

# *Responding to Relative Decline: The Plank Road Boom of Antebellum New York*

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From 1847 to 1853 New Yorkers built more than 3,500 miles of wooden roads. Financed primarily by residents of declining rural townships, plank roads were seen as a means of linking isolated areas to the canal and railroad network. A broad range of individuals invested in the roads, suggesting that the drive for bigger markets was supported by a large cross section of the population. Considerable community spirit animated the movement, indicating that New Yorkers used the social capital of the community to reach their entrepreneurial aspirations.

*The plank road is of the class of canals and railways. They are the three great inscriptions graven on the earth by the hand of modern science, never to be obliterated, but to grow deeper and deeper.*

—W. H. Bogart, *Hunt's Merchant Magazine*, 1851<sup>1</sup>

The importance of canals and railroads has hardly grown “deeper and deeper,” but at least they had their day. As for plank roads, most people have never heard of them. In the mid-nineteenth century, plank roads—toll roads that used wooden planks as surfacing—promised affordable, year-round travel. Promoters of the stock-financed corporations that built the roads asserted that they would increase commerce, raise land values, and pay handsome dividends. New Yorkers built more than 3,500 miles of plank roads between 1846 and 1853, when the boom came to a sudden end.<sup>2</sup> The promoters had based

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<sup>1</sup> Bogart, “First Plank Road,” p. 63.

<sup>2</sup> The most influential plank road promotional books and pamphlets include Geddes, *Observations*; Gillespie, *Manual*; and Kingsford, “A Few Words.”

their claims on the estimate that planks would last eight to twelve years, but experience proved that they would last only four or five. By 1865, most companies had abandoned their roads or switched to dirt or gravel surfaces.

The claims of the promoters proved to be ill founded, but during the period of the boom, they captured the imaginations of rural New Yorkers, especially those who perceived their communities to be threatened by economic stagnation. By providing greater access to larger markets, plank roads seemed to offer both the opportunity for individual economic gain and the revitalization of declining communities. In this article we provide evidence that residents of rural communities, representing a broad cross section of upper- and middle-class occupations, eagerly invested in plank roads to stimulate commerce, spur population growth, and increase land values. We also show that enthusiastic investors, faced with the "free rider" problem, drew upon a shared sense of unease as well as sentiments of community pride to pressure and encourage others to invest in the roads.<sup>3</sup>

#### THE ECONOMIC ATTRACTIONS OF PLANK ROADS

To achieve greater integration with distant markets, members of economically beleaguered communities had to improve their transportation systems. Railroads would not become a viable economic alternative until the post-Civil War period.<sup>4</sup> Until that time, rural citizens had to seek ways to improve the surfacing of their roads at a relatively low cost. The attractiveness of plank roads to potential investors lay in their low construction costs, the technical ease with which they could be built, and their efficiency of operation.

Both government reports and travel accounts agree that poor road conditions frequently impeded travel in the 1840s.<sup>5</sup> The main problem

<sup>3</sup> There has been much debate on the question of rural values and their relationship to the emergence of integrated markets during the colonial and early republican periods. For the "market" side, see Rothenberg, "Emergence of a Capital Market"; "Emergence of Farm Labor Markets"; and "The Market and Massachusetts Farmers." For the "community side," see Henretta, "Family and Farms"; Clark, *Roots*; and Kulikoff, "Transition."

<sup>4</sup> Investment costs per mile of railroads were in the neighborhood of \$35,000, about seventeen times the investment cost of a mile of plank road and ten times the cost of macadam. While the money needed for plank roads could be raised locally without turning to external sources of capital, the high investment costs of railroads compelled small towns to sell municipal bonds, a task that required legislative approval and complex transactions in the regional credit market. Only after the Civil War, when the spread of municipal aid to railroads became common after the General Bonding Act of 1869, did small towns subsidize branch lines. As a result, more than 2,400 new miles of railroad were built between 1865 and 1875. For the cost of railroad investment, see New York State Assembly, "Annual Report," pp. 11-12; for the construction of branch lines, see Pierce, *Railroads*, table 1 and chart 3.

<sup>5</sup> For example, in 1844 a committee of the New York State Assembly declared that most roads were "always in bad repair, and in the spring and fall almost impassible." Spring and autumn rains often turned roads into virtual quagmires, prompting the citizens of Ithaca to report that "[t]here

was surfacing. New Yorkers covered most of their roads with a thin layer of loose stones or gravel, which wagon wheels and horse hooves quickly ground into dirt, eventually producing mud and ruts. Before the advent of plank roads, the most likely candidate for usable surfacing that would allow year-around travel was macadam, a compacted covering of crushed stones. But macadam cost at least \$3,500 per mile. That was scarcely affordable, even on relatively busy trade routes, because the three main types of road-building organizations—turnpike corporations, townships, and the state governments—lacked the financial resources to construct stone surfacing. The long-distance turnpike corporations, state-chartered companies with the right to collect tolls, fared poorly in competition with canals and railroads.<sup>6</sup> Turnpikes also suffered financially because the state fixed the location of toll gates, making illegal entry and exit easy for many travelers.<sup>7</sup> Town governments had primary responsibility for maintaining public roads, but offered little hope for improved surfacing. Townships had few resources available to invest in roads and relied heavily on a road labor tax that forced local citizens to work on roads during a specified period. Both contemporaries and later historians recognized that this tax was notoriously inefficient in achieving its intended results.<sup>8</sup>

