



3 1293 00779 7222

2815/221

THESIS



This is to certify that the
thesis entitled

RAILROADS AND DEVELOPMENT IN THE MIDWEST:
BATTLE CREEK AS A CASE STUDY

presented by

KYUNGSIK SHIM

has been accepted towards fulfillment
of the requirements for

M. A.

degree in HISTORY

Major professor

7-6-89

Date _____

PLACE IN RETURN BOX to remove this checkout from your record.
TO AVOID FINES return ~~it~~ or before date due.

DATE DUE	DATE DUE	DATE DUE
DEC 05 1994 848	_____	_____
FEB 06 1997 040	_____	_____
MAR 19 2001	_____	_____
APR 09 2001	_____	_____
MAR 06 2003	_____	_____
_____	_____	_____
_____	_____	_____

MSU Is An Affirmative Action/Equal Opportunity Institution

c:\circ\datedue.pm3-p.1

RAILROADS AND DEVELOPMENT IN THE MIDWEST:
BATTLE CREEK AS A CASE STUDY

By

Kyungsik Shim

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of History - Urban Affairs

1989

6042818

ABSTRACT

RAILROADS AND DEVELOPMENT IN THE MIDWEST: BATTLE CREEK AS A CASE STUDY

By

Kyungsik Shim

In 1828, America was introduced to a new form of transportation with the opening of the Baltimore and Ohio Railroad. The whole nation then entered into a stage of railroad building which lasted until the turn of the century.

Historically, scholars argued that railroads were indispensable systems for the development of the local economy. However, recent arguments have suggested that the role of railroads was more beneficial to the Eastern capitalists than to the economic development of the region.

This paper is an attempt to study the impact of railroads based on these new interpretations. The relationship between Battle Creek, Michigan and the Michigan Central Railroad from 1830 to 1880 was examined from the western, local perspective. The results of this study show that the development of the railroad was of relatively little benefit to the development of the local economy compared to its benefits for the Eastern capitalists.

Copyright by
KYUNGSIK SHIM
1989

For My Parents

ACKNOWLEDGEMENTS

To too many people I owe thanks for helping me to finish this research. A heartfelt thanks to Professors Bohyung Lee and Chunnan Lee who prepared me with a concept of history during my studies in Seoul, Korea.

Faculty members of History and Urban Affairs were of great help. A special thanks to Dr. David Bailey, Associated Professor of History, for all his support and direction during my research as well as the course work. Dr. Richard Thomas, Associated professor of History, taught me to apply the knowledge of history for the betterment of mankind. My knowledge in economic theory is indebted to Dr. Mary Cookingham, Associated Professor of Economics. Also, a warm thanks to Dr. Richard Hurst of Urban Affairs who constantly saved me from my computer work with a smile.

It was not always easy to find references. Many thanks to librarians of Michigan State University, Library of Michigan, Library of Congress, and the National Archives. A special thanks to Mr. William Withuhn, Curator of the National Museum of American History, who arranged all accesses to governmental libraries in D. C., as well as my stay.

Friends were dear enough to be with me especially during the hard times. A grateful thanks to Professors Clarence and Thelma Hansen, who have been like parents to me. My thanks to Shawn for his understanding and prayers even when things looked the worst.

Most of all, the greatest thanks to my family, especially my parents, who raised me and encouraged me to walk on the path of life with the Faith. Prayers always has been the most powerful help and I know that this thesis is a fruit of their prayers.

TABLE OF CONTENTS

I.	Introduction.....	1
II.	The History of the Development of Railroads.....	6
	A. Railroads of the United States.....	6
	B. The Michigan Central Railroad.....	21
III.	Case Study: Battle Creek.....	35
	A. History of Battle Creek.....	37
	B. Groups Benefited by Railroads.....	43
IV.	Conclusion.....	72
	Notes.....	77
	Bibliography.....	86
	Appendix.....	95

LIST OF TABLES

Table 1.	Statement of the Mileage of Railroads in the U.S., 1835-1880.....	10
Table 2.	Growth of Business in Battle Creek.....	45
Table 3.	Percentage of Dividends for the Michigan Central Railroad.....	62
Table 4.	Tax Rates of the Mining Companies in 1880.....	64
Table 5.	Mileage for Passengers and Freight.....	66
Table 6.	Average Rates per Mile between Chicago and Buffalo, 1879.....	68
Table 7.	Average Rate for Freight and Passengers.....	69

I. Introduction

In the 1850's, America experienced a sustained period of prosperity. Together with the opening and settlement of western lands, the rapid growth of the transportation system encouraged nation-wide development. The West increased the nation's material wealth directly because of the discovery and exploitation of its abundant natural resources. Also, the continued expansion of settlement in the West generated a sustained upward spiral of investment and income. The accelerated growth of income and investment in the West increased the demand there for eastern commodities, principally manufactured items. This induced a further round of investment and income growth in the older, more industrialized states.¹

In addition, the expanding internal improvements of the nation -- canals, river steamboats and, most of all, railroads -- accelerated a regional division of labor. The mid-Atlantic and New England states satisfied most of the manufacturing and commercial needs of the nation. In the Midwest states along the Great Lakes and Mississippi Valleys supplied surplus food for the South and the urban areas of the Northwest by taking

an advantage of the water transportation. The southern states, with their cotton, provided the bulk of American exports.² In each of the years between 1850-1857, federal income was larger than its expenditures, with annual surpluses running from one to five million dollars.³

The role of railroads in American economic development is hard to underestimate. Access by rail encouraged mass migration to the west of the Alleghanies during the mid nineteenth century as well as accelerated the industrial development of America.⁴ Walter Rostow goes so far as to argue that railroads triggered the American "take-off" into "self-sustained growth" and the quantity of manufactured goods consumed by railroads led on to the development modern coal, iron, and engineering industries.⁵

There have been some scholars who argued that railroads did not contributed to the social savings compare to the canal system.⁶ Yet, more scholars insisted that railroads improved social savings and emphasized on the benefits of railroad.⁷ Kroose advocated railroads as "the principal single determinant of the levels of investment, national income, and employment in the nineteenth century".⁸ Bolino, argued that railroads provided a transportation service which was essential to the development of capitalism in America.⁹ The public, as a result, had been led to believe the almost mythological premise that the local economy of a town, as well as the national economy, owed all its development to

railroads. It might be true that we are indebted to railroads for our economic growth, especially during the nineteenth century. The first major transportation in the ground, railroads, indeed, contributed to accelerate the economic growth. A town, like Battle Creek would never have been developed as much as it has been without the arrival of railroads.

Nevertheless, several questions still remain. The character of railroad building in the west differed from that of the east. Most of railroads in the west were built and aided by non-western capital and management while those in the east was completed by the internal capital and management. Accepting the fact that railroads contributed to the development of local towns of the west, we should question what was the main intention of railroad companies, whose major financiers were easterners. What was the major reason for these easterners to build railroads out in the west? Was it a patriotic attempt to develop the nation with government encouragement? Was it the nature of Americans, combining with the frontier spirit to develop the wilderness? Or, were eastern capitalists primarily concerned with economic benefits? Who really benefited the most from the arrival of the railroads in the west; the local people and the local economy or eastern capitalists? What was the major standard to decide the route for railroads? Were railroad tracks built in the area convenient for the local residents or for someone

else?

To understand the role of railroads in economic development, it is important to examine these questions. They will not only guide us to understand the procedure of railroad development in the west but also direct us the economic relationship between the west and the east during the frontier period. To answer the questions, I will outline, first, the general history of the development of railroads. Second, I will study which people benefited by the development railroads.

To review these subjects, I chose the relationship between Battle Creek and its railroads between 1830-1880. There are several reasons to choose Battle Creek for a case study. First, Battle Creek was a typical frontier town of the nineteenth century in the Territory of Michigan.⁹ There were several towns in Michigan which already had a good size of population, such as Detroit and Lansing, even before the arrival of railroads. For example, Detroit, as a port city in the Great Lakes system had 2,222 citizens in 1830, before the arrival of the railroad.¹⁰ However, it was not until railroads came that Battle Creek, like most villages in Michigan of the time as well as other western states, became a town. Second, Battle Creek lies at the mid-point between Detroit and Chicago, the basic and the most important transportation route for the State of Michigan. No transportation was possible between Chicago and Detroit, at

least by the ground transportation, without passing through Battle Creek. Thirdly, Battle Creek witnessed a transition of the road-ownership from the state government to the private sector. As in many other villages in the west, the railroad in Battle Creek started to be built by the state government but soon sold to the private company - the eastern interests.

Two other reasons make the period of 1830-1880 particularly interesting for this study. First, in 1830, the first railway charter in the state was issued, starting the construction of the railroad to run through Battle Creek. Since the beginning of the construction, the ownership for the road from Detroit to Chicago, was changed three times. In 1846, soon after the road was built through Battle Creek, the ownership of the road was transferred from the state government to the Michigan Central and again to the New York Central in 1877.

Also, this is a period when internal improvement for transportation was mainly focused on railroads.¹¹ Until 1830, the transportation was clustered mainly with canal along with several turnpikes. By 1880, work was already underway to construct highways and railroads' function as a fundamental means of transportation had begun to decay. Thus the period of 1830-1880, which includes the ownership by state government and the Michigan Central, was set for when the railroad was a major transportational system for the people of Battle Creek.

