

UC Berkeley

Earlier Faculty Research

Title

From Trunk to Branch: Toll Roads in New York, 1800-1860

Permalink

<https://escholarship.org/uc/item/9pv183b2>

Authors

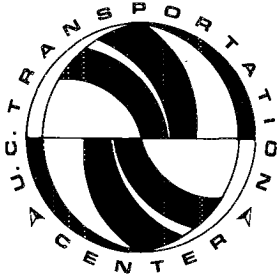
Baer, Christopher T.

Klein, Daniel B.

Majewski, John

Publication Date

1992-08-01



**From Trunk to Branch:
Toll Roads in New York, 1800-1860**

Christopher T. Baer
Daniel B. Klein
John Majewski

August 1992
Working Paper, No. 121

**The University of California
Transportation Center**

University of California
Berkeley, CA 94720

**The University of California
Transportation Center**

The University of California Transportation Center (UCTC) is one of ten regional units mandated by Congress and established in Fall 1988 to support research, education, and training in surface transportation. The UC Center serves federal Region IX and is supported by matching grants from the U.S. Department of Transportation, the California State Department of Transportation (Caltrans), and the University.

Based on the Berkeley Campus, UCTC draws upon existing capabilities and resources of the Institutes of Transportation Studies at Berkeley, Davis, and Irvine; the Institute of Urban and Regional Development at Berkeley; the Graduate School of Architecture and Urban Planning at Los Angeles; and several academic departments at the Berkeley, Davis, Irvine, and Los Angeles campuses. Faculty and students on other University of California campuses may participate in

Center activities. Researchers at other universities within the region also have opportunities to collaborate on selected studies. Currently faculty at California State University, Long Beach, and at Arizona State University, Tempe, are active participants.

UCTC's educational and research programs are focused on strategic planning for improving metropolitan accessibility, with emphasis on the special conditions in Region IX. Particular attention is directed to strategies for using transportation as an instrument of economic development, while also accommodating to the region's persistent expansion and while maintaining and enhancing the quality of life there.

The Center distributes reports on its research in working papers, monographs, and in reprints of published articles. For a list of publications in print, write to the address below.



**University of California
Transportation Center**

108 Naval Architecture Building
Berkeley, California 94720
Tel: 415/643-7378
FAX: 415/643-5456

Authors of papers reporting on UCTC-sponsored research are solely responsible for their content. This research was supported by the U.S. Department of Transportation and the California State Department of Transportation, neither of which assumes liability for its content or use

**From Trunk to Branch:
Toll Roads in New York, 1800-1860**

Christopher T. Baer

Hagley Museum
Wilmington, DE

Daniel B. Klein

Department of Economics
University of California at Irvine

John Majewski

Department of History
University of California at Los Angeles

Working Paper, No. 121

presented to the Economics and Business Historical Society
Seattle, Washington
April 1992

The University of California Transportation Center
University of California at Berkeley

Abstract: The years 1800-1830 are sometimes designated "the turnpike era," since in the 1830s canals and railroads began eclipsing the old wagon roads. Its true that long distance travel went by water and rail, but the journey often began on one of the many short toll roads feeding the system. This paper documents the changing composition of the New York toll road system as a whole, and provides some firm-level data. Toll roads continued to play an important role up to the Civil War and afterwards.

From Trunk to Branch:
Toll Roads in New York, 1800-1860

We hear no more of the clanging hoof,
And the stage coach rattling by;
For the steam king rules the traveled world,
And the old pike's left to die.
The grass creeps o'er the flinty path,
And the stealthy daisies steal
Where once the stage horse, day by day,
Lifted his iron heel.

"The Old Turnpike" (first of five verses),
Hunts Merchant Magazine, May 1854, p. 631.

If Antebellum Americans couldn't write poetry, they could build transportation systems. They build an extensive system of turnpikes, then canals, then railroads. Much later it was a return to the highway that undercut the railroads. But the turnpikes were the first to discover obsolescence, and indeed the trunk roads were "left to die."

This simple dynamic does not, however, fully capture the fate of the toll road. The toll road plan was adapted to new conditions, although not always successfully. The canals and "the steam king" drove many turnpikes to extinction, but they also fueled the proliferation of hundreds of branch toll roads. Historiography ~~mind~~ has relegated the toll road companies to a warm-

up chapter. This understanding is too simplistic.

This paper shows the damaging impact of the canals and railroads on the turnpikes, but also the inducement to build new auxiliary facilities. The canals bred many short turnpikes, and the railroads had a similar effect, except that between 1847 and 1852 Americans were enamored with "plank roads" -- toll roads surfaced with wooden planks. Plank roads turned out to be a mistake, as the planking lasted only half as long as the experts predicted. This paper deals with the experience of New York, where all the toll roads were organized as private companies and financed by stock subscription.

The Turnpike in the Spotlight: 1800-1825

After ratification of the Constitution, Americans focused their attention on prosperity and expansion. Transportation was crucial, and transportation improvement meant, above all, highway improvement. But highways were governed by an ineffective and meagerly funded system of town road care. The shortcomings prompted citizens to consider toll roads, which were common in Britain, and in 1792 Pennsylvania chartered the first private turnpike company. Its success as a transportation facility spurred others throughout the Northeast to imitate the formula. The virtues of the turnpike plan lay in the fact that responsibility, authority and financing for the entire route was collected under an independent board of directors.

New York's first robust turnpikes were born in 1799. Figure 1 shows the New York system in 1830. Most of the turnpikes were either routes to the Hudson River or were trunk lines tapping the western counties. These routes were the primary overland arteries for two decades.

[Figure 1 here.]

No type of franchise corporation in this era was "less gainful to the corporators" than turnpikes.¹ With few exceptions, turnpike stocks were poor investments. State regulation and toll evasion, known as "shunpiking," were partly to blame for unprofitability, but in many cases the traffic was simply too thin to remunerate investors. The unforeseen entry of canals and railroads was often the final nail in the coffin. Only about forty percent of the turnpike projects initiated up to 1845 succeeded in constructing roadway. Projects were financed as much in the booster spirit of community improvement as in the entrepreneurial spirit of turnpike profits.²

The Impact of the Canals

It did not take the surveyors of the Erie Canal to discover the inviting corridor of the Mohawk Valley. Decades before the Erie, turnpikes connected Albany to Syracuse and beyond. Figure 2 shows the principal routes westward from Albany. The upper route begins with the Albany & Schenectady, connects with the Mohawk, and then the Seneca. The lower route begins with the First Great Western and then branches at Cherry Valley into the Second

and the Third Great Western. When the Erie Canal came in it roughly followed the alignment of the upper route.

