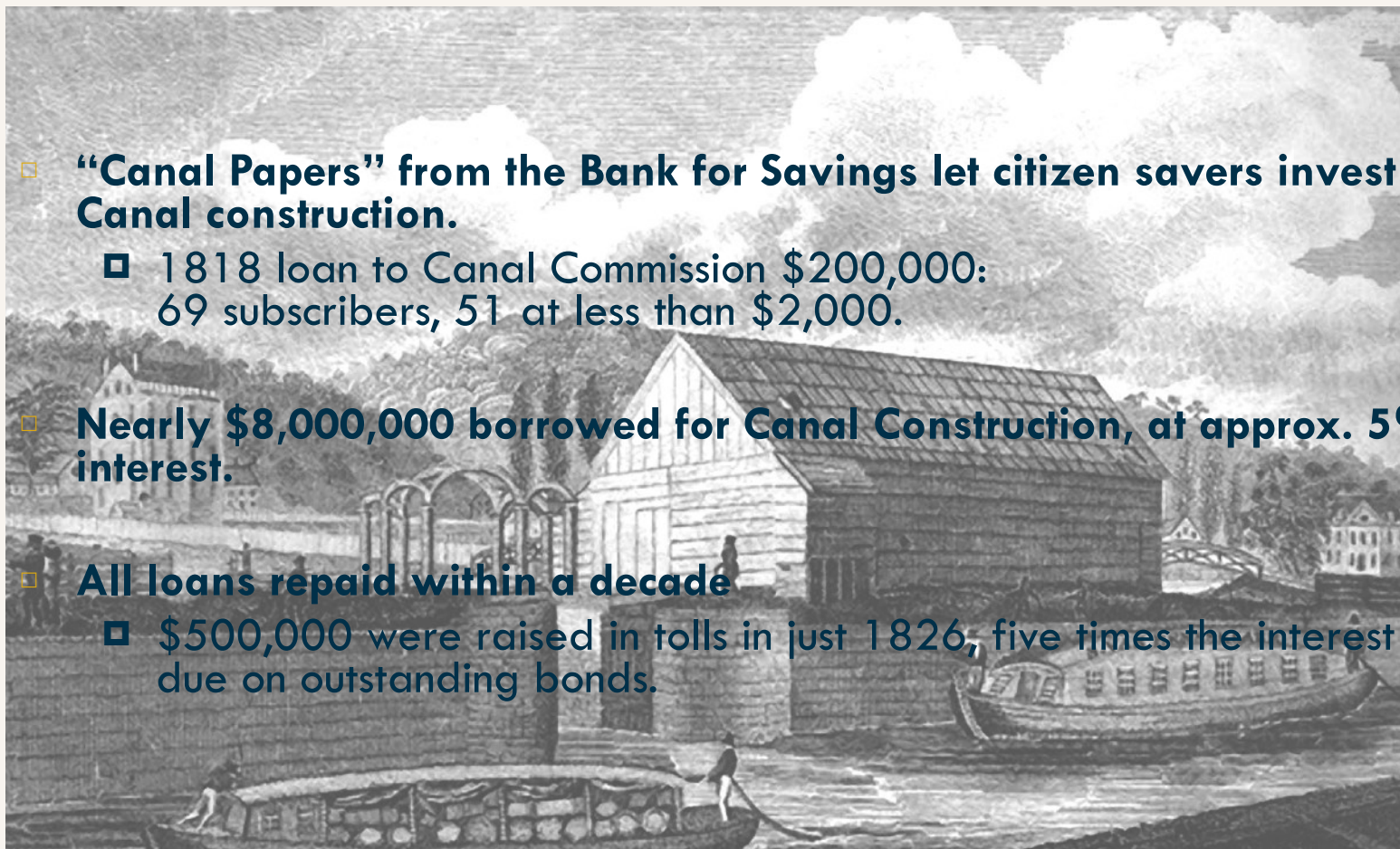


Figure 6: Entrance of the canal into the Hudson at Albany (drawing by James Eights, 1824)

Population Growth hand-in-hand with Economic Growth & A Changing Landscape

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- **Rochester, first center of the boat building business, became the first U.S. “boom town” increasing in population from 300 to 8,000 in 10 years, and to more than 36,000 by 1850.**
- **1821-1835: 22% increase in cultivated land along Canal route.**
- **1820-1840: 262% increase in factory workers in western New York.**
- **1820s and '30s: Other states began canal programs in order to compete, e.g. Ohio and Pennsylvania.**



Figure 7: Genessee River, New York City, 1914. Governor DeWitt Clinton called the city “...the granary of the world, the emporium of commerce, the seat of manufactures...” (Image Source: Thompson)

Migration and City Life

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- **Immigration and diversity**
 - ▣ Irish, English, Welsh and German laborers were attracted to work on the canal system:
 - 1820s- 129,000 immigrants
 - 1830s- 540,000 immigrants
- **Urban densification due to ease of travel and commodity access**
 - ▣ The first U.S. “boom towns”
 - ▣ Increase of women’s involvement in society as “home crafts” become buyable
 - ▣ Growth of social reform and religious movements