II. The History of the Development of Railroads

A. Railroads of the United States

The first railroad service for the public was introduced by the Baltimore and Ohio Railroad, incorporated in 1827, and started on Independence Day, 1828. From that time, railroads became a symbol of prosperity. Everyone wanted more railroads. In fact, as long as population and agricultural production remained centered largely in the seaboard states, pressure for railway system and connection was not great. However, as the rapid settlement of the frontier continued and when the West began sending agricultural products to eastward and importing manufactured products in exchange, the demand for cheap and expeditious through shipment by rail over long distance became irresistible.¹²

Railroads had many advantages, compared to canals, river steamboats, and any other type of contemporary means of transportation. Most important is that most Americans were farmers in the first two-third of the nineteenth century. Eighty percent of the population was living in rural areas. Where they were not located to canals or navigable rivers,

they were naturally more eager for a railroad.¹³

One of advantages of railroads is that railroads reduced the time and distance required for travel. Travel distance between two given points was typically shorter since the railroad provided the most direct route. Travel time by rail between two given cities was much shorter because it saved travelers from transferring to different modes of transportation, such as from the boat to the carriage. A trip from New York to Chicago, which usually took more than three weeks through use of the Erie Canal and the Great Lakes, now took less than three days. Moreover, railroads also could provide better service than steamboats by reducing the number of sequences of boarding and unboarding and by arranging for forwarding and trans-shipping freight.

Second, railroads had more reliability and flexibility. They were affected less by weather. Canals and rivers were in service for only limited times during the year. Travel was prevented by thunderstorms in summer and by frozen lakes and rivers in winter. Now, with railroads, people could enjoy more reliable service all year round under most weather conditions. Railroads also provided more flexibility in the volume of passengers and freight. Within limits, trains can always have cars added or taken off to fit more nearly the available traffic on a particular day or at a given station. The biggest advantage of railroads, however, was their adaptability in geographical condition. Whereas steamboat needed rivers or

canals, railroads had the ability to enlarge their area of service by building new lines and branches to almost every region of the nation.

Third, even though accidents were common on both rail and river in the early years, by the 1850's rail travel was probably considered safer by the general public. In fact, railway accidents tended to be more frequent, but the loss of life generally was less than that by steamboat. For example, in 1850, 227 people were killed in railroad accidents, while 359 were killed in steamboat accidents.

Forth, unlike river traffic, railroads in the early stages, had almost a monopoly in the immediate market area, with no competition from other railroads or steamboats. As a result, the railroad could quickly set up and maintain regular schedules and separate passenger and freight services. This means that rail service, both passenger and freight, avoided the delays which were so common on the river. From the investor's point of view, the fact that railroads had at the very least such a short term monopoly on business was the most attractive factor for them to get involved.

It is true that railroad construction and management were not always easy. There were many difficulties in railroad construction during the early stages. Settlers living close to waterways did not see the necessity of building railroads as a means of transportation. The construction of railroads always created the financial crisis of in the state. During

the nineteenth century, railroads, as well as canals, usually cost a great deal more than the constructors predicted. The railroad was such a recent development that there was little experience on technical matters. There was a shortage of trained railroad engineers, or even of experienced civil engineers. Although many Scottish and English engineers were hired to supervise the construction of American lines, there simply were not enough of them. As a result, many of the Midwest's "engineers" were merely men who had picked up some know-how while working in a subordinate capacity on some eastern railroad. A majority of the first railroad promoters were amateurs and, unfortunately, promoting and constructing a railroad was an intricate proposition. With all these difficulties, railroad construction became increasingly expensive due to an inadequate supply of skills, knowledge, and capital.¹⁴

Difficulties in railroad construction, however, was never great enough to stop people from wanting one in their town. Also, government encouraged the construction of railroads as a means of westward expansion. From 1846 to 1880, a total mileage of railroads in the United States increased 19 times and that of Michigan increased 16.5 times.¹⁵ Table 1 shows the progress in the railroad construction.

In their early years, many railroads, like canals, relied on financial aid from state and local government, in both subsidies and direct and indirect aid. Local subsidies were

Table 1. Statement of the Mileage of Railroads in the U.S.
1835-1880

<u>Year</u>	<u>Mileage of Railroads</u>		
	Federal	Western*	Michigan
1835 a.	1,098	-- **	--
1840	2,818	80 **	50
1846 b.	4,930	419	238
1850	9,021	1,276	342
1855	18,374	4,567	444
1860	30,635	11,064	779
1865	35,085	12,847	941
1870	52,898	23,540	1,638
1875	74,568	35,847	3,391
1880 c.	93,671	52,588	3,931

* Western States: Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Kansas, Nebraska, Missouri, Wyoming Territory, Utah, Dakota, Colorado, Indian Territory.

** Western States except Dakota and Indian Territory

Sources: a. Slason Thompson, Growth of American Railways, Railway Statistics of the U.S.A. (1933)
b. Poor, Manual (1876), pp.xvi-xvii.
c. Poor, Manual (1881), pp.lxxviii-lxxix.

given in the form of donations of money, bonds, and lands. Local government endorsed the bonds of railroad companies and for railroad shares. State subsidies were mostly given in the form of credit. States guaranteed city bonds, issued to help build railroads. State subsidies also had direct appropriations to pay the expense of surveys, interest payments on railroad bonds, surrendered claims, and grants of land. During the first half of the nineteenth century, towns, cities, and states advanced additional funds to help support new construction. In 1838, State debt totaled nearly \$43,000.00, attributed to railroads.¹⁶ However, after the depression of late 1830's and early 1840's, many state constitutions, including Michigan's, were amended to prohibit the use of state funds to finance railroads or canals.¹⁷

The federal government also engaged in an active role in railroad construction as a part of the program of internal improvements. The example of Great Britain encouraged Americans to promote economic growth by improving internal transportation.¹⁸ The support from the federal government was more essential to western states than eastern states. In eastern states, railroads were primarily built by the private interests. In the mid nineteenth century, eastern state already had both a concept of railroad as a business investment and individuals with the capital to practice it. Therefore, the construction of railroad did not rely on the government budget-either state or federal- but on private

capital. However, for western states, who had neither state budget nor private capital enough to construct desired railroads, aid from the federal government was very crucial.

The attempts of the federal government to encourage railroad construction were planned and performed as a part of a program of the internal improvement, during the first half of the nineteenth century. Under the Administration of John Quincy Adams (1825-1829), the government attention on internal improvement started to improve. Important bills were passed and an annual average of \$702,000 was expended by the government on internal improvements.¹⁹ Several western states received grants of public land to aid specific projects: Ohio for the construction of a turnpike from Columbus to Sandusky; Illinois for a canal from the Illinois River to lake Michigan; Indiana for a canal from the Wabash River to Lake Erie, and a road from Lake Michigan to the Ohio River.

When Andrew Jackson came to the Office in 1829, he insisted on an even more extended program of internal improvements. Out of all forms of federal aid for internal improvement, most Americans were eager for railroads.²⁰ The federal government's aids in railroad construction started with tax exemptions upon imported railroad iron in 1830. From 1832 to 1842, railroads enjoyed a complete exemption from all federal taxes. Under this program, railroads profits reached nearly \$6,000,000 until 1843 when the system was abolished.²¹

The federal government kept encouraging railroad construction. With a great enthusiasm on railroads in the west as a necessary mean to accelerate the internal improvement of the nation, the government was willing to help railroad construction, especially with something that already existed in abundance: federal land. In 1835, Congress granted certain railroads rights of way through public land. On September 20, 1850, President Fillmore signed the "Central Railroad Bill", which offered the state of Illinois 2.5 million acres of land to aid in the construction of 700 miles railroad line.²² In 1852, Congress passed legislation that all railroads chartered within ten years and completed within fifteen years were to be granted a 100-foot free right-of-way through the public domain. Congress also allowed extra space as needed for depots or stations. In 1853, as railroads extended out into the territories, they received grants directly from Congress rather than individual states and territories, which had limited budgets. During the 1850's land grants in excess of 22 million acres were offered to eleven midwestern and southern states for the purpose of railroad construction.²³

During President Buchanan's term in office (1857-1861) the land grant program was temporarily stopped due to the panic of 1857. Yet, between 1850-1860, rail mileage in the United States increased from 9,021 to 30,626 miles. The United States, with only 5 percent of the world's population, was

building railroads about as fast as the rest of the world combined.²⁴ The federal land grant program, especially for the Northwest, was revived under the Lincoln administration. It was easy for Congress to select central and northern routes for railroads to aid with federal land, because of the small number of southern legislators. From 1850 to 1871, under Presidents Fillmore, Pierce, Lincoln, Jackson, and Grant, more than 155 million acres of land was granted for about eighty railroads. Meanwhile, Congress dispensed over 100,000,000 acres of the public domain, state and local governments provided an additional \$280,000,000 in cash or credit-above 30 % of the total capitalization of railroads- in the decade before the Civil War.²⁵

Michigan entered the final stage of territorial status during the Administration of Adams. As the volume of immigrants rose, especially after the opening of the Erie Canal in 1825. a population of Michigan of 8,896 in 1820 rose to 175,000 by the time of the state census in 1837.²⁶ Incoming settlers, however, did not populate the state in uniform density. Indeed, new arrivals settled further west, since the land was relatively cheaper and richer for a marketable crop than the eastern part of Michigan. The need for the fast ground transportation to connect scattered areas of the state, as well as internal improvement, became urgent.