[Figure 2 here.]

The Erie Canal. The Erie Canal was completed in 1825 and wrought havoc on the centrally located turnpikes. The dashed lines in Figure 1 show that some of them (notably the Mohawk) folded as early as 1830. Figure 3 shows the annual toll receipts on the Second and the Third Great Western Turnpikes; both series show major blows around 1825, especially the Third, which was in more direct competition with the canal. Figures 4 and 5 show the annual dividends of these roads, and again we see a drop when the Erie opened. The dividends performance of these two companies should not be taken as representative of the turnpike movement; the preponderance of evidence and contemporary opinion suggests that most turnpikes fared less well than these two companies.

[Figure 3 here.]

[Figure 4 here.]

[Figure 5 here.]

The Erie Canal did not simply supercede certain turnpikes. In her study of urbanization in Onondaga County, Roberta Miller documents how towns just five miles from the canal went from prosperity to relative decline. "With the opening of the canal, settlements located on the [Seneca] turnpike lost much of their business. Local businessmen deserted the turnpike villages for canal

settlements -- the most attractive of which was Syracuse." Miller notes that Salina township, which included Syracuse, increased in population by 282 percent during the 1820s, while the other townships in the county grew by a mere 31 percent.³ The Onondaga experience suggests why turnpike officials may object to the opening of a canal or railroad even when the turnpike is not paying dividends: they fear that a shift in settlement patterns will throw their communities into decline.

The Erie Canal opened up new areas for grain supply, including New York's Genesee Valley, the Great Lakes regions, and eventually the Ohio Valley. In consequence, less efficient New York grain growers shifted to other products, notably dairy, fruits and vegetables.⁴ Some left agriculture altogether. Dairy products require regular transport. This shift is reflected by the changing traffic pattern on the turnpikes. Figures 6 and 7 show monthly traffic over time for two turnpikes. The pre-canal spikes are in the deep Winter, when sleighs could be used, in early Summer, when the roads had dried out, and in October, when crops were harvested. The Figures show the decline over the decades, but they also show a smoothing over the annual cycle. Using the points in Figures 6 and 7, we adjust for the decline to isolate seasonal variation:

<u>Second Great Western</u>	<u>Coefficient of Variation</u>
1815-1819	0.24
1825-1829	0.17
1835-1839	0.18

1845-1849	0.13
1855-1858	0.16

Third Great Western

1812-1816	0.43
1822-1826	0.34
1832-1836	0.22
1842-1846	0.21
1852-1856	0.24

[Figure 6 here.]

[Figure 7 here.]

The coefficients of variation show that much smoothing occurred shortly after the opening of the canal, and then the seasonal pattern stabilized.

The Delaware and Hudson Canal. On the west bank of the lower Hudson an elaborate web of turnpikes branched out from Newburgh. Figure 8 shows the turnpikes, as well as the Delaware and Hudson Canal. Folks in Newburgh explained that turnpikes "were all constructed at an expense of nearly one hundred and fifty thousand dollars, and Newburgh became the mart" of several counties and parts of New Jersey and Pennsylvania.⁵ The canal was completed in 1828 and it vaulted Kingston forward at the expense of Newburgh. As Stuart Blumin says, when the canal opened

Kingston was still a distinctly rural town, with some 2,000 farm dwellers surrounding a village whose population had only recently

passed 1,000. The catalyst of most of its growth was the Delaware and Hudson Canal... By 1840, after a decade of canal operations, the town's population had doubled to 6,000... By 1850 Kingston had passed 10,000, and in 1860 it reached 16,640.⁶

[Figure 8 here.]

As Kingston rejoiced, Newburgh fretted. An 1840 Memorial from Newburgh exclaimed that "Canals and Rail Roads ... are now being made in every direction except Newburgh, and all tending to divert the travel and trade from that village and rob her of her well earned prosperity."⁷ Several of the Newburgh turnpikes had quit by 1840. The town petitioned the state to build a Newburgh branch on to the Erie Railroad, and the link was completed in 1849. But Kingston remained dominant ever after.

The canals had a similar impact on many other turnpikes. The Champlain Canal, for example, was opened in the mid-1820s and drew traffic from the Waterford and Whitehall Turnpike, which was indicted in 1847 for being out of repair.⁸ The canals impinged not only on nearby parallel turnpikes, but also on distant pikes that had served as bold lines through the deep wilderness. The situation of the trunk roads only worsened when the railroads came.

The Impact of the Railroads

The first railroad tracks in New York were laid in 1831, but progress was slow and uneven for many years.⁹ Turnpike charters did not explicitly guarantee exclusive rights for the roads. Before the canals and railroads judges would safeguard turnpike interests from short parallel routes, sometimes mere shunpikes.¹⁰ Substantial roads, either public or turnpike, were scarcely proposed in competition with an existing turnpike when the existing turnpike was serving well enough.¹¹ But when the canals and railroads came, legal opinion moved in the direction of the Charles River Bridge case, in which the United States Supreme Court ruled in 1837 against exclusive rights.¹² In New York we find a few remonstrances by turnpikes against railroads, but their objections did little to delay the laying of rails.¹³

In 1848 New York began a seven-year burst of railroad construction. The railroads were hauling livestock cars, stripping the old pikes of their remaining customers. Figures 3 and 5 show that around 1850 two of the leading turnpikes got the rug pulled out from under them. Many of the major turnpikes disintegrated in stages, abandoning their road piece by unprofitable piece. As for their final dissolution, the Seneca Turnpike went in 1852; the First Great Western in 1853; the Second and the Third in 1859.

Spurring Spur Roads

Since the canals and railroads altered the channels of trade and the patterns of settlement, they also generated new needs for connecting routes.

The toll road by no means said farewell in the 1830s. Many became chronically ill, but many new ones were anxiously brought into being. Figure 9 shows that after the panic of 1819 a steady stream of turnpike incorporation continued through the 1840s. Although the failure rate for these projects was higher than that for the pre-1819 projects, between 30 and 40 of the later projects succeeded in building short connections in the transportation system.

[Figure 9 here.]

The plank road frenzy of 1847 to 1853 was of a different quantum. Figure 10 shows that the frenzy was co-extensive with the railroad boom. Plank roads seemed ideal for quick improvement and short connections. Although usually used as an auxiliary to canals and railroads, the plank road was sometimes considered an *alternative* to the railroad. The plank road did have some advantages. Any vehicle could enter and exit at any time and at any place. And its \$2,000 cost per mile seemed much more inviting than the railroad's \$35,000.¹⁴

[Figure 10 here.]