Neither could New Yorkers have looked with confidence toward their state government to improve roads. By the late 1830s the state government was overextended because of poor investments in canals, which created a strong backlash against state involvement in internal improvements.<sup>9</sup> Ambitious plans to macadamize county roads—like a \$12 million proposal by a committee of an 1836 internal improvement convention—fell on deaf ears in this climate of fiscal retrenchment.<sup>10</sup>

The anemic financial condition of established road-building authorities meant that road improvement would have to come through the use of new and inexpensive surfacing that private companies could finance. George Geddes, a gentleman farmer from the Syracuse area, offered

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are many sections of the country, that are for the most part of the year almost inaccessible . . . because the roads leading to those sections are impossible for loaded teams." "Report of the Committee," p. 3. Foreign travelers often noted the poor conditions of roads except when snowfall permitted travel by sleighs. See Haydon, *Upstate Travels*, pp. 15–20.

<sup>6</sup> Durrenberger, *Turnpikes*, pp. 156–58.

<sup>7</sup> Klein, "Voluntary Provision"; and Klein and Majewski, "Economy, Community, and Law."

<sup>8</sup> Taylor, *Transportation Revolution*, p. 18; Geddes, *Observations*, p. 15; and Gillespie, *Manual*, pp. 341–47. The small town of Beekmantown (in the northern part of the state) usually spent \$50 or less annually on road improvement during the 1840s. Such expenditures were supposed to be enhanced by the road labor tax; but forced, unskilled labor could not provide the stones, rollers, and engineering expertise needed for macadam roads. Even if all of Beekmantown's assessed labor tax had been commuted at the official rate of 62.5 cents per day, it would have provided only about \$1,600 in additional annual revenue, hardly enough to macadamize even a mile of road. See White, *Beekmantown*, pp. 200–202, 342.

<sup>9</sup> Gunn, *Decline*, pp. 170–97.

<sup>10</sup> Blunt, "Report."

such a solution: the construction of plank roads. At the behest of a town meeting of Salina (a village later incorporated into Syracuse), Geddes traveled to Toronto in the summer of 1844 to observe plank roads.<sup>11</sup> He returned with glowing reports, and, after another trip to Canada, began construction of the Salina–Central Square Plank Road. Incorporated through a special legislative act, the 12-mile road linked a large salt works with Syracuse and operated like a turnpike. According to one observer, it displayed “the success of a safe and well matured enterprise.”<sup>12</sup> This seemingly profitable venture sparked widespread interest in plank roads, leading the 1847 legislature to pass a comprehensive law that allowed easy incorporation for such enterprises. By 1853 more than 3,500 miles of plank road had been chartered.

Many other states, much to their later chagrin, followed New York’s example. As Table 1 shows, all sections of the country except New England chartered plank roads. Pennsylvania, Ohio, and Michigan joined the Empire State as the top plank road states. Significantly, all these states were major producers of lumber: New York ranked first in lumber output, Pennsylvania second, Michigan fourth, and Ohio fifth. Large timber reserves were crucial for plank road construction, as lumber constituted 60 to 70 percent of total construction costs.<sup>13</sup>

Comparative costs of construction made plank roads an attractive alternative to macadam. In a popular 1850 engineering textbook, professor William Gillespie of Union College argued that a plank road could be built and maintained “for less than the interest on the cost of a Macadam one.”<sup>14</sup> Gillespie was exaggerating, but other sources suggest that the average capitalization of plank roads was just over half that of macadam, \$1,900 compared with \$3,500.<sup>15</sup> Plank roads also offered the advantages of simplicity of construction. Most roads were constructed on a wooden foundation of “stringers” or “sleepers” that builders planted firmly in the ground. The planks were usually hemlock or pine (three or four inches thick) and were laid perpendicular to the sleepers. The road was embedded so that the planks were even with the adjoining earth. Even the amateur engineers of the antebellum period could build a plank road with help from one of the many new manuals.<sup>16</sup>

<sup>11</sup> How plank roads got started in Canada is not clear. Several promoters claimed that a British diplomat introduced them after seeing plank roads in Russia, but there is no independent proof.

<sup>12</sup> Bogart, “First Plank Road,” p. 65.