Aware of the need to meet raising expectations of Michigan on internal improvement, the federal government, in

1836, granted the state of Michigan five per cent of the proceeds from the sale of public lands within the state for use on internal improvement projects. In 1846, the federal government deeded to Michigan 500,000 acres of public lands that were located within the state. The federal government also gave Michigan an additional 10% of the proceeds of public lands sold within the state.²⁷

The first specific grant by Congress for purpose of building railroads was made to the Illinois Central in 1850, but the first such grant in aid to Michigan was not made until 1856. Under the Act of 1856, Michigan's railroads were eventually awarded a total of 3,809,826 acres of public lands.²⁸ Congress authorized aid for Upper Peninsular railroads running from Little Bay de Naquet to Marquette to the Wisconsin state line. However, Michigan waited until 1857 to dispose of its grant land despite demands that the Legislature hold a special session to allocate it immediately. In 1861 the Amboy, Lansing and Traverse Bay Railroad Company became the first land grant railroad in Michigan. Between 1863 to 1869, Michigan Communities granted over \$1,000,000 to aid railroad construction. In subsequent years, Michigan concerns received a total of slightly over three million acres, worth perhaps about \$18,000,000.²⁹

It is true that aid from the federal government was important to the western states in their early stage of railroad construction. Indeed, the development of railroads

in these states might have been delayed even further without it. This federal aid, however, did not succeed as much as anticipated. It was neither fast enough nor in sufficient amount to meet the expense of the railroad construction and local ambitions.³⁰ Only eight percent of the nation's system was assisted by federal aid at the time.

Other than federal government's aid, the other major source of financial support, for railroad enterprises was subsidies and funds from individual investors. Individual subsidies were given in the form of subscriptions to cover the expense of surveys, releases of right of way, and donations of land, stone, gravel, timber, and other materials. Individual subsidies and funds were generally from local residents into local project with which they were personally familiar. Therefore, the intention of local residents' subsidies looked toward public benefit rather than private profit.³¹

Even though the vast amount of subsidies and funds for the railroad construction came from federal, state, local government as well as local inhabitants, these amounts were still far too little to meet construction expenses. Certainly, people living along the railroad often were persuaded to buy capital stock or bonds. Eastern lines were especially promoted between established centers where private investment met demand relatively well. However, since the residents of the western states were without financial resources sufficient to

meet their demand for railroads, in the west, a huge gap remain between their tremendous need for transportation improvements and their shortage of capital.³² Westerners were always aware that they had to go east to beg for funds and then usually had to sell their securities there at large discounts even though that would eventually be added to their railroad's financial burden. Gradually, many states began to look for outside investments who would provide a financial solution for railroads.

Investment in railroads by outside financiers increased rapidly during the 1850's. Between 1850 and 1860 investment in American railroads had grown from \$296 million to \$1,151 million. The new money invested in railroads during this decade, something more than \$800 million, was several times the total capital invested in canals during the first half of the nineteenth century.³³ The 9,000 miles of railroad operating in the nation in 1850 represented a total investment of about \$300 million, or an average of roughly \$33,000 per mile of road.³⁴ In 1860, the 11,000 miles of western mileage represented an average investment of \$36,548 per mile, not much below the national average of \$37,487.³⁵

There was more new money invested in western lines in 1850's than in any other region. \$390 million was invested in western lines in the decade before the Civil War, which was about 45 percent of all new railroad capital in the period.³⁶

Increase in railroad constructions in mileage, despite

of the decreasing support from state and federal government, can be attributed to private investors from outside of the region. At mid century, railroads were the major "big business" in America, for financiers who were constantly looking for a new source of investment. Indeed, the railroads introduced America to a new form of business. Railroads introduced business on vast scale and financed themselves in a variety of ways. It was one of the first industries in America which employed so many men in such diverse capacities. It was one of few business whose leader had the optimism as they entered into business.³⁷

The majority of the major financiers were either European or eastern U.S. capitalists. Most European capital was English capital. Even though there was some German and Dutch investment, it was much smaller than the English. During 1815 to 1840, England experienced a period of surplus capital, as a result of the Industrial Revolution. Also, investment, as well as business expansion, in America was favorably regarded by the English public. More and more English capitalists, after 1815, turned to America for investment and by 1830 they seemed ready to supply America with all the capital necessary to complete the system of canals and railways, as well as to assist in the development of American agriculture.³⁸ Trusting the guarantee of the State, English capital bought the bonds and "internal-improvement warrants" of Indian, Ohio, Michigan, and Illinois.³⁹

Up to the year 1838, these four states had been able to borrow no less than \$30,000,000, from England for railroad constructions.⁴⁰ According to the Secretary of the Treasury's estimation of 1853, out of \$550 million dollars in American railroad investment, foreign holdings took \$52 million, while railroad bonds took \$44 million and capital stock took \$8 million. Yet, this is less than a quarter of all railroad bonds and well under 5 percent of the total capital stock issues.⁴¹

Nonetheless, it was the Easterners, particularly New England capitalists, who adopted railroads as a safe, remunerative investment.⁴² During the 1840's, China was in the Opium War with England so that China trade was blockaded. This left many financiers with money to invest into new sources, and the west looked attractive enough for them as a new field of investment. There was a steady growth in population of the west. Technologically, the west experienced a revolution in agriculture with the introduction of the McCormick reaper. This increased the grain harvest 20 to 30 fold. Commerce between this region and the cotton-raising states had outgrown the capacity of the rivers and demanded the services of a railroad. In 1849, gold was discovered in California and increased the desire of people to get to the west as soon as possible. Moreover, as we have already seen, railroads could provide short-term monopolies as contrasted with canals and steamboats. All these criteria met the requirements that

investors were looking for, and promoters of western railroads were quick to present blue prints.⁴³

What happened in Michigan was typical of the whole Western situation. In the early days of its statehood, Michigan had planned and partly built two lines of railroad across its low peninsula, from east to west. So severely, however, was the state shaken by the panic and enthusiasm and support of the government on railroads faded away as the state financial power decreased.

Michigan, like other western states, also had advantages to attract eastern financiers. The biggest incentive for investors for Michigan was its geographical condition. AS a connecting state between western and eastern states, by both water and ground transportation, Michigan was a prospective market for investors. Michigan railroads proved its profitability even more as the development of West increased. During the 1850's, the production of wheat more than doubled in the ten western states and territories and that of corn nearly doubled. Chicago became a natural transfer point both for land and lake shipping. Michigan Central, being a connection railroad between Chicago and the eastern region, could increase its profit.⁴⁴

B. The Michigan Central Railroad

The Michigan Central Railroad was built up from the wreck of a state-wide experiment in government ownership and operation of railroads and canals. The influx of immigrants and settlers coming by boat on Lake Erie created a large demand that new means of transportation be provided-something to take the place of wagons and stage coaches over execrable wagon roads.

The Territorial Legislature commenced granting charters for the construction of railroads to be developed by private enterprise as early as 1830. On July 31, 1830, the first railway charter in the state was issued to the Pontiac & Detroit Railway Company, with authority to use a part of the line of the turnpike. Nothing important was done under this charter, and the enterprise was again chartered in 1834 under the name of the Detroit & Pontiac Railroad Company.⁴⁵

On February 1, 1832, a Michigan Newspaper, the Western Emigrant of Ann Arbor, proposed the idea of a transcontinental railroad, the first printed suggestion made anywhere of such a project. Following the idea, in June 1832, James Kingsley procured the incorporation of the Detroit & St. Joseph Railroad to build from Detroit to St. Joseph, with capital of \$1,500,000.⁴⁶ This was the charter that was first acted upon in Michigan. The original route, expected by both Kingsley and the government of Michigan Territory, started from Detroit

through Ann Arbor, Jackson, Battle Creek, Kalamazoo, and St. Joseph with a hope that it would soon be connected to Chicago. They expected that the railroad, as well as the Michigan Southern & Northern Indiana, would be merged into the New York Central and destined for Chicago so that they could carry passengers from/to Chicago to/from New York. Kingsley believed that the capital stock of \$1,500,000, aided by earnings and proper management, would be adequate to build the road. Both Kingsley and Michigan Territory Legislature were so ambitious with their railroad plan that they started the project in 1836, months before Michigan was even admitted to statehood. However, contrary to their hopes, the work proceeded slowly. When Michigan was admitted to statehood on January 28, 1837, the Detroit & St. Joseph Railroad Company had expanded little over \$1,000,000 in preparing the roadbed and other preliminary work to Ypsilanti, but never completed enough road to put it into operation. The grading had been done only in the Detroit-Dearborn in area. The road was sold to the State of Michigan under the Legislation of 1837.⁴⁷

In 1837, Stephens T. Mason became Michigan's first governor, and he expressed a keen ambition for internal improvement of the state. The effect of the Erie Canal on the population growth and land values of Central New York was well known. Mason hoped that railroad construction might trigger a similar development in Michigan and launched a massive program of railroad and canal construction.⁴⁸ The Legislature

approved a comprehensive program of internal improvements and delegated authority for construction, appointing Commissioners for the Board of Internal improvements. On March 20, the Public Improvements Act of 1837 was passed with broad support, and it allowed Michigan to issue bonds for \$5,000,000 at five and a quarter percent interest entitled to "provide for the construction of certain works of public improvements, and for other purposes."⁴⁹ Undoubtedly the construction of railroads and canals were their major concerns of this matter and Michigan indeed entered into a chapter of massive railroad and canal construction designed to promote its economic development.