The plank roads proliferated by virtue of an official lore, but the lore was unfounded. A gaggle of civil engineers and others predicted that a plank surfacing would last eight to ten years, but the reality was more like four. In those few years the fever reached every corner of the state. Figure 11 shows the plank road system. The nodal structure is striking. Most of the roads were abandoned by 1860, mainly because of the durability error.¹⁵

[Figure 11 here.]

Scores of short toll roads persisted after 1860. Surviving plank road companies usually converted to a normal turnpike surface. By the year 1900 dozens of toll road companies continued in operation, but they played only bit parts in the transportation system. In Pennsylvania the post-bellum presence of toll roads was much greater.

Endnotes

*The authors wish to thank Chi Yin for outstanding research assistance. For generous financial assistance the authors thank the University of California Transportation Center, the Earhart Foundation, and the Hagley Museum and Library.

1. New York Chief Justice Samuel Nelson, *People vs. Kingston & Middlefield Turnpike*, 1840, 23 Wend. 345.
2. See Daniel B. Klein & John Majewski, "Economy, Community and Law: The Turnpike Movement in New York, 1797-1845," *Law & Society Review*

(forthcoming); Daniel B. Klein, "The Voluntary Provision of Public Goods: The Turnpike Companies of Early America," *Economic Inquiry*, Fall 1990,, pp. 788-812.

3. Roberta Balstad Miller, *City and Hinterland: A Case Study of Urban Growth and Regional Development* (Westport, Conn.: Greenwood Press, 1979), pp. 50ff.

4. See Paul W. Gates, *The Farmer's Age: Agriculture, 1815-1860* (New York: Harper and Row, 1960), pp. 163-169. David Maldwyn Ellis, *Landlords and Farmers in the Hudson-Mohawk Region, 1790-1850* (New York: Octagon Books, 1967), pp. 202ff.

5. "Statistics of Newburgh," by Samuel Parmenter, forming an appendix to a "Memorial by the Citizens of Newburgh," March 4, 1840, p. 16; filed in the New York State Library, 385 N559.

6. *The Urban Threshold: Growth and Change in a Nineteenth-Century American Community* (Chicago: University of Chicago Press, 1976), p. 2.

7. Ibid.

8. Waterford and Whitehall Turnpike vs. the People, 1850, 9 Barbon 161.

9. For maps, facts and figures, see Christopher T. Baer, *Canals and Railroads of the Mid-Atlantic States, 1800-1860* (Wilmington: Eleutherian Mills-Hagley Foundation, 1981).

10. In two cases Chancellor James Kent decided in favor of turnpikes by ordering bypass roads closed: *Croton Turnpike vs. Ryder* (1815), 1 Johns Chancery 611; and *Newburgh & Cohecton Turnpike vs. Miller* (1821), 5 Johns Chancery 101.

11. We do, however, know of three cases in which the legislature denied petitions for new turnpikes either because the area is well enough served by other turnpikes, or because the new route would financially damage an existing turnpike. See *Assembly Journal*, 30th Session (1807), p. 268; *Assembly Documents*, 1831, No. 345; *Assembly Documents*, 1832, No. 155.

12. *Charles River Bridge vs. Warren Bridge*, 24 Mass. (7 Pick.) 344 (1829); affirmed, 36 U.S. (11 Pet.) 420 (1837). See Clinton J. Evans, "Private Turnpikes and Bridges," *American Law Review*, 50 (1916), pp. 527-535.

13. The Albany & Schenectady Turnpike opposed the Mohawk & Hudson

Railroad, chartered in 1826; see New York State Library ms's # 8064-68 and *Assembly Documents*, 1831, No. 132. The Seneca Turnpike unsuccessfully sought compensation from the pending Syracuse & Utica Railroad company, which was completed in 1839; see Assembly Document, 1834, No. 48.

14. Public aid was never made to plank roads or turnpikes, nor to railroads during the years of the plank road boom. See Harry H. Pierce, *Railroads of New York: A Study of Government Aid, 1826-1875* (Cambridge: Harvard University Press, 1953). For the railroad cost figure see "Annual Report on Railroads," New York State Engineer and Surveyor, *Assembly Documents*, No. 120, 1854, pp. 11-12.

15. For more on the plank roads see, John Majewski, Christopher Baer, and Daniel B. Klein, "Market and Community in Antebellum America: The Plank Roads of New York," *Journal of Economic History* (forthcoming); Daniel B. Klein and John Majewski, "Promoters and Investors in Antebellum America: The Spread of Plank Road Fever," ITS Working Paper, UC-Irvine, 1991.