<sup>13</sup> Kingsford, “A Few Words,” p. 10; and Gillespie, *Manual*, p. 245. Most annual reports do not give cost breakdowns, but we found figures for four plank roads in historical societies and libraries. On average, planking constituted 63 percent of the total cost.

<sup>14</sup> Gillespie, *Manual*, pp. 252–53.

<sup>15</sup> From the articles of association, we calculated that the average capitalization per mile of plank road was just under \$1,900. The most favorable estimate of macadam, made by Kingsford, was \$3,400 per mile. Kingsford, “A Few Words,” p. 10.

<sup>16</sup> Geddes, for example, had no formal training in engineering.

TABLE 1  
PLANK ROAD INCORPORATION AND LUMBER OUTPUT, BY STATE

State	Number of Roads Chartered	Value of Lumber Production (millions of 1849 dollars)	Rank as Lumber Producer
New York	350	13.126	1
Pennsylvania	315	7.729	2
Ohio	205	3.894	4
Wisconsin	130	1.214	11
Michigan	122	2.464	5
Illinois	88	1.324	10
North Carolina	54	.985	16
Missouri	49	1.479	9
New Jersey	25	1.123	13
Georgia	16	.923	18
Iowa	14	.470	23
Vermont	14	.618	20
Maryland	13	.614	21
Connecticut	7	.535	22
Massachusetts	1	1.552	7
Rhode Island	0	.242	26
Maine	0	5.872	3

*Notes:* Incorporations run through 1851 in Ohio and through 1857 in Pennsylvania, New Jersey, and Maryland. All others are inclusive to the present. Except in Wisconsin, few plank roads were chartered after 1857. Lumber production and rank are for 1849. Excluded states did not necessarily lack plank roads but did lack reliable data.

*Sources:* New York: articles of association of plank road companies and various legislative acts; Pennsylvania, Maryland, and New Jersey: Durrenberger, *Turnpikes*, p. 145; Ohio and Iowa: Abbott, "Plank Road Enthusiasm," p. 107; Wisconsin: Wisconsin, *A History*, pp. 228-30; Michigan: Alwood and Pierce, *Index of Local and Special Acts*, pp. 634-41; Illinois: Illinois, "Charters"; North Carolina: Starling, "Plank Road Movement," p. 8; Missouri: Gentry, "Plank Roads," p. 273; Georgia: Georgia, *Official Code*, pp. 895-96; Connecticut, Maine, Massachusetts, Rhode Island, and Vermont: Wood, *Turnpikes*, p. 43. Lumber statistics were taken from U.S. National Archives, Manuscripts of the Seventh Census.

Despite its relative cheapness and technical simplicity, planking promised all of the advantages of macadam. Users marveled at the speed and ease of travel on plank roads.<sup>17</sup> The smooth surfacing allowed freight to move not only more quickly but in bigger loads than on unsurfaced roads. More importantly, planks withstood rain and snow far better than did unsurfaced roads, making road travel more dependable. An 1846 state senate report noted that those living near a plank road could "reach their markets in all seasons of the year with an equal ease and facility," while those living off the road could travel only a "short space of the year."<sup>18</sup>

<sup>17</sup> See Guillet, "Plank Roads," p. 11.

<sup>18</sup> New York State Senate, "Report," p. 7.

## PLANK ROADS AND MARKET INTEGRATION

Our examination of the location of plank roads shows that they allowed hinterland areas to integrate more fully with larger markets. As Figure 1 shows, a large network of plank roads developed in the upper-Hudson and Mohawk valleys in the triangle formed by Ogdensburg, Oswego, and Utica. There was also a convergence of plank roads around major upstate cities like Albany, Buffalo, Utica, Rochester, and Syracuse, with a smattering around Newburgh and New York City. Other plank roads, scattered throughout the state, connected smaller towns to the nearest railroad, canal, or natural waterway.

To explore the economic factors driving the boom, we regressed total plank road mileage in 1855 against various economic characteristics of New York's counties, using both absolute and per capita mileage figures of plank roads operating in 1855.<sup>19</sup> From the map, we expected a positive association between plank roads and "big cities" (defined as cities with populations over 10,000), canals, and railroads. We were unsure what other economic factors might have been driving the boom, so we used a variety of independent variables, the most important of which are reported in Table 2. We weighted the regressions by the 1855 population, which improved the specification considerably.<sup>20</sup>

As we expected, big cities were positively associated with plank roads, reflecting the radial pattern shown on the map. Besides providing a ready market for farm produce, big cities also had obvious links with canals and railroads. Some plank roads, especially those near New York City, were probably suburban in character, providing superior wagon transport for frequent trips into larger cities.