One of the programs was the purchase of the Detroit & St. Joseph Company. At the time of its purchase, \$116,902 had been expended in clearing and grubbing a hundred foot right-of-way to Ypsilanti, as well as partial grading and construction of the superstructure.⁵⁰ But the state had to produce \$22,800 more for materials and machines being shipped to Detroit, to settle claims against the company.⁵¹ Three main or trunk line railroads across the state were planned; the Southern Railroad, to be constructed from Monroe to New Buffalo; the Central line from Detroit to St. Joseph; the Northern Railroad from Palmer (now St. Clair) to the navigable waters of Grand River, or Lake Michigan in Ottawa County.⁵²

Of the three railroad enterprises, the Central line most nearly approached success because its route had already been

surveyed and partly improved as well as being a main route across the state.⁵³ The Detroit & St. Joseph line reached Ann Arbor in 1839, Jackson in 1841, Marshall in 1844, Battle Creek in 1845. In 1846, the first regular-scheduled railroad service to Kalamazoo from Detroit was established with a total distance of about 145 miles.

In 1846, when the line had been built to Kalamazoo, the entire cost of building and stocking the Central Railroad was estimated over \$2,000,000.⁵⁴ It was far more than the Legislature had anticipated. The State's attempt at financing railroads, as well as canals, was extremely disappointing. By 1840 the Legislature and the people of the State began to realize the enormous burden of these undertakings contemplated by the Legislature of 1837. Governor Woodbridge's inaugural address of 1840 recommended suspending all spending on public works until a general grant could be obtained or private enterprise could be persuaded to purchase the state's project. He said:

This scheme, so bold in its conception, so splendid in its design, so captivating to a fervid imagination, but yet so disproportioned to our present local wants, and so utterly beyond our present means, must, I fear, as a whole at least, be given up.⁵⁵

The State desired to be relieved from the burden of a five million dollar loan as it simply could not meet its payments. Since the Michigan State Bank failed in 1839, the state's program was financed by the Bank of Michigan, which was financed by the Bank of the United States. When the Bank

of the United States failed to pay its installment in 1841, the Bank of Michigan, state's only financial resource, was closed down, and the state found itself under heavy debts to contractors and iron-supplying companies.⁵⁶ Contractors for locomotives refused to receive State warrant in payment, and retained possession of their machinery until the State could produce the money. The federal government granted five hundred thousand acres to the state of Michigan in 1841. Yet, what Michigan needed was cash-base capital, not the land, which took time to convert into cash.⁵⁷

Even the Central line, which was calculated profitable, began to show the results of legislative management of what was essentially a private enterprise. The net returns to the State in 1841 from this line were but a trifle over \$63,000. In 1842 they reached a peak return of \$75,000 and the Board even recommended the state to concentrate its resources to complete the road. It was hoped that the completion to Kalamazoo would allow the Central to complete successfully for traffic to Chicago then being channeled through the upper lakes. However, by 1845 the expenses practically ate up the entire earnings of the Central Railroad, and by 1846 matters were even worse: only \$600 was paid into the treasury.⁵⁸

Heavy debt was not the only problem that the state government had to handle. As the new crop poured in during the fall of 1845, the Board also found the road inadequate for the transportation demand. The first rails were simply wood, or

wood with a slim piece of iron strapped on the top-hence strap rails⁵⁹ and this technology did not improve much till mid 1840's. In part, this was the result of a shortage of rolling stock, as well as the road's basic inadequacy to handle the increased need for low-cost heavy freighting capacity.⁶⁰

Governor Barry demanded the sale of the railroads:

...If the public works should not be sold, the expediency of further prosecuting their construction, beyond points where ground has already been broken, will necessarily represent itself for your consideration.⁶¹

The State had already abandoned the Northern Railroad project as early as 1841. On March 5, 1846, the Legislature authorized a sale of the Southern line for \$500,000, less than half of the state's original investment.⁶² The Michigan Southern Line did not make good profit even after its ownership was passed to the private company. In 1869, the Michigan Southern Line was again sold to the New York Central.

Compared to the Northern Railroad and the Southern Line, the Central line was making a reasonable profit. However, the state government was still under the financial crisis and wanted to get out of the business of transportation. A desire of the state to stay away from the railroad business is well shown in Governor Felch's Message. In his message to the legislature of 1846, Governor Felch insists;

The objects of the propositions by the contemplated sale: The first is by a disposition of their works which were undertaken by the State, and a relinquishment of the internal improvement system, to separate the government from a business which has usually been the subject of individual enterprise... The business of transporting

passengers and freight by railroad is clearly not within the ordinary designs of a state government, and it is believed that system is best which is the most strictly confined to its necessary and simple duties, and participates least in matters of ordinary business. A sale of these works would have the effect to simplify the operations of the State, to reduce the number of officers and servants in its employ, and to render less complicate the whole machinery of government.⁶³

While stressing the removal of government from enterprise and the liquidation of internal improvements debts on the one hand, Felch also insisted that some other group should rebuild the road to carry freight at lower rate. For this, Felch recommended selling the road to an interested private group and incorporating safeguards and restrictions into the charter to protect the people from the natural monopoly of a private railroad. These included maximum tolls, completion date and standards, and the right of the state to repurchase after a stipulated period of time.⁶⁴

In fact, the State of Michigan had encouraged a group of men, mostly from Boston and vicinity, to incorporate the railroad company and chartered the Central line as the Michigan Central Railroad as early as March 5, 1846. The Board recommended sale of the property to private capitalists as the only feasible way to save the railroad.⁶⁵ In November 1846, when the Central line reached to Kalamazoo, the Legislature finally authorized a sale of the Central line for \$2,000,000 to the Forbes group.⁶⁶ John Murray Forbes became the first president and John W. Brooks the first Superintendent and Engineer, exercising the present duties of a General Manager.

Since both the public at large and the legislature themselves were so ignorant about railroad charters, their major concerns on the charter focused on minor problems. The biggest issue for the legislature was that the pagan capitalists of the East might attempt to run trains "on the Sabbath". When the time for voting for the charter of the Michigan Central to the eastern interest group, amendments required that the corporation should observe the other nine commandments also, and that the directors should attend church at least twice every Sunday.⁶⁷

It was Alpheus Felch, a Governor of Michigan of the time, who clarified conditions of the charter as well as convinced the legislature of the wisdom in selling the road. By the act of incorporation, the Michigan Central Railroad was granted the property of the road forever; but the state might repurchase it after a lapse of twenty years, and after thirty years the Legislature might alter, amend, or repeal the charter. For the first four years the road was to pay a tax of one-half of one percent, after that of three-fourth of one percent on the capital stock and loans for construction purposes. Its annual report to the secretary of the state was to contain tables showing its financial condition, its physical condition, and the amount and character of its business. The amount of the capital stock was set at five million dollars, with permission to increase it to eight million. ...No publication of rates were required;

nevertheless, for eight years, from 1850 to 1857 inclusive, these schedules were given in the annual report of the railroad.⁶⁸

There were two men who played significant roles in the process of the Forbe's purchase of the Michigan Central; John Woods Brooks and James Frederick Joy. James W. Brooks was born in Stow, Massachusetts in 1819. Brooks was a superintendent of the Auburn and Rochester in New York Line when he heard of the Michigan Central's possible sale in 1843 and became interested in securing western connections for the New York line. Finally, in 1845, Brooks visited Detroit to investigate the Michigan Central as a possible investment for Erastus Corning of Albany and John E. Thayer of Boston.⁶⁹ James F. Joy was born in New Hampshire in 1810. After his schooling in Dartmouth College and Harvard law School, Joy came to Detroit to take a legal profession. Joy formed a partnership with George F. Porter, who was one of the Michigan Commissioners of internal improvement. Both Joy and Porter believed that the state would never be able to finish the Michigan Central Railroad, and Joy wrote letters in Detroit newspapers agitating for the sale of the road. When Brooks came to Michigan, he was satisfied with the condition of the sale and encouraged Corning and Thayer to present their offer to the Michigan legislature in December 1845.⁷⁰

In fact, when Brooks investigated in 1845, the Michigan Central was a railroad in the wilderness. Nevertheless, Brooks

considered the function of the Michigan Central in a combined route of railroads and steamboats from Buffalo to the West. He believed that if the Michigan Central could be rehabilitated and completed for the remaining third of the distance to Lake Michigan and furnished with adequate rails and rolling stock, it would prove a profitable investment. It would open up the rich farming land of Michigan. Moreover, it could hold its strategic position against water route and constitute a link in the shortest route from the East to Chicago and the Mississippi Valley. With Eastern capital and Eastern control, Brooks believed, the success was certain.⁷¹