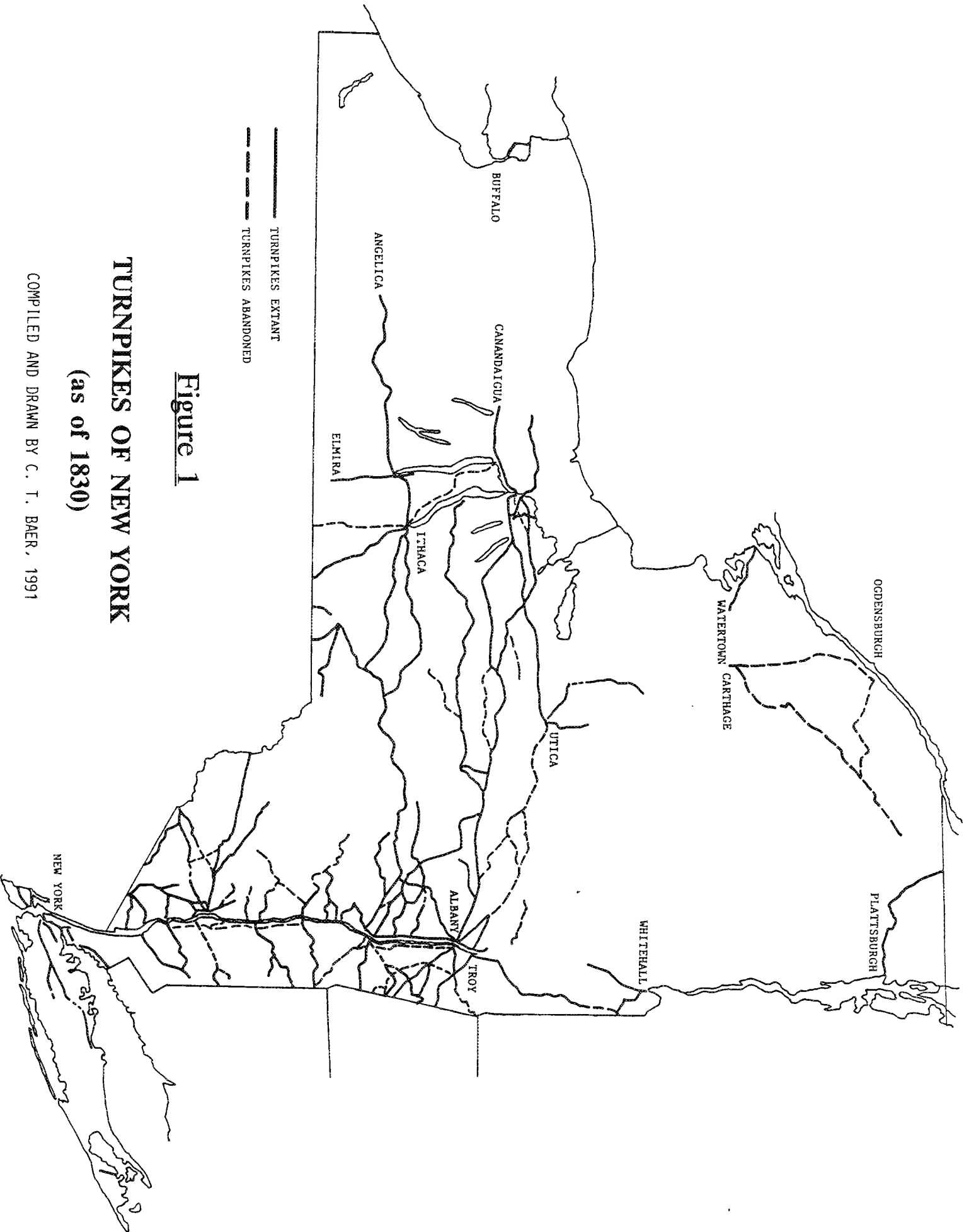


Figure 1

TURNPIKES OF NEW YORK
(as of 1830)

COMPILED AND DRAWN BY C. T. BAER, 1991

Figure 3

Annual Toll Receipts

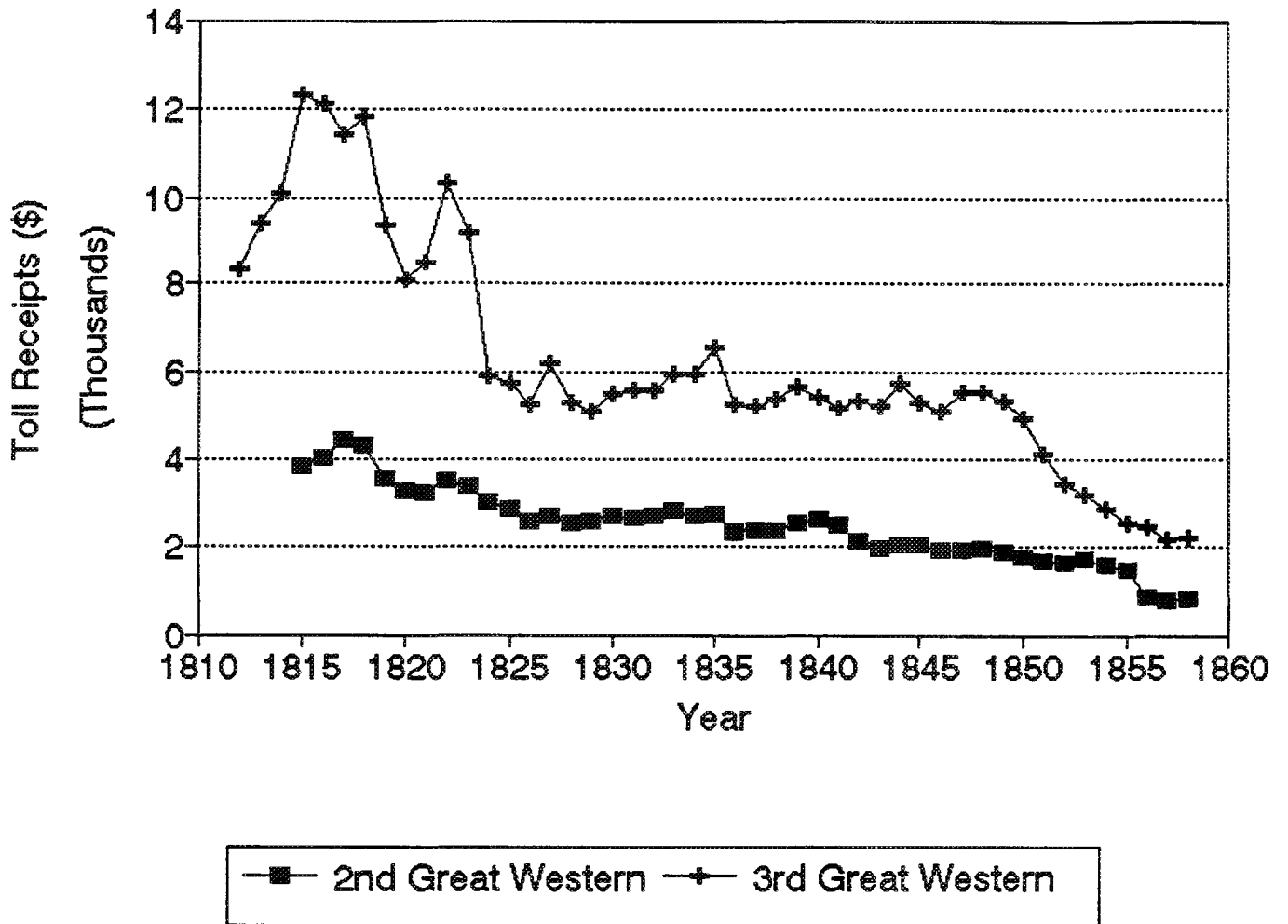
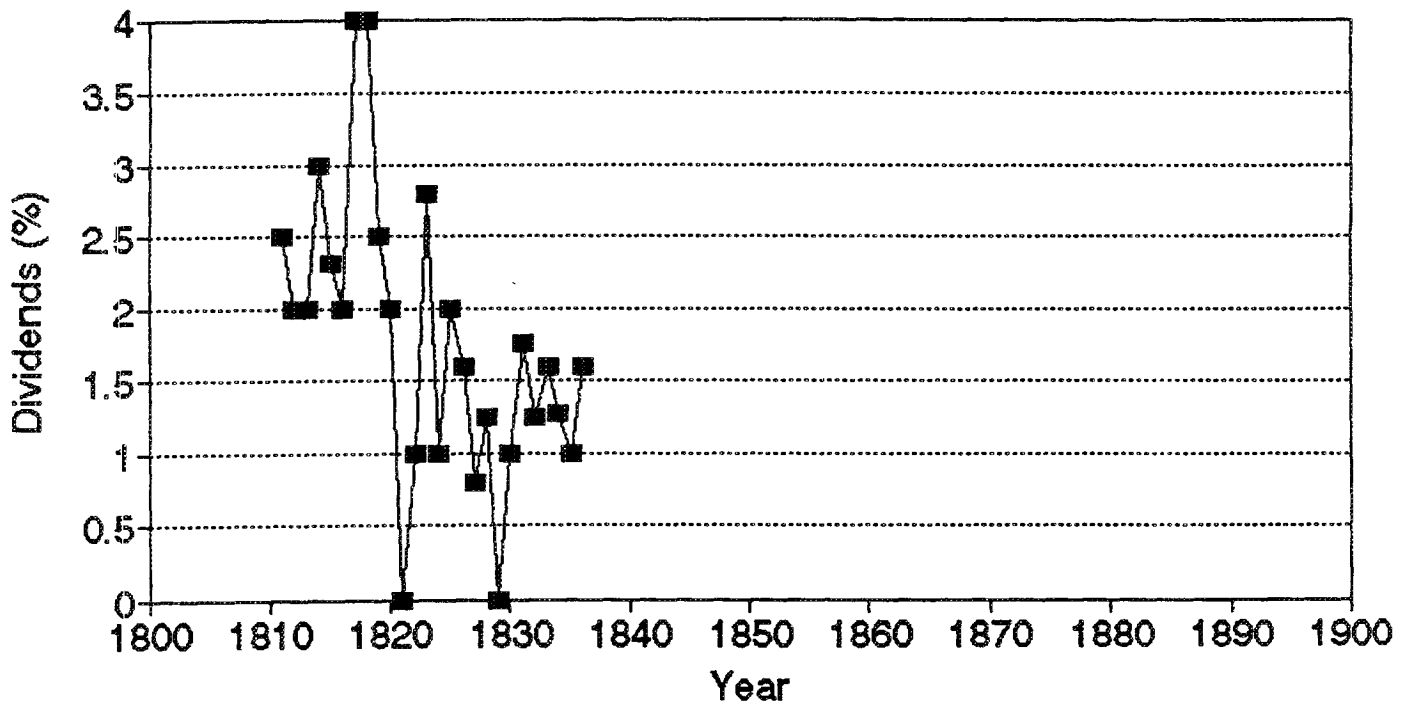