The statistical significance of the dairy variable reflects the changing composition of the state's farm output, especially in the Mohawk Valley. New York had been an important grain state, but soil depletion and competition with the West reduced it to a mere middle-of-the-pack producer.<sup>21</sup> Farmers began to produce more dairy products. Unlike grain, which could be stored for long periods, dairy products had to be moved to market quickly. The frequency of dairy trips called for roads that would be serviceable in all seasons. David Ellis has noted that by the 1850s farmers "usually took their cheese to the railroad depots where local markets were held twice a week."<sup>22</sup> The importance of

<sup>19</sup> The state census data we used for the independent variables were for 1855, close to the peak of the boom. Although a few of the earliest roads had gone out of business by that time, the 1855 figures maximize the cumulative mileage for most counties. We also used miles built, not chartered (see the Appendix for sources).

<sup>20</sup> Without weighting, the adjusted  $R^2$  of the per capita regression falls to .29, and the  $F$ -ratio falls to 4.39.

<sup>21</sup> Gates, *Farmer's Age*, pp. 163-69.

<sup>22</sup> Ellis, *Landlords*, p. 203.

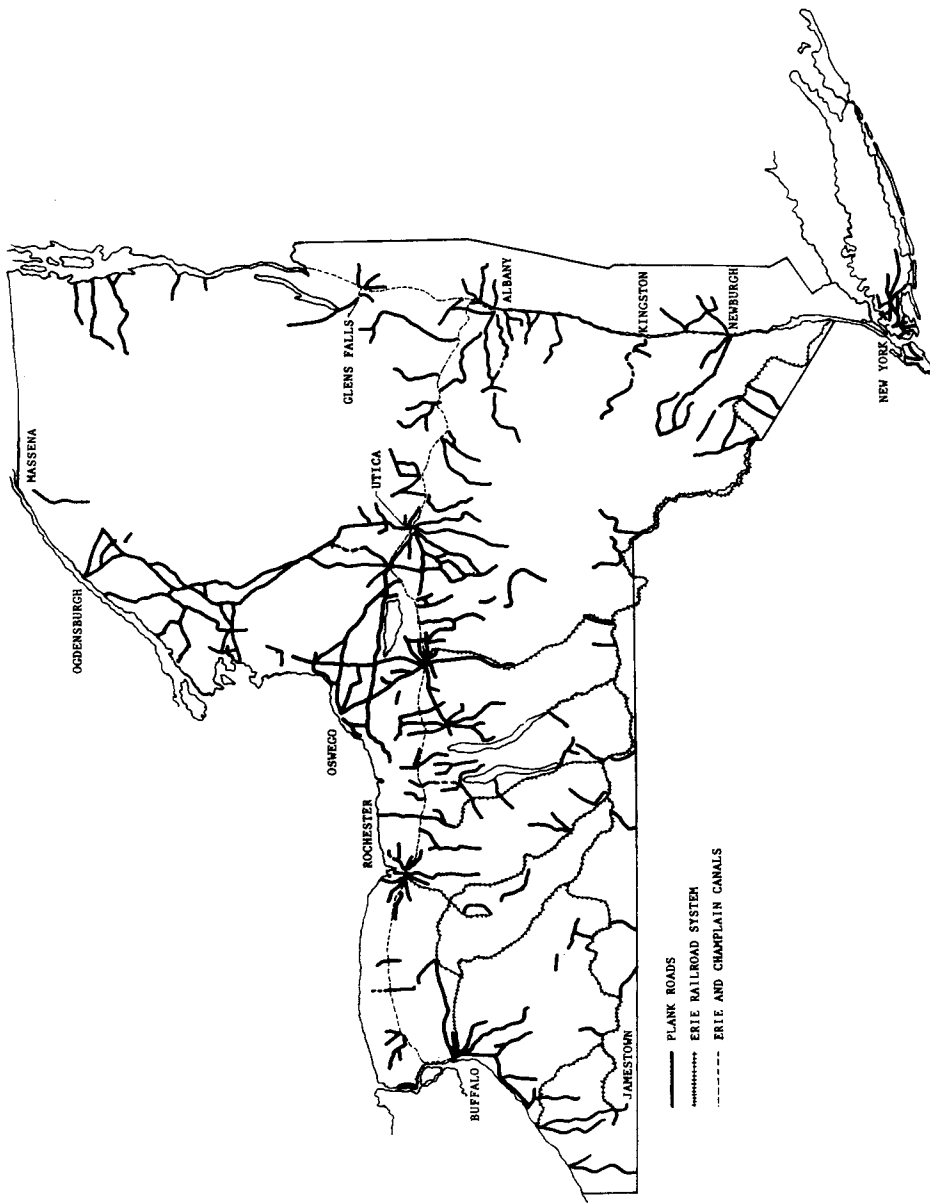


FIGURE 1

PLANK ROADS OF NEW YORK, 1845-1860

Source: Compiled and drawn by C.T. Baer, 1991.