While Brooks tried to convince Corning and Thayer of the potential profitability of the Michigan Central, Corning tried to convince Forbes to join the project. Even though Corning himself had already experienced railroad business, he still hesitated to investigate in the railroad out in the west. The interest group in the west waited for someone else to make the first move. On August 18, 1846, under the leadership of Forbes, the Michigan Central finally was organized officially with Erastus Corning, D.D. Williamson, George Griswold, George C. Green and John Thayer as major stockholders.⁷²

John Murray Forbes was born into a close community of Boston Merchants on February 23, 1813. His family was involved in China trade and he spent many years of his early life in China. When John Forbes returned to Boston in 1837, he found that wealthy and influential men of New England had taken hold

of the railroad business. Even though few of the line built in the 1830's had returned the expected profits, few doubted that, properly built and soundly managed, railroads would become a large and successful industry. Forbes, who had already experimented ocean transportation, obviously became interested in railroads and grabbed the chance that Corning offered.⁷³

When the Michigan Central Railroad took possession of its property, the 145 miles from Detroit to Kalamazoo, built by the State, were in bad condition and 56 miles, from Kalamazoo to nearest point on Lake Michigan, were needed to complete it. There were four passenger depots-Detroit, Ann Arbor, Jackson, and Battle Creek- with a small freight depot in Detroit. The value of rolling stock was \$68,000 with \$4,000 worth of 12 toned locomotive as the largest single item.⁷⁴ The biggest incentive for the Forbes group to pick up this abandoned track was Chicago- a link in the shortest route from the East to Chicago and the Mississippi Valley- if the Michigan Central could be rehabilitated and completed for the remaining third of the distance to Lake Michigan. Yet, Forbes believed in Brooks' argument that the cost of the Central line, when completed according to the requirements of its Charter, would not be less than six million dollars to get 10 percent dividends.⁷⁵

Under the managerial and financial control of the Eastern capitalist, the Michigan Central progressed rapidly. After its

purchase of the Main Line, the Michigan Central has added several branches by either building with its own means, or by materially aiding in their construction. The basic route for Michigan ran west from Detroit and Toledo toward Lake Michigan and Chicago. Important lines which were either built or aided by the Michigan Central were; The Jackson, Lansing and Saginaw Line; The Grand River Valley Line; The Jackson and Fort Wayne Line; The Michigan Air-Line; The Detroit, Hillsdale and Indiana Line; the Kalamazoo and South Haven Line; The Chicago and Michigan Lake Shore Line; The Detroit, Lansing and Lake Michigan Line.

In April of 1849, the first railroad to cross the state was completed from Detroit to New Buffalo on Lake Michigan. The Michigan Central Railroad reached Kensington in 1850 and completed 803.72 miles through Michigan. At Kensington, it connected with the Illinois Central Railroad, using 14 miles of that line to Chicago. Finally, in May of 1852, the Michigan Central operated its first train from Detroit to Chicago. With the completion of the Illinois Central Railroads (1851-1856), the Michigan Central had more advantages in transporting both passengers and freight between east and west. The gross income jumped from \$400,000 in 1846 to \$2,500.000 in 1855.⁷⁶

Even though the Michigan Central was making a reasonable profit for the Forbes group, Forbes was not satisfied with the Michigan Central Railroad only. Forbes was more interested in investing in railroads further west. Once the Michigan Central

Railroad reached Lake Michigan, and later Chicago, Forbes, Joy, and Brooks turned their interest to the financing and construction of connecting railroads from Chicago beyond, which seemed more profitable than the Michigan Central Railroad. A letter from John Forbes to his cousin shows his interest clearly. He said, "the bonds both of the C.B. and Q. and the Michigan Central could be sold sooner or later at a good profit...".⁷⁷ Following Forbes, the Easterners then in charge of the Michigan Central Railroad, in 1852 began investing in what soon became the Chicago, Burlington, and Quincy Railroad. and the Michigan Central Railroad was sold to the Vanderbilt group.⁷⁸

When the Michigan Central Railroad was sold to the Vanderbilt group in 1876, its capital as a business was already quite improved. The Michigan Central Railroad consisted of seven divisions; Main Line; The Michigan Air-Line Railroad, 127.32 miles from Jackson to Niles; The Jackson, Lansing and Saginaw Line, 236 miles from Jackson to Gaylord; The Grand River Valley Railroad, 84 miles from Jackson to Grand Rapids; The Kalamazoo and South Haven Railroad, 40 miles from Kalamazoo to South Haven; The Joliet and North Indiana Railroad, 45 miles from Lake Indiana to Joliet; South Bend Line, from Niles to South Bend.⁷⁹ It also had 1057 miles of track, 862 miles of main track and 195 miles of side track. It had 83 passenger cars as well as 32 second-class cars, 36 baggage and mail cars, 275 stock cars, and 1828 merchandise

box cars. There were 187 double-deck cars, 1308 platform cars and 474 Blue line cars.⁸⁰

Nonetheless, the Vanderbilt group purchased the Michigan Central Railroad for far less than its actual stock value. "Owing to the fact that Michigan Central had to pass its dividends during the past few years, its stock had depreciated, and it was an easy matter for Vanderbilt to purchase a controlling interest."⁸¹ Sale of the Michigan Central Railroad satisfied both Forbes and Vanderbilt. Forbes, who had already lost interest in the Michigan Central and, was eager to invest in railroads further west, was happy with a quick sale of the Michigan Central Railroad. For Vanderbilt, by purchasing the Michigan Central Railroad, the New York Central could strengthen its monopoly power in Michigan along with the Michigan Southern Line which he bought in 1869. Only local residents lost their chance of good rates with the loss of the competition between two companies.

After ten years of state ownership, the Central was returned to private control. Almost every effort and every resource the state possessed were spent for its completion and ownership under the state government. Nonetheless, the capital resource of the state of Michigan could not follow its ambition.

III. Case Study: Battle Creek

The proposal to sell the Michigan Central revealed a serious contradiction in western thinking. Contrary to traditions in the East, where most of railroads were built by the private enterprises from the beginning, the west was generally hostile to private control of a major transportational system. The hostility to private control of major transportation route in Michigan is shown as early as 1834. The Ann Arbor Michigan Emigrant reprinted an article from the National Intelligencer, urging the use of steam engines on turnpike-type roads instead of railroads because "railroads have a tendency to monopolize the travel, whereas the common road, improved, would be of use to all."⁸²

Opposition to private interest and ownership of major transportation facilities was also one of the major concerns of a serious of Michigan. Governor Mason warned the Legislature against excessive issue of corporate charters to railroads, stating that it was his duty to approve such charters only when he was satisfied that public and not private interests were the object of the charters. Mason's fear indicated the early stage at which danger of the natural

monopoly of railroads was realized.⁸³

Many westerners already suspected that the concentrations of capitalized railroad systems might somehow be used to reorient trade and determine the course of local development. Their initial defense was to improve local networks and encourage the free and rapid development of indigenous trade and development. The people of Michigan feared that a private railroad corporation would control their market whereas they demanded a more "splendid" railroad than the state could provide. When James Joy presented the proposition to the Michigan legislature, he was met with a loud outcry against this band of "Yankee speculators".⁸⁴ It seemed that Michigan wanted something it could neither afford nor do without. People in Michigan eventually realized, and wished, that John Murray Forbes and his associates could provide both the entrepreneurial skills and funds to build a proper railroad across Michigan.⁸⁵ Whether the fear of the people of Michigan was right, or not, is a question to be examined. To answer this question, it is crucial to examine who benefited more from the building and private ownership of railroads by focusing upon a case study.

A. History of Battle Creek⁸⁶

Since the history of Battle Creek is unfamiliar to most readers, it is important to place the village in perspective before we examine the relationship of interests between local residents and railroads. The first exploitation of Michigan started as early as 1701. Europeans had begun to explore the Upper Lakes before Boston and, by 1701, settlement had been located at Detroit and Sault Ste. Mary's River. Yet, the region was valued more for its furs than its wheat or corn. This view continued even after the United States gained control of the region in 1795, so the federal government did not even attempt to open a land office until 1818.⁸⁷

In 1815, Congress offered veterans of the War of 1812 six million acres of "bounty lands" in the West. Edward Tiffin, a Surveyor General of the Northwest of the time, was charged with finding two million acres of potential farmland in Michigan Territory. However, reports from his surveyors argued that not one percent of the proposed land could ever be farmed.⁸⁸

Along with the fever of the westward movement, emigrants poured into the Ohio Valley and spread across the Old Northwest. But they bypassed Michigan Territory for lands further south in Ohio, Indiana, and Illinois since Michigan was known as "interminable swamp". In fact, Calhoun County in southern Michigan actually had a rich land. It had its streams

and marshes but also had more than a third of a million acres of level or gently rolling land. Stream fell steeply into the Kalamazoo River Valley making them appropriate for sawmill.

Governor Lewis Cass tried to promote territory and arranged for a government land office in Detroit, but it was not until the opening of the Erie Canal in New York in 1825 when emigrants started to settle in southern Michigan. Erie Canal carried emigrants from the Northwest quickly and cheaply to the West. Settlers came in tremendous numbers during the Great Michigan land boom of the mid-1830's.