Figure 4

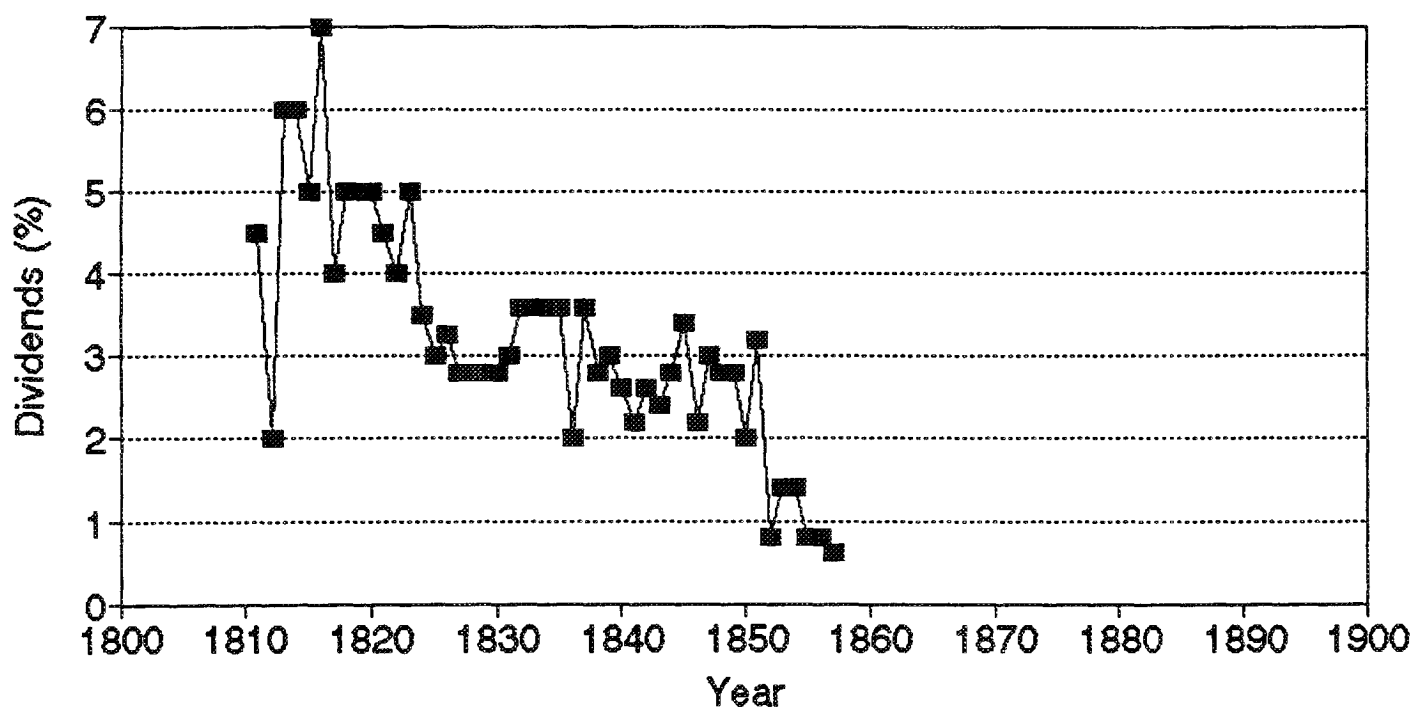
Annual Dividends Second Great Western Turnpike CO.



—■— 2nd Great Western

Figure 5

Annual Dividends Third Great Western Turnpike CO.