TABLE 2  
ORDINARY LEAST SQUARE REGRESSIONS: NEW YORK COUNTIES, 1855

Variable	Absolute Mileage (Weighted Mean = 49.53)	Per Capita Mileage (Weighted Mean = .78)
Big city dummy	68.35 (5.31)**	.682 (2.82)**
Population	.0000434 (.42)	not used
Dairy production	.00915 (4.80)**	.00017 (3.50)**
Canal dummy	12.21 (1.93)*	.120 (1.54)
Railroad miles	.147 (1.47)	-.0016 (-.85)
Wheat	-.00164 (-.81)	-.00001 (-.21)
Number of factory hands	-3.86 (-1.38)	-.119 (-2.53)**
Ratio of improved to unimproved land	-9.41 (-2.82)**	-.126** -2.04
Constant	26.62 (2.73)**	.85 (4.97)**
Adjusted $R^2$	.69	.42
F-statistic	17	7
N	60	60

\* Indicates significance at the 5 percent level.

\*\* Indicates significance at the 1 percent level.

Notes: *T*-statistics are shown in parentheses. Equations are weighted by the population of the county. New York City was excluded. Plank road mileage is discussed in the Appendix. The Big city dummy takes a value of one if the county had a population bigger than 10,000, zero otherwise. Dairy production measures the combined output of butter and cheese, expressed in thousands of pounds. The Canal dummy, calculated from various contemporary maps, takes a value of one for counties with a canal in 1855, zero otherwise. Railroad miles represents the miles of railroad in each county in 1855, calculated from various contemporary maps. Wheat measures the bushels of wheat (in thousands) produced in each county. The Number of factory hands is the number of factory workers, expressed in thousands.

Sources: Plank road mileage: see Appendix; Big city dummy: Shupe et al., *New York State Population*; Dairy production, Wheat, Number of factory hands, and Ratio of improved to unimproved land: New York State, *Census for 1855*.

dairy production is highlighted by the poor explanatory performance of the wheat variable in the regressions.

The regressions also indicate that plank roads were built in counties with canals and railroads. Usually 10 to 15 miles in length, plank roads allowed isolated towns to connect with these long-distance means of transport. But the statistical relationship is much weaker than most of the other variables, as evidenced by the subpar *t*-statistics. Canals and railroads may have been necessary to spur plank-road construction, but they certainly were not sufficient. The canal variable performs better than the railroad variable, suggesting that it may be picking up flatness



of terrain, a topographical feature far more suited to plank road construction than hills.<sup>23</sup>

The negative impact of manufacturing (as measured by the number of manufacturing hands) is somewhat surprising, since the articles of association of plank road companies frequently mention the presence of a textile mill or iron foundry near a particular road. Yet it took more than manufacturing to encourage plank road construction, especially when we discount the intervening effects of big cities. Most large manufacturing firms were located close to rivers in order to take advantage of water power, and were hence often close to canals, which were usually built in river valleys.

The impact of the ratio of improved to unimproved land in the regressions underscores the importance of timber, as unimproved land is simply land covered by forests.

No records document what was shipped on the roads, but traffic type can be inferred from location. Dairy products almost certainly moved on some of the roads, especially those located around the finger lakes and in the St. Lawrence Valley. Passengers, mail, consumer goods, and truck produce were probably carried on the roads emanating from big cities. Miscellaneous traffic generated by nearby mills and mines must also have been carried on some roads, but the negative coefficient for the manufacturing variable suggests that this was not of great importance.

#### PLANK ROADS AND THE RELATIVE DECLINE OF RURAL TOWNSHIPS

Identification of the places of residence of plank road investors allows for a deeper understanding of the motivations for building the roads. The episode highlights the reaction of rural New Yorkers to changes in relative economic standing. From 1810 to 1840, rural New Yorkers in the central and western portions of the state enjoyed a booming economy characterized by high population growth and rising land values. In 16 counties along or near the Erie Canal, population increased 139 percent between 1810 and 1840.<sup>24</sup> But after 1840 rural communities faced a much different situation. The population growth rate of the same 16-county area was only 13 percent between 1840 and 1850. Moreover, population shifted within the counties from rural townships to thriving cities such as Buffalo and Syracuse.<sup>25</sup> Similarly, 100 rural townships in the Hudson-Mohawk region lost population between 1830 and 1840,

<sup>23</sup> Engineers argued that plank roads should not be built on hills, as their smoothness would give horses less traction. Hills would also put more wear and tear on the planks, as horses would "put forth extra exertion." See Gillespie, *Manual*, pp. 232-33.

<sup>24</sup> The 16 counties include Albany, Cayuga, Erie, Genesee, Herkimer, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Saratoga, Seneca, and Wayne. Population statistics were taken from Shupe et al., *New York State Population*.

<sup>25</sup> Miller, *City*, p. 51.