As Calhoun County grew so did Battle Creek. The first recorded reference to Battle Creek can be found in Colonel John Mullet's letter to the Governor Lewis Cass. On March 14, 1825, Colonel Mullet was sent to Southern Michigan with a small surveying party. Mullet and his team ran into trouble with a small group of Potawatomes Indians on what today is the Battle Creek River. It is believed that the fight took place at the conjunction of the Battle Creek and Kalamazoo Rivers, which gave the city its official seal. Even proved a false later on, the tale that John Mullet gave the river the name Battle Creek remained and the name stuck.

A Legislative Council authorized a road to built on November 4, 1829. This was the first road to run through Calhoun County and it was called the Territorial Road. In the summer of 1831, Isaac Toland built a cabin on the north side of the Territorial Road, immediately on the west bank of the

Kalamazoo River. This cabin was the first structure built in the Battle Creek area and intended to be used for paying guests. Toland became the first permanent settler in Battle Creek.

In June, 1831, Sands McCalmly surveyed the future site of Battle Creek and was impressed with the water potential of the area. He went to the White Pigeon Land Office to enter a claim for the property where the two rivers met. There were three other men interested in the area; McCamly Guernsey, Robert Clark, and Lucius Lyon. Guernsey and McCamly paid the other two men \$100 to drop their claim and entered the claim for themselves for 837.44 acres at \$1.25 per acre, and shared the land. Later McCamly pulled out and Guernsey owned the whole claim. Guernsey did not really sink his roots in Battle Creek, since his wife did not like the area. In March 1833, Guernsey sold his land and left the area. In February 1832, Samuel Convis built a log cabin. There he and his family moved in on July 3, and became the first settler family in Battle Creek.

Early settlers were "farmers by necessity" in their early times of settlement. The first settlers in Calhoun County lacked a service center. At first they had to travel for days to Ann Arbor or White Pigeon to find a blacksmith or to grind their grain. As the County Seat, Marshall fared far better than Battle Creek in the early years. Yet, like Marshall, Battle Creek continued to offer special services to

surrounding farmers. In 1832, Polydore Hudson opened the town's first grocery store. This store also had a function as a post office and became the first post office in Battle Creek with Hudson as a postmaster. In winter of 1834, the first log schoolhouse was built at a cost of \$60. Sands McCamly had always been interested in the great water-power potential of Battle Creek since he first investigated the area. Finally, in 1835, McCamly constructed a dam between the Battle Creek and Kalamazoo Rivers and built the first sawmill in Battle Creek.

In 1836 Michigan became the state and people in Battle Creek met a rapid progress. The United Congregational and Presbyterian Church was established and played an active role as an information center. Alonzo Noble and Almon Whitcomb opened the first grist mill in Battle Creek as well as a dry goods and grocery business. Now the people of Battle Creek no longer had to go to Marshall, or some other distant points such as Comstock, Bellevue, Kalamazoo, Gourdneck, or Flowerfield. On December 31, 1836, all residents gathered together at General Convis' house and celebrated their first real party. On February 12, 1838, the Bank of Battle Creek became the first bank located there. Sands McCamly and Tolman Hall founded the bank with McCamly as president and Hall as a cashier. A village of Battle Creek first appeared on land-lookers map in 1838. Indeed, Battle Creek began to form itself as a village and prosperity was widely open in front of them.

The arrival of railroad opened a new chapter in the life of Battle Creek. On December 1, 1845, the first wood burning steam engine came chugging into Battle Creek as the Michigan Central line. Dr. and Mrs. Charles Barlett stepped off the train as newlyweds. Dr. Barlett was the first dentist in Battle Creek. Railroads shortened the travel time and money for travelers and emigrants and brought more people into Battle Creek. Emigrants now might leave Detroit at eight in the morning and reach the village, not in weeks or days, but in the afternoon. In 1845, Louisa McOmber traveled west from New York State in 20 days, taking the steamer Nile across Lake Erie with 300 passengers and catching the 8 o'clock in the morning train from Detroit.⁸⁹ A letter from Sands McCamly to his friend Henry Price shows the time and cost of the trip from Buffalo to Battle Creek;

... Then get on board of a Packet and proceed to Buffalo, a distance of say, 60 miles, cost \$1.00; thence by steamboat to Detroit, a distance of 350 miles, one day, \$7.00; thence by railroad 110 miles, one day, \$3.50; thence by stage, same day, 13 miles, 62 cents; to Battle Creek, \$12.12.⁹⁰

With the arrival of the railroad, Battle Creek grew rapidly both in size of its infrastructure and population. On March 7, 1850, Battle Creek received a charter as a village and held its first election. William was elected president and served till 1852.⁹¹

On November 8, 1858, the Common Council of Battle Creek held a public meeting to discuss the need for a new charter. On November 22, the village board formed a committee to

rewrite the village charter. On December 13, at a citizens meeting, the committee announced that instead of revising the village charter, they had drafted a new City Charter. The draft gave "Waupakisco" as the name of the city, while L.H. Stewart suggested the name "Eureka" and Col. John Stuart proposed "Calhoun City". Finally on December 31, 1858, the village held an election to choose a name for the city. There were 467 votes cast; 9 for Peninsular city, 50 for Waupakisco, 93 for Calhoun city, and 315 for Battle Creek. So Battle Creek again became the official name of the city. On February 3, 1859, the charter was approved by the State Legislature and Battle Creek became an official city on February 25, 1859.⁹²

The city was composed of two squares, embracing four sections of land. Two sections, 1 and 12, were in Battle Creek and two sections, 6 and 7, were from Emmett. The city again was divided into four wards and governed by the Mayor, Recorder, and Alderman. Elijah W. Pendill was elected the first Mayor of the city and each ward sent to representatives as Aldermen.⁹³

In 1860, Battle Creek had a population of 3,511. In 1864, Messrs. Pease and Lewis founded a newspaper, the Constitutional Union. The first high school graduation took place in 1869. Two young women, Ella Badgley and Estelle Campbell received their diplomas in exercises at the Congregational-Presbyterian Church. On September 14, 1869, L.D.Dibble drove in the first spike of the old Peninsular

Railroad.⁹⁴

By 1870, Battle Creek had a population of 5,838. On June 21, 1871, gas became available in Battle Creek as the Battle Creek Gas Light Company was incorporated. Among the founders were Joseph Ward, Nelson Eldred, Richard Kingman, B.T. Skinner, E.C. Nichols, and Thomas Hart. Now, people were able to use gas instead of wood or kerosene. On July 2, 1872, the Battle Creek Journal became a daily paper. In 1873, the Peninsular Railroad ran into financial trouble. It was sold and became the Chicago Lake Huron Company. In 1877, the Michigan Central Railroad was sold to the New York Central Railroad.

B. Groups benefited by railroads.

Groups who benefited from railroad development differed from time to time. Construction companies and land speculators gained the most during the early stage of the railroad construction. On the other hand, as railroads became a major means of transportation toward 1860's, 1870's, and 1880's, bondholders, stockholders of railroad companies were those who were benefited the most.

General benefit

Even with many difficulties during their construction, there is no doubt that railroads encouraged a development of

the national economy. Railroads helped open the Western prairie to settlement. The rapid settlement in the west also increased the demand for finished products from the east. The development of railroads made possible the swift rise of eastern industry and catalyzed the economic development of the United States. By assuring quick movement of the prairie's basic crop, wheat, and its processed product, flour, to the east and Europe and its urban markets as well, railroads contributed to the opening of the national market.

The certainty and speed of movement of merchandise by rail also encouraged the rise of wholesalers and middlemen in all parts of the nation. Trips from Detroit to Battle Creek, which used to take at least one full day,⁹⁵ now takes only six hours and ten minutes.⁹⁶ As a result, merchants in Battle Creek, like those in other western villages and towns, no longer had to risk carrying large stocks, since they could always receive delivery within few days whenever needed. Manufacturers, on the other hand, were assured of a regular and constant supply of raw and semi-finished materials from the west.

Battle Creek also experienced a rapid growth in business, both in terms of numbers and diversity. Most of the pioneers had grown up in rural New York or New England where every neighborhood centered around a market town. They wanted the same advantages on the frontier. Table 2 shows the growth in categories and numbers of business in Battle Creek.

Table 2. Growth of Business in Battle Creek

<u>Year</u>	<u>Number of Categories</u>	<u>Number of Shops</u>
1845 a.	15	51
1869 b.	93	354
1882 c.	167	627

Sources: a. Letter from Sands McCamly to Henry Price Esq., (March 17, 1845)
 b. E. G. Rust, Calhoun County Business Directory for 1869-1870 (Battle Creek, 1869), pp.321-324.
 c. A. G. Nedham, Battle Creek and Marshall City Directory for 1883 (Battle Creek: Musical Messenger Book and Job Print, 1882)

It is interesting to see the changes in categories of business due to the arrival of railroads. The arrival of railroads changed the job characteristics, which was connected to the transportation. Some business declined. In 1869, there were 13 shops of carriage and wagon manufacturing, 8 livery stables and 3 saddler and harness makers. However in 1882, there were 5 carriage and wagon manufacturing shops, 4 livery stables, and only one saddler and harness makers left.