—■— 3rd Great Western

Figure 6

2nd Great Western Toll Receipts Monthly Averages for Selected Years

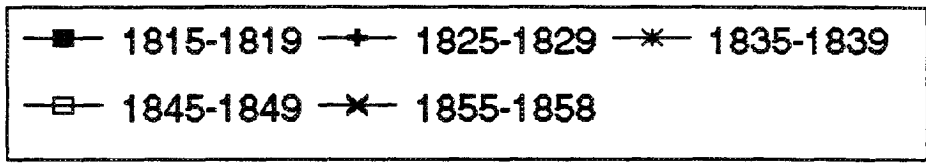
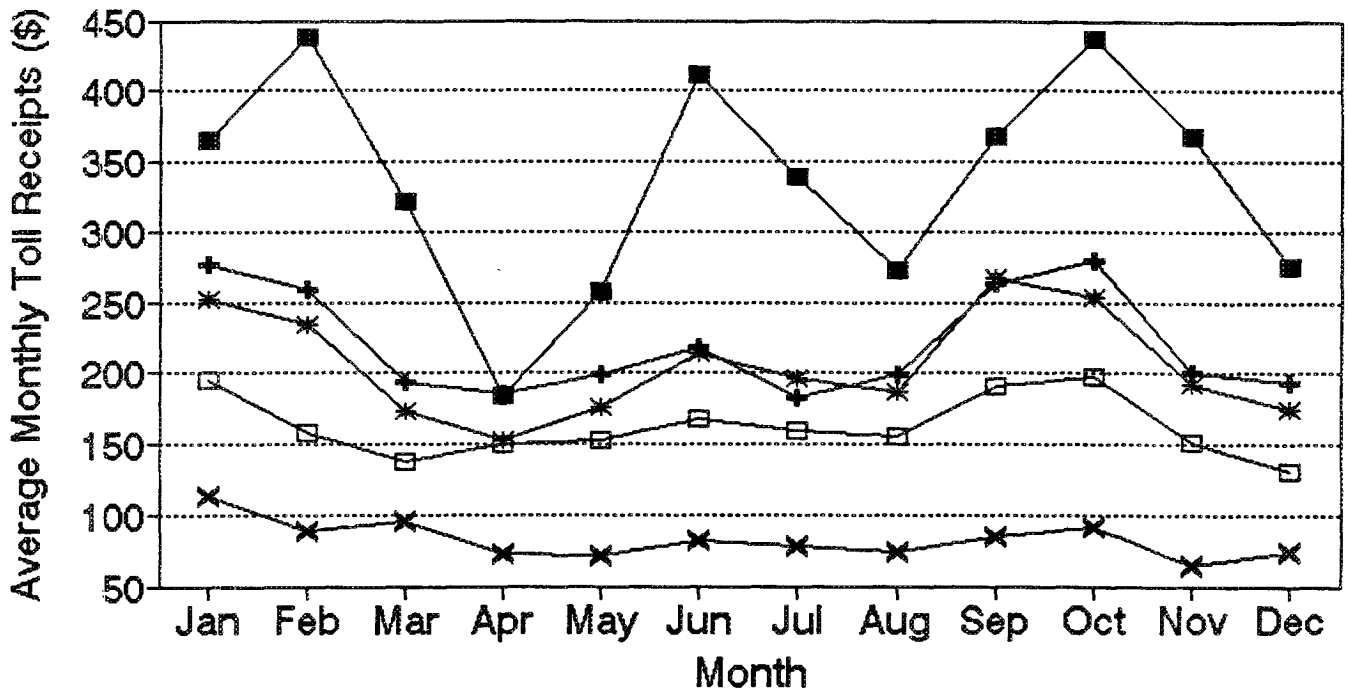
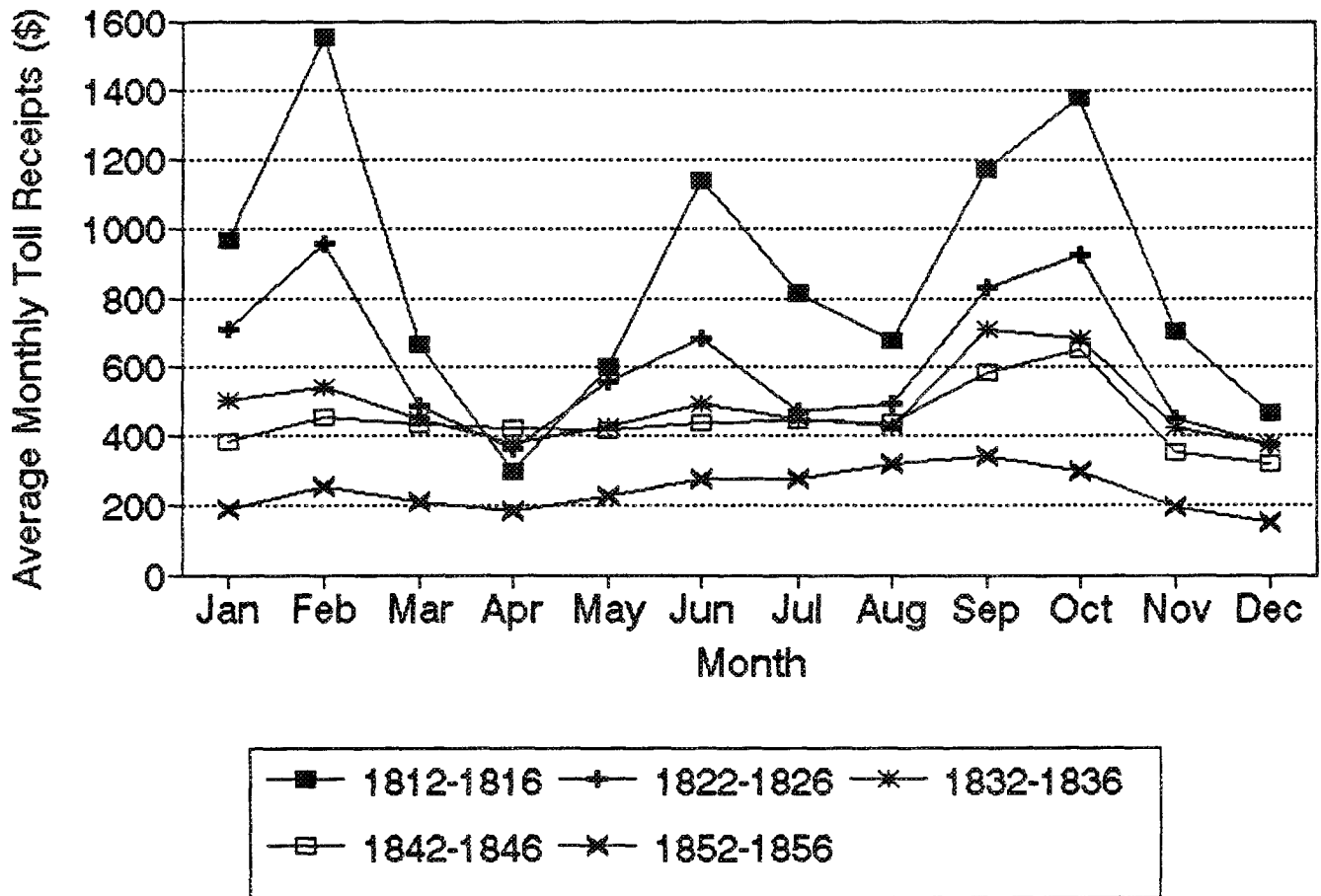