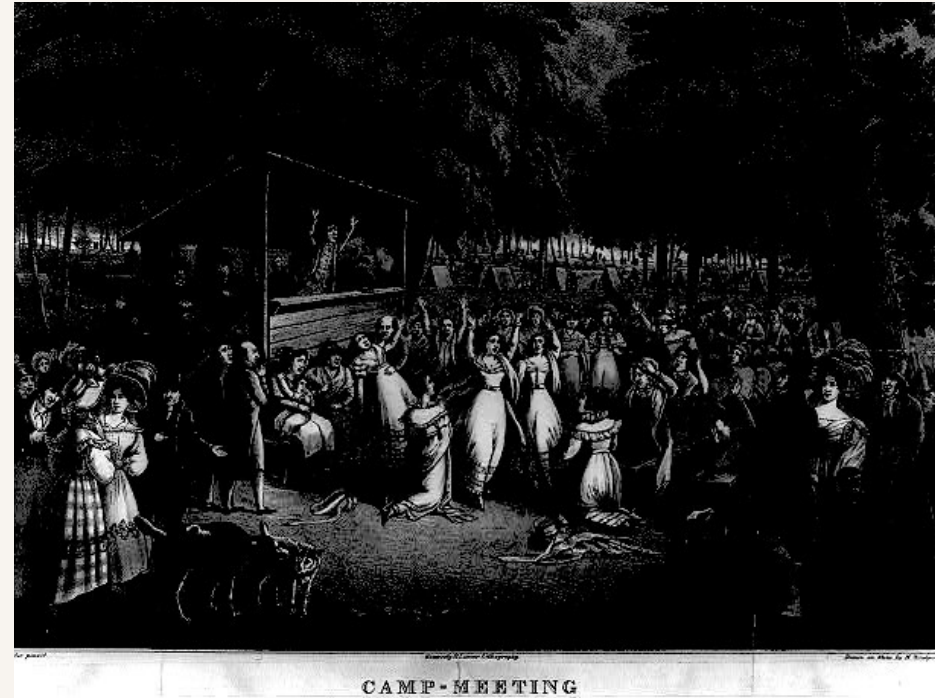


Figure 8: Women, men and animals at a religious revival meeting in the Burned Over District. A. Rider pinxit ; drawn on stone by H. Bridport. Kennedy & Lucas Lithography, c1829. (Image Source: Library of Congress)

Life on the Canal

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- **Social mixing and “canal culture” on passenger boats**
 - ▣ On deck games, singing, reading, debates
 - ▣ Below decks “lying packed like herrings in a barrel” (description of a European Tourist)
- **Robbery and violence**
- **Rapid Spread of Diseases**
 - ▣ During construction: workers often contracted malaria
 - ▣ During Operation : Smallpox and Cholera “rode the canal”



Figure 9: Socializing on the deck of a packet boat (from Thompson)

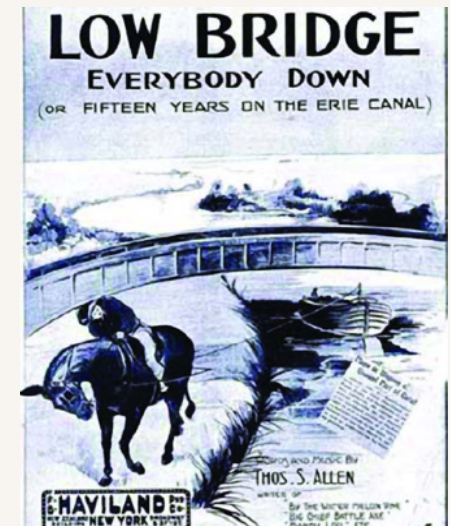


Figure 10: “Low Bridge” song poster (from Thompson)

Environmental Impact

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□ Hydrology

- ▣ Deforestation increases runoff
- ▣ Diverting from feeder streams

□ Bank leakage

- ▣ Affects burrowing animals
- ▣ Waterlogs property

□ Water quality

- ▣ Waste dumped into canal
- ▣ Septic conditions avoided due to inflowing streams

□ Fish migration into the Great Lakes

- At least 2 invasive species.

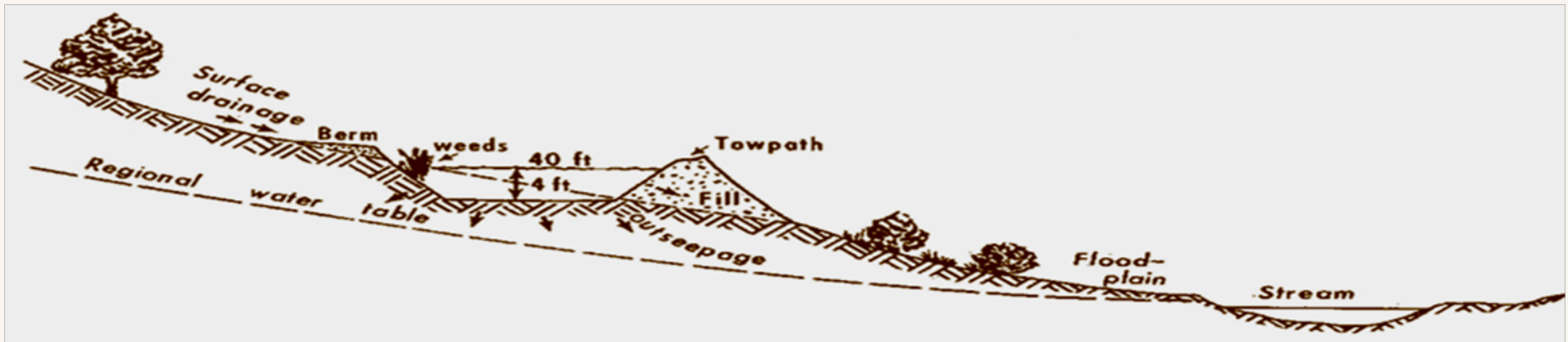


Figure 11: Hillside section illustrating Canal hydrology (From Langbein 1976)

Questions?

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