On the other hand, railroads also produced new jobs. Boiler works for steam engine, train machinist, and train intendant, were new categories which did not show in the former Directories. This shows the changes in the transportation means of the people of Battle Creek with the development of railroads network.⁹⁷

There are only four jobs shown in the Directory in the connection of railroads- one boiler worker, one train machinist and two train intendants- which is less than one

percent of contemporary job market. Yet, the contribution of railroads to the creation of new jobs as well as a subtle contribution to the development of local economy is still worth to be recognized.

The Construction Companies

Construction companies could develop their interests in several ways by building railroads. Since this was the first time for both government and people to experience the control of such large amount of money, men, and materials on such a wide scale, the charters were often vague and imprecise. Construction companies used this vagueness and imprecision to exploit a privileged position as railroad promoters. Actually, as announced in judicial decisions, the amount of securities which may be issued has been limited to funds or properties acquired. Yet, it was completely left with construction companies and railroad companies to determine a total cost of construction, and by which companies could acquire securities for the amount they desired. As a result, construction companies could issue bonds to themselves in payment for the road.

Construction companies also received railroad stocks as payment. As major stockholders, they could control the railroad itself, so that they could raise the price to be paid for construction. If earnings came from construction, they increased the company's profit as a stockholder. But, when the

railroad went bankrupt in trying to pay off its high construction costs, it was the local residents who had to pay the higher rates for services.

Along with construction companies, railroad building also helped out the iron industry. The first rails, such as the Pontiac Roads in Michigan, on at least one line were simply wood, and several lines were wood with a slim piece of iron strapped on the top-hence "strap rails".⁹⁸ However, by the Civil War, most of the Michigan railroads were equipped with iron rails⁹⁹ which helped all businesses, connecting with iron. A Grand Rapids correspondent of the Northwestern Lumberman says, "Quite recently the Cleveland house of Condit & Co., iron merchant, secured in this city, through the agency of L.H.Kellogg, a contractor with the lumber firm of Builder Brothers, of Chicago and Muskegon, Michigan, for a sufficient quantity of T rail-weighing two pounds to the yard- to iron a log road seven miles long."¹⁰⁰

Even though we see some proof that iron-railing helped the domestic iron industry, it was not until late nineteenth century when it helped the economic development of the domestic iron industry to a large extent. During its early stage of building, most of the iron for railing was provided by eastern industrialists. Erastus Corning, one of the stockholders of the Michigan Central Railroad, also provided iron to iron-railed the Michigan Central Railroad. Corning was a banker, land speculator, and most of all an iron merchant.

He had stock in most of the major railroads in the eastern state, such as the 78 mile Utica & Schenectady Railway. The railroads paid good dividends and, by participating in decision-makings as a stockholder, he could firmly establish his position as a favored supplier of railroad iron.¹⁰¹ Such a genius business skill of Corning, a dual role as both stockholder and iron supplier, again was practiced in the expansion of the Michigan Central Railroad.

Financiers

Even though there is no doubt that railroads improved the economic status of the nation, it most helped capitalists to improve their economic power even further. It is true that Easterners were initially reluctant to invest western railroads. Poor quoted a writer for the Detroit Free Press who complained that "in the spring of 1846, we were in New York City, and heard an intelligent gentlemen express surprise that capitalists could be found willing to invest money in a railroad away out west."¹⁰²

A few far-sighted investors, such as Forbes, could see the value of these ventures. The credibility of railroad enterprises was given an added boost in 1845 when the conservative analyst Freedman Hunt of the Merchant's Magazine endorsed them as good business investment-better than banks. Hunt further recommended a Michigan route as one western project worthy of immediate attention from men in the East.¹⁰³

With an optimistic encouragement of economic analysts, eastern financiers rushed into the railroad business for a new opportunity to emerge and to strengthen their status as leading factors of American economy of the time.

John Murray Forbes serves as a typical example of railroad millionaires in the early building stage. The Forbes had made profits from the China trade and the whaling industries in New England for generations. However, between 1840 to 1842, the China trade was temporarily interrupted by the Opium War. With available funds freed up by the interruption, Forbes could afford the more than \$6,000,000 required for the construction of and purchase of equipment for the railroads between 1846-1849, starting with the Michigan Central Railroad.¹⁰⁴ The same was the case for the other stockholders of the Michigan Central Railroads such as John Thayer and Cpt. Neal of Salem.

Even though many eastern financiers were involved in the railroad business as stockholders, bonds were more favored by those who did not want to gamble in the new investment. Promoters, in fact, preferred to finance their concerns through the sale of stocks, but investors usually showed a distinct preference for bonds. This was particularly so for English investors.

Failures to build within estimates, calls for assessments to put in proper condition the inferior work of contractors, and delays in the payment of dividends, eventually led

investors to regard railroad shares as of uncertain value, and to put their savings into railroad bonds. Bonds, although they often proved to be in excess of the value of the property, were believed to be adequately secured not only by the priority of the claim held against companies, but also by the prospective value of the territory which would be developed by the road. This attitude led to an entirely new system of financing construction, as has been set forth by John P. Davis:

...If a railway could not pay the interest on its bonds, it could by a little more pressure on the tributary territory be made to pay some interests on stock and more bonds. Thus the value of railways came to be determined not by the expense of building them, but by the amount of bonds and stock that their tributary territory could carry.¹⁰⁶

Land grant railroads tried to sell their lands to provide funds for construction: but sales were usually slow until after the completion of the railroad. Sometimes the lands were included with the other property as part of the security for the first mortgage bonds, but a separate issue of securities was made more frequently.¹⁰⁶ The disposition of the shareholders was to keep the indebtedness down to a small portion of the total capital, and so insure control. Report of the Directors of the Michigan Central Railroads of 1854, when discussing the necessity of providing the floating debt either by an issue of bonds or by the sale of more shares, says;

We prefer the last named measure, and shall only resort to a future issue of bonds in case we find it impossible to sell our stock at par."¹⁰⁷

By cooperating with bondholders, railroads helped bankers to reconfirm their status. Bankers, such as J.P.Morgan, accumulated wealth by loaning money to both bondholders and the railroad companies and by receiving interest from both of them. Bankers and bondholders were tightly connected by their interests. The most basic procedure for them to make more profit was by consolidating smaller lines into the larger centralized systems of the Michigan Southern Lines. By removing the competition, bondholders made more profit, even though it meant the increase in rates for residence. The massive financial requirements of the railroads also brought centralization and institutionalization of the nation's investment market in New York City. With the emergence of bondholders and bankers as a new interest group, New York became a financial center by taking the lead in financing American Railroads.¹⁰⁸

Land Speculators¹⁰⁹

The most interesting group who benefited from railroad development must be land speculators. Land was a central element in the American mind throughout the nineteenth century. Those who speculated in the land near railroads largely consisted of three groups: railroad companies, railroad promoters, and individual capitalists who speculated in land as a major source of investment.

Railway companies occasionally doubled as real estate companies, in partnership with land speculators. The company wished to gain a return from the land in order to redeem and pay off the debt incurred during the construction of chartered lines. Also, and more than any other reason, the company desired to settle the empty prairie lands with stable farm families-settlers. By helping farmers to settle along the expected railway, the company could ensure a growing traffic for the new rail line between the east and the west as well as local traffic.

Railroad promoters are primarily those who lived in the region where railroad was either scheduled or was under construction. Railroad promoters had several functions in their profit-making. Like construction companies, promoters used the vagueness and imprecision of their charters to exploit a position as director or transfer agent. Railroad promoters, as directors of a railroad company were authorized to determine costs. As a result, promoters could issue bonds to themselves as proprietors of an inside construction company in payment for the road.

Railroad promoters could separate land grants from all connection with the other property of the railroad, and sell or lease the freed land. As individuals, promoters would purchase sites for shops, stations, and terminals before their location was publicly announced and then turn the land over to the railroad at a large advance in price. They would obtain

town sites, and even divert the route of the railroad to afford themselves opportunity to sell out to settlers. Even when they misjudged or were misfortunate in their railroad construction ventures, promoters still could avoid losing their own interests by unloading their inflated securities upon the public.¹¹⁰

Railway promoters claimed that their railway would improve everyone's estate and that even the landless would benefit from their construction. They promised that railways would increase the total value of the country's real estate and thereby its national wealth. The idea that railways would increase the value of real estate of the region attracted capitalists who were constantly looking for a new source of investment. Using the privilege of first-hand information, railway promoters were the most valid source of information to capitalists, especially to those who lived outside of the region. Once capitalists received information from railway promoters, they would engage in land speculation, quite often with railway promoters as realtors. We can find one typical example of this case in Sands McCamly of Battle Creek. Sands McCamly, one of the first settlers of Battle Creek and railroad promoters for the Central Line-when the line was still under the government control- was also an active realtor of Battle Creek. Sands McCamly is one of the most frequently shown names in the Record of Deeds of Calhoun County between 1836 to 1848. For 12 years McCamly was involved in no less

than 300 cases of real estate business as a realtor as well as an investor.¹¹¹

Once they received information on the land from promoters, or sometimes through their own investigations, capitalists purchased the land either from federal government or from other individuals. In a case of purchasing the granted land from the federal government, capitalists paid \$1.25 per an acre. Yet, when they sold the same land, the land had already appreciated.