TABLE 3  
CAPITAL STOCK OWNED BY BIG CITY INVESTORS IN COUNTIES WITH A BIG CITY

County (Big City)	Total Capital Stock (\$)	Investment from Big City (\$)	Percentage from Big City
Albany (Albany)	66,800	37,625	56
Erie (Buffalo)	63,675	10,200	16
Monroe (Rochester)	111,175	26,825	24
Oneida (Utica)	264,275	42,950	16
Onondaga (Syracuse)	100,165	40,325	40
Totals	606,090	157,925	26

Note: "Total Capital Stock" refers to the total amount of stock purchased by residents of the county.

Source: Articles of association of plank road companies (see Appendix).

whereas another 80 rural townships lost population between 1840 and 1850.<sup>26</sup>

Many rural townships continued to enjoy some prosperity, but the first taste of economic "maturity" created a general sense of stagnation and even decline. Rural New York fit the pattern described by historian Hal S. Barron in his study of nineteenth-century rural New England: "American culture then, as now, had little tolerance for a situation that did not give at least the illusion of rapid growth and progressive advance."<sup>27</sup> Reports of town meetings convey both the impending doom felt by residents of rural townships and their hopes for economic salvation through the building of plank roads. A speaker at a Delaware county meeting declared that a plank road "is the only hope for an adequate thoroughfare to market. If this long-cherished project fails, this county MUST REMAIN A SEQUESTERED AND ISOLATED REGION FOR ALL TIME."<sup>28</sup> Citizens of towns like Ithaca deluded themselves into thinking that plank roads would help them become "first in population, wealth, and enterprise."<sup>29</sup>

An examination of lists of plank road subscribers reveals that rural townships propelled the plank road boom. Plank road investment was extremely local, as most investors lived in the townships and villages along the route. Table 3 shows the residences of investors in five counties: Albany, Erie, Monroe, Oneida, and Onondaga. These counties ranked high in plank road mileage, and each had a large city with a considerable agricultural hinterland. The table reveals that more than 70 percent of investment came from the small towns outside the major cities. In Oneida, for example, only 16 percent of investment came from

<sup>26</sup> Ellis, *Landlord*, p. 160.

<sup>27</sup> Barron, *Those Who Stayed*, p. 30.

<sup>28</sup> Quoted in Raitt, *Ruts*, p. 25. The capitalization is in the original.

<sup>29</sup> Quoted in "Report of the Committee," p. 3. For more on this sort of competition, see Scheiber, "Federalism"; and Binford, *First Suburbs*, p. 21.

the big city of Utica; the residents of outlying townships contributed the rest. That figure is especially impressive given the disparity in population and wealth between the cities and the surrounding townships.<sup>30</sup>

Many of the rural townships that invested in plank roads had experienced declining or even negative rates of population growth. In the five counties mentioned, 71 townships had residents who invested in plank roads. Of these townships, 23 percent experienced absolute declines in population between 1840 and 1850, whereas another 15 percent grew by less than 5 percent. Only 12 (including the five urban areas) matched their county growth rates, which were high because of urbanization.

To test whether townships falling behind in population growth contributed more investment in plank roads than faster-growing areas, we again used the 71 townships in the five counties as a sample and regressed per capita plank road investment against the rate of population growth for the 1840s. The results show that, indeed, the slower the population growth rate of the township, the greater the per capita investment of residents.<sup>31</sup>

$$Y \text{ (per capita investment)} = 2.19 \text{ (constant)} - .017 X \text{ (growth rate)}$$

$$(t = 7.45) \qquad (t = -3.51)$$

#### PLANK ROADS, COMMUNITY SPIRIT, AND THE FREE RIDER PROBLEM

Investment in plank roads was widely distributed across boundaries of social class and occupation. Using a genealogical index, we matched 158 investors who signed subscriber lists for ten roads in Oneida county with their occupational listings in the 1850 census manuscripts. Table 4 reveals that almost half of the subscribers were farmers, which is consistent with the "dairy" variable in the Table 2 regressions. But a number of merchants, artisans, and professionals also had a financial stake in the roads. The relatively large *mean* value of real estate holdings suggests that a wealthy group of elites supported the roads. But the smaller *median* value indicates that many people with more moderate holdings also bought stock. The median real estate holding of farm subscribers, for example, was a modest farm of less than 100 acres.<sup>32</sup> These investors were very different from the large capitalists often associated with railroads and canals.<sup>33</sup>

<sup>30</sup> The five cities contained 36 percent of the population and 50 percent of the assessed real estate in the five counties. The real estate figure was calculated from French, *1860 Gazetteer*.

<sup>31</sup> The number of observations was 71. The adjusted  $R^2$  was .14, the  $F$ -statistic 12.33. The regression was weighted by population. Both the population growth rate and constant were significant at the 1 percent level.