Figure 7

3rd Great Western Toll Receipts Monthly Averages for Selected Years



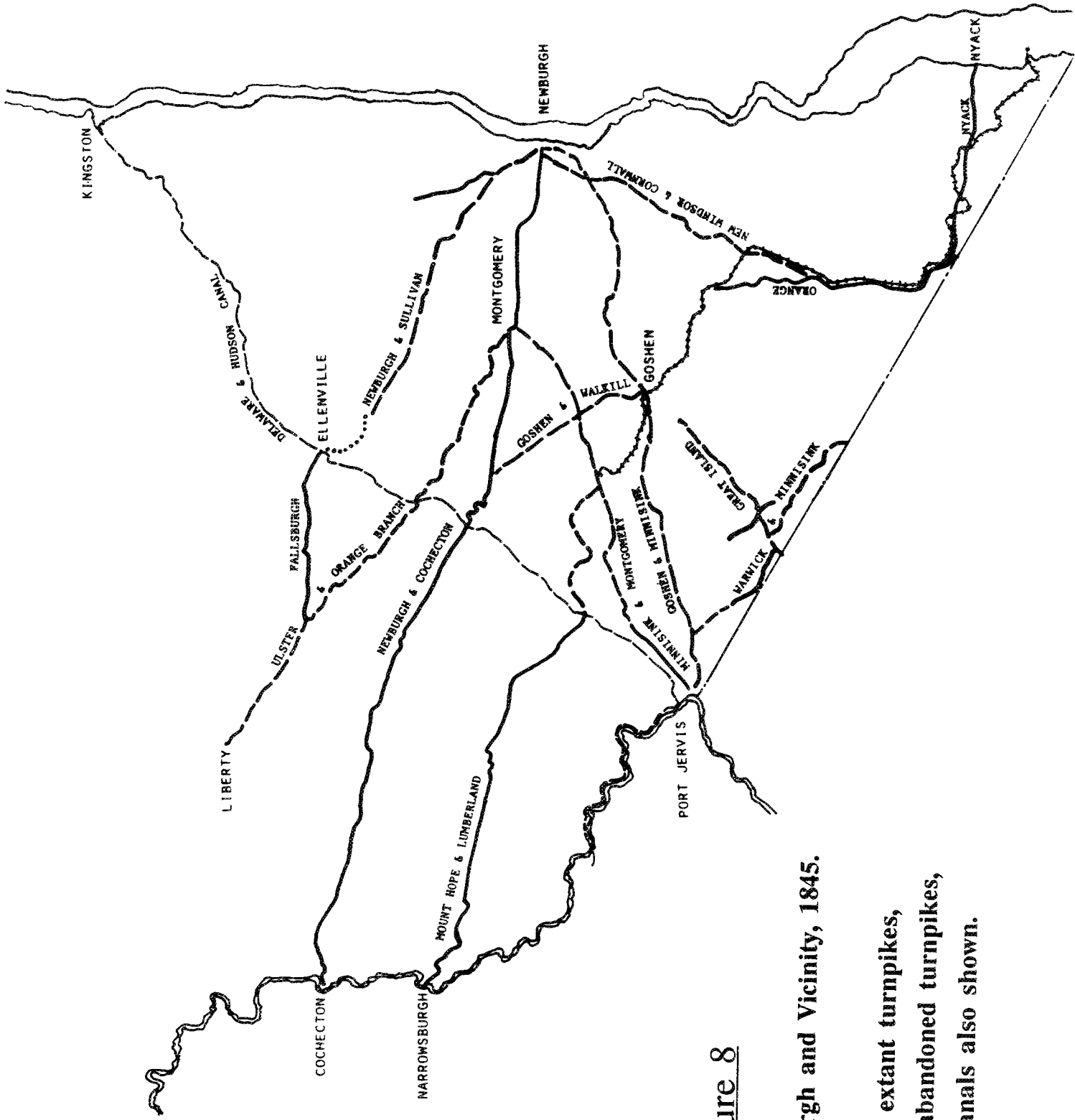


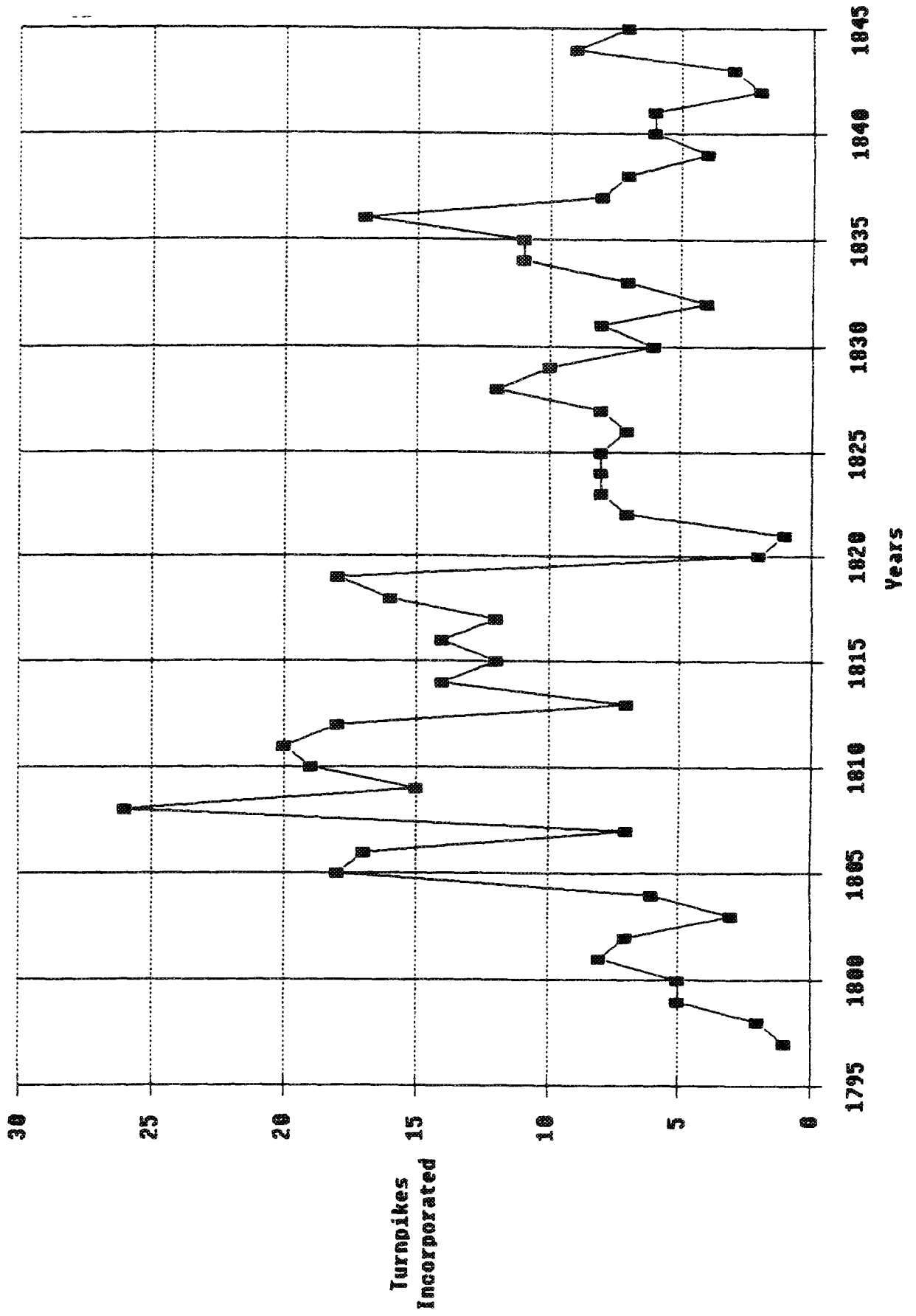
Figure 8

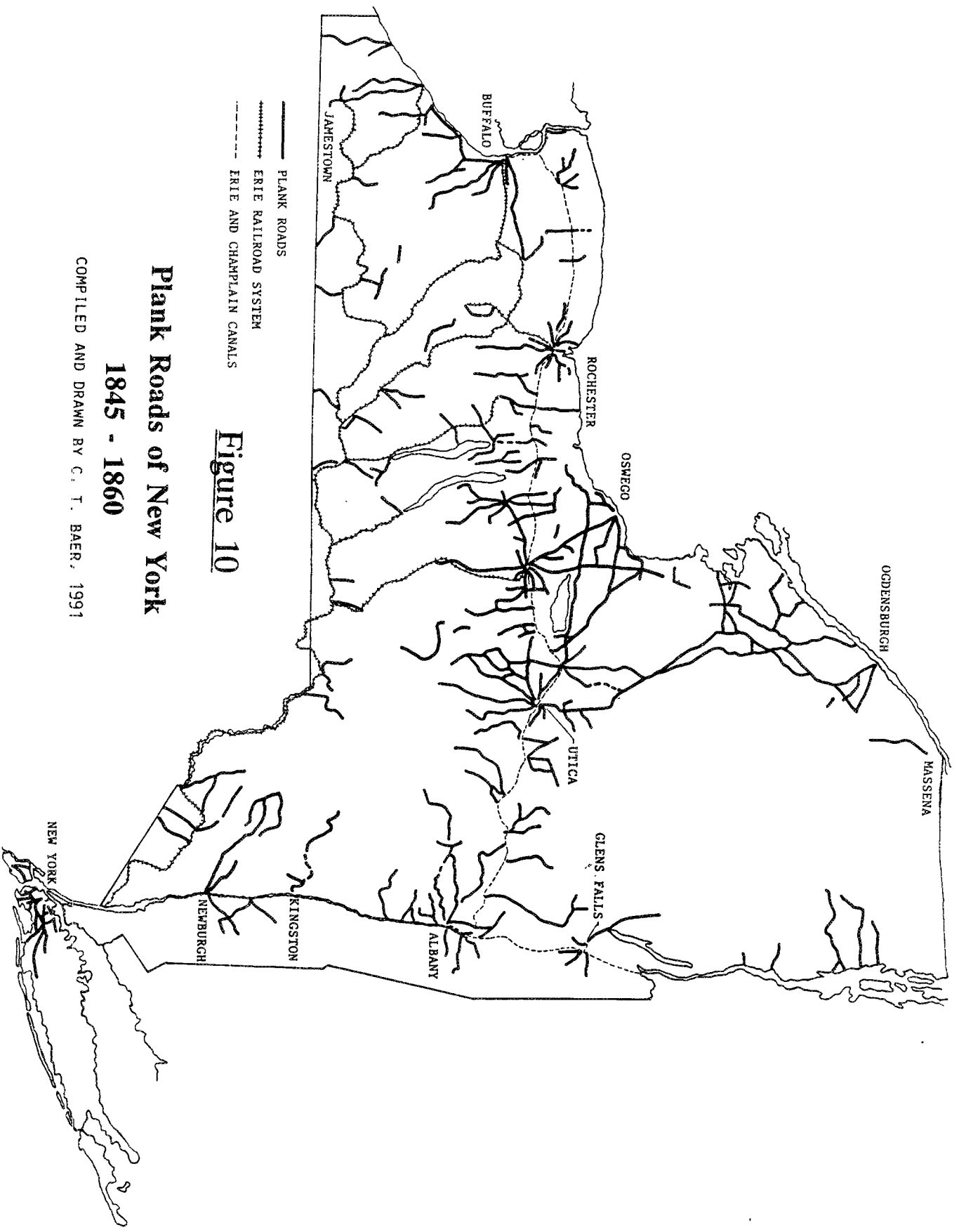
Turnpikes of Newburgh and Vicinity, 1845.

**Solid lines show extant turnpikes,
dashed lines show abandoned turnpikes,
railroads and canals also shown.**

Figure 9

Turnpikes Incorporated in New York State until 1845





- PLANK ROADS
- +++++ ERIE RAILROAD SYSTEM
- - - - ERIE AND CHAMPLAIN CANALS

Figure 10

**Plank Roads of New York
1845 - 1860**

COMPILED AND DRAWN BY C. T. BAER, 1991

Figure 11

**Railroad Miles Built and Plank Roads Chartered,
New York, 1831-1862**