Now, let us examine how many Easterners were actually involved in land speculation and how much the land has appreciated for investors, by focusing upon Battle Creek. Battle Creek is composed of four land descriptions; Township No. 2S and 2N, and Range No. 8E and 8W. However, the original village of Battle Creek was located in an area of Township No. 2S and Range No. 8W at the time of the railroad building. This is an area called Battle Creek hereafter. Also, samples are limited to those who purchased the land directly from the federal government to help the understanding of increase in land price.

In the Land Track Book of 1836, a total of 249 land sales are recorded in Battle Creek area from the federal government by 1836. A total of 249 cases of land purchase were performed by 141 purchases, which consist of 49 people whose total purchase of the land exceeded 160 acres.¹¹² As we are aware, the land grant program of the federal government was to help

those who would settle in the frontier area. Therefore, there was a 160 acre area of preemption for land purchased from the federal government in the 1830's and 1840's to prevent land speculation of the capitalists.¹¹³ Nevertheless, land speculation was still going on. Out of 49 people of those who purchased more than 160 acres in Battle Creek area, only 18 people were living in Michigan, whereas 30 people were living in New England area and one person was living in Indiana. Each purchaser paid \$1.25 per an acre directly to the federal government.¹¹⁴

Even though each purchaser paid only \$1.25 per an acre to the federal government, the land cost more when the original purchaser sold it to the other individuals, either another speculator or an actual settler. An average price of the land for Battle Creek was \$3.13 in 1836, \$5.56 for 1837 and \$5.85 for 1838.¹¹⁵ On January 28, 1837, Michigan was formally admitted as a state, and under the Act of 1837, the Detroit and St. Joseph Railroad passed into the possession of the state. At the same time, the state government, under Governor Mason, passed an Act which promised the promotion of railroad construction.¹¹⁶ This in turn attracted more investors. This was a major reason why the price of land in Battle Creek, as well as other regions where railroad was planned to pass, increased rapidly.

Yet, there was a big difference between prices depending on which section of the Township the lot was located. Though

the village of Battle Creek was largely located in southern part of an area of Township No.2S and Range No.8W- Sections 24 to 36-, the record shows the trend of the price of land was higher in northern area. It means that land price was higher in sections where railroad track was planned than where the village actually was. Therefore, the study to examine how much land has appreciated should be divided by the location of railroad track rather than that of village of Battle Creek. If we apply railroad track as a standard to compare the price of sections, Battle Creek can be divided into two groups; a group of sections where railway was expected to pass and a group of sections which was off the railroad track. The first group includes Section 1,2,3,10,11,and 12, where the railroad was planned to be and actually was built. This one would be called Group I hereafter. The other group includes sections except those which belonged to the Group I, and would be called Group II.¹¹⁷

From 1836 to 1838, price for the land in Group I increased to \$9.46 whereas that for Group II increase only to \$2.81 per an acre.(This is based on \$1.25, the first purchase price of the land) A lot in Section 2 and 5 cost \$5.00 in 1836 while the average rate per an acre of the time was \$3.13. Yet, lots in Section 19 cost only \$2.15 in 1838 when the average rate per an acre of the time was \$5.85. Difference in price between two groups is more significant in 1838. In 1838 the average price per an acre for the Group I was \$9.00 whereas

that of Group II was only \$2.15.¹¹⁸

Other evidence demonstrates a difference in price between Group I and Group II. In 1837, Mccamly Hart of Washington County New York, sold 77 17/100 acres in Section 12, which belongs to Group I, to Isaac Merritt for \$1,000.00, \$13.00 an acre.¹¹⁹ Yet, in the same year, he sold 90 14/100 acres in Section 6, which belongs to Group II, to Joseph Merritt for \$100.00, \$1.11 per an acre.¹²⁰ Among sales of the researched samples the most expensive lot was a case of Mccamly Hart, \$13.00 per an acre in Section 12 of Group I. The cheapest sale was a case of John Harris of Saratoga, New York, also in 1837. Harris sold 160 acres in Section 28 of Group II to James Arnis for \$100.00, \$0.63 per an acre.¹²¹

There were basically four different tactics used for land speculation. To avoid the limitation of the 160-acre-purchase, speculators would purchased the land in different sections, less than 160 acres for each plot, when the purchase occurred in a same day. Augustus Rawson from Ontario county, New York, purchased a total of 204 acres on October 1, 1934. Yet, the purchase was performed in two different sections-160 acres in Section 13 and 44 acres in section 14, which are actually located next to each other- and, by doing this, Harris could avoid 160-acres-restriction. However, when Rawson sold the land two years later to Rufus Sweet, Rawson sold it as a one, big lot and received \$4.00 per an acre. Considering that the average price of the out-of-railway-sections was \$2.75, we can

tell that Rawson had an advantage of having his property in a big chunk.¹²²

Second way to avoid 160-acres-restriction was to purchase the land in different days in different sections. Josiah Goddard, one of few speculators from Michigan had purchased a total of 615 acres in seven times from June 16 to September 25, 1835. None of seven purchases exceeded 160 acres a time. Goddard sold 40 acres of his land in Section 9 two month after of his purchase to Jason Moyer for \$5.00 an acre.¹²³

The third way to avoid a 160-acres-restriction was to purchase the land while reporting a residence in a different place. Henry Morgan of Cayugu County, New York purchased 149 acres in Section 5 on July 18, 1836. On the same day, he also purchased 160 acres in Section 6. The "Certificate of Purchase" shows that both lots were purchased by the same person; Henry Morgan of Cayuga County of New York. Yet in the land Track Book, it is recorded that a lot in Section 5 was sold to Henry Morgan of Cayuga County whereas a lot in Section 6 was sold to Henry Morgan of Otsego County of new York.¹²⁴

The forth way to avoid 160-acre-restriction and was to register someone else's name. In most cases, names of the members of the family, such as those of children and wives, were used. However, there also was a case in which the land was registered to a local residence even though the real owner is someone who was living in the east. A typical example must be Bradely Moorehouse's case. Bradely Moorehouse of Saratoga

County, New York purchased 160 acres in Section 27 on June 22, 1835. Next day he purchase 240 acres in Section 35 and registered 80 acres to Jared Palmer of Cass county, Michigan and 160 acres to Henry Voorhees of Montgomery County, New York. It is unknown who these people were and what kind of relationship Moorehouse had with them. The only thing which is clear is that names for the same lot in the registration differ from those in the "Certificate of Purchase". Also, when the land was sold to Mccamly Royall in 1836, the sale was performed by Moorehouse instead of Palmer and Voorhees.¹²⁵

Other than using these primary tactics of purchase, there still occurred purchases of granted lands in a massive amount. There were 6 cases when one purchase was performed in the amount of more than 160 acres. It is unknown how they could avoid 160-acres-restriction and not only bought but also registered the land to their own names legally. Interestingly, all six people were living in New England or New York: John Guernsey of Dutchess, New York; Mccamly Hart of Washington New York; James Powell of Livingston New York; Zacheus Toby of Otsego New York; William White of Chatagu, New York; and Horace Wright of Hampshire, Massachusetts.

Out of 49 people who purchased more than 160 acres by 1836, 33 people shows an evidence of sales of the land by 1848.¹²⁶ Whether the other 16 investors had sold the land or actually had moved into the area after 1848 is questionable. The sales of the land in Battle Creek from 1836 to 1848 was

so actively dominated by few people. Sands McCamly* and Josiah Goddard of Calhoun County, Michigan, John Guernsey of Dutchess New York, Mccamly Hart of Washington County, New York, Merritt brothers and Moorehouse brothers from Saratoga New York, Almon Whitcomb from Chittenden, Vermont, and Wright brothers from Hamshire, Massachusetts are the names that shows active sales in the Record of Deeds.¹²⁷

By the 1840's, promoters and railway financiers discovered that isolated lands had an intensive value that they could extract even before their railroads gave them any market value. Since this study was done only for a quarter of Battle Creek, it also shows only a quarter of the possible-total volume of land speculation. Therefore, it could very well be that land speculation in Battle Creek area was even more active than account shows. It became more active between 1850 and 1872 when the federal government gave an empire of land to promoters who promised to build railroads across the sparsely settled territory of the West. While Congress dispensed over 100,000,000 acres of the public domain, state and local governments provided an additional \$280,000,000 in cash or credit-about 30 percent of the total capitalization of railroads- in the decades preceding the Civil War.¹²⁸

Railroad Companies

Railroad companies themselves made profit in various ways; railroad construction and land speculation in its early

stage of building, and high dividend rate with earnings from the road, and the low tax during its golden age as a major transportational system. We have already seen that it cost virtually nothing to the railroad companies to construct railroads. The land for railroad construction was granted by either state or federal governments and railroad companies performed a role as a real estate company as well. Most mid-western land-grant railroad were anxious to dispose of their lands as quickly as possible. They needed money immediately. It also was advantageous to have the lands in the hands of resident farmers producing the freight and passengers essential to a company's financial success.¹²⁹

Rapid increase of popularity of railroad as a means of transportation, both for passengers and freight, brought higher earnings to railroad companies and stockholders. The legislature of Michigan assures that no dividend of railroad companies should be recurred greater than the rate of eight per cent.¹³⁰ However, as Table 3 shows, the Michigan Central Railroad provided higher rate of dividends to its stockholders than the legislature allowed. Since the majority of stockholders were those who owned the company, these stockholders actually gained double profits; earnings as an owner of