<sup>32</sup> Danhof, "The Farm Enterprise," p. 134.

<sup>33</sup> Benson outlines the disputes between farmers and railroads in *Railroads*, pp. 80–114.

TABLE 4  
OCCUPATIONS AND REAL ESTATE HOLDINGS FOR PLANK ROAD INVESTORS

Occupation	Number	Average Value of Investment (\$)	Mean Real Estate Holdings (\$)	Median Real Estate Holdings (\$)
Farmers	76	277	5,290	4,000
Merchants/retailers	19	563	7,022	3,600
Professionals	17	382	6,451	3,000
Artisans	16	256	1,384	1,000
Manufacturers	11	309	18,577	5,850
Delivery services	9	472	4,464	1,500
Innkeepers	4	388	4,875	5,500
Lumbermen	4	625	4,675	4,000
None	2	700	17,000	17,000
Total	158	350	6,225	4,000

Source: Manuscript returns from U.S. National Archives, Manuscripts of the Seventh Census and articles of association of plank road companies (see Appendix).

An examination of the nature of the economic returns to be derived from plank road investment sheds light on why the roads received such diverse financial support. The large majority of investors lived on or near the plank roads. We located the names of Oneida county subscribers on an 1851 county landownership map and found that about 75 percent of the investors owned property along or in the vicinity of the roads.<sup>34</sup> The only group not located near the roads were professionals, who tended to live in cities like Rome and Utica. Clearly, if the roads proved to be successful, most of these investors stood to gain in three ways: returns on a profitable investment, rising land values, and increased sales generated by greater market access and cheap transportation costs.

There is reason to believe, however, that dividends were not the primary motive for investment. One would expect, after all, that city dwellers would have been just as eager to reap anticipated returns on stock. But the other types of returns were likely to raise the free rider problem—that is, benefits could have accrued to individuals who did not contribute financially to the roads. All landowners would benefit from rising property values and all farmers and merchants from increased commerce. Carter Goodrich and others have argued that in the building of America's railroads and canals, where uncertain returns and large potential public benefits were at stake, promoters mobilized community spirit to overcome the free rider problem.<sup>35</sup> Our evidence indicates that

<sup>34</sup> The map of Oneida county is in the map collection of the Library of Congress. See Stephenson, *Landownership Maps*, for a complete list.

<sup>35</sup> Goodrich, "Public Spirit."

plank road investors and organizers followed the same strategy in rural New York.

Public social pressure was applied to recalcitrant residents who did not show proper enthusiasm in supporting plank roads. The committee of a town meeting in Ithaca recommended that "we have no more croaking and the words 'can't' and 'impossible' become less fashionable."<sup>36</sup> Plank road organizers equated failure to complete a road with a lack of community responsibility on the part of individuals. Commenting on an earlier aborted attempt to build a road, the president of the Poughkeepsie and Stormville Company noted that the episode was "a rather poor commentary upon the wealth, intelligence and enterprise of the citizens of Old Dutchess."<sup>37</sup> Plank road organizers also made personal visits to homes of community members to solicit subscriptions.<sup>38</sup>

Plank road organizers used newspapers, speeches, and celebrations to infuse projects with public spirit. In 1851 the *Poughkeepsie Eagle* published a long article about a dinner held to laud the recent completion of the Poughkeepsie and Stormville Plank Road. The celebratory speeches and toasts given at the dinner conveyed boundless enthusiasm. The president of the company hailed the enterprise as a "visionary enterprise" and compared the road to the inventions of Franklin, Fulton, and Morse. Those participating in the new road, he concluded, could take pride in introducing an important "social convenience" to the general community.<sup>39</sup> Similar celebrations for completion of roads were held elsewhere. Henry Sheldon, a banker in Dutchess County, apologized to Uriah Gregory, an organizer of a local plank road, for not attending a celebration, adding that "[I] should rejoice to be with you if I could, [as] you know the interest I feel in our road."<sup>40</sup>

Given the difficulty in documenting the motivations of investors, it is impossible to determine the effectiveness of the promotional rhetoric behind plank roads. A letter from manufacturer Henry A. Foster to a plank road organizer, however, does suggest that plank road promoters were at least partially successful in tapping community spirit. Foster said that the proposed Cazenovia and Chittenango plank road would

materially benefit the property which I have at the falls, but it is also true that in proportion to the amount of water power[,] it will *most* benefit those farthest off the canal and railroad. And above the falls the mill sites are very numerous.<sup>41</sup>

<sup>36</sup> "Report of the Committee," p. 6.

<sup>37</sup> Buck, "Account," p. 22.

<sup>38</sup> See, for example, the letter from William K. Fuller to Ledyard Lincklaer, dated May 20, 1847. Fairfield Collection, Box 5.

<sup>39</sup> Buck, "Account," pp. 21-28.

<sup>40</sup> Letter from Henry Sheldon to Uriah Gregory, November 15, 1850. Gregory Manuscript Papers, Folder #486.

<sup>41</sup> Letter from Henry A. Foster to Ledyard Lincklaer, dated Feb. 8, 1848. Fairfield Collection, Box 5.

Despite the fact that other landowners might, in his opinion, gain more than he would, Foster still subscribed to \$500 worth of stock, which he considered as "my proportion according to my interest in the local benefits."<sup>42</sup>

Emphasis on community spirit was, however, not allowed to overwhelm appeals to citizens based upon the individual economic gains to be realized from the investment in the roads. The *Long Island Democrat* noted in 1850 that a plank road would "promote the prosperity of our village and enhance the value of property along the line of the proposed road," adding "that such a road will pay well there can be no doubt."<sup>43</sup> An 1849 editorial in the *Albany Argus* outlined the important benefits of plank roads, but also pointed out that "the capital invested in Plank Roads . . . has produced large profit on the investment."<sup>44</sup> These editorialists apparently understood the utility of appealing to those motivational aspects of nineteenth-century American culture that Alexis de Tocqueville described as "self-interest rightly understood."<sup>45</sup>

#### CONCLUSION

The plank road boom came to a halt in 1854, as an increasing number of companies suddenly discovered that their roads were prematurely worn. Facing huge replanking costs, many companies cut their losses and quickly dissolved. Using data from the articles of association, contemporary maps, county histories, and legislative acts (see the Appendix for sources), we estimated that almost 40 percent of the plank road mileage extant in 1855 had disappeared by 1860. Many of the remaining roads probably operated without planking, as an 1854 law allowed companies to abandon wood surfacing at will.<sup>46</sup> Only 32 of the original 350 companies submitted new articles at the end of 30 years. In the words of George Rogers Taylor, the failure of plank roads "left most short-haul transportation literally stuck in the mud, there to remain until the later age of the rigid-surfaced road and the internal-combustion engine."<sup>47</sup> Even with the boom in branch railroad construction that began a decade later, inadequate roads still plagued New Yorkers well into the twentieth century.

But the plank road episode shows that residents of rural townships resisted relative economic decline by attempting to better integrate their communities into larger markets. Members of a wide variety of occupational groups, some with relatively modest wealth holdings, strove to

<sup>42</sup> Ibid.

<sup>43</sup> *Long Island Democrat*, p. 2.

<sup>44</sup> *Albany Argus*, p. 2.

<sup>45</sup> Tocqueville, *Democracy*, pp. 398–408.

<sup>46</sup> New York State Legislature, *Laws of New York*, chap. 167.

<sup>47</sup> Taylor, *Transportation Revolution*, p. 31. Most of America's roads were not surfaced until the beginning of this century. See Monkkonen, *America*, pp. 167–76.

create and improve markets through better transportation. Enthusiastic promoters spurred this effort by mobilizing community spirit to help overcome possible free rider problems. Perhaps the lesson from the plank road story is that historians, in drawing the distinction between "market" and "community," have too readily viewed them as conflicting forces. In the plank road episode, citizens of rural townships tried to tap the economic advantages of the market by utilizing what James S. Coleman has called the "social capital" of the community.<sup>48</sup>

## Appendix: Sources and Methods

The best source on plank road companies of New York are the articles of association and reports filed with the Office of the Secretary of State. In addition, several plank road companies were incorporated by special acts of the legislature or were converted from turnpike companies chartered by special acts.

Another important source is the series of maps of New York counties produced between 1850 and 1861.<sup>49</sup> Because some counties' maps were made at the very beginning of the plank road era, some at its height, and some after most or all plant roads had been abandoned, consistent data are lacking for the state as a whole. Furthermore, many of the plank roads built were never fully completed; others were built and abandoned piecemeal, one gate at a time. This is confirmed by data in the session laws and by discrepancies between the Secretary of State's reports and the county maps.

We have collated information from the articles and reports, the session laws, and contemporary county maps, supplementing it by information in city directories, county histories, and the proceedings of county historical societies. While no single source captures the entire plank road network, the sources generally support each other. For example, plank roads that filed no annual reports nevertheless showed up on the county maps. When a plank road could not be verified by one or more sources besides the articles of incorporation, we assumed that it was not built.

Each plank road was plotted onto a dimensionally accurate modern map.<sup>50</sup> About 1 percent of the roads could not be located precisely. Each county was plotted separately, and the road lengths were scaled directly from the maps.

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<sup>48</sup> Coleman, "Norms," pp. 133–55.

<sup>49</sup> A complete list of these maps is found in Stephenson, *Landownership Maps*.

<sup>50</sup> Generally we used the United States Geographical Survey 1:2500 series or the 1:150,000 maps contained in Delorme, *Atlas*.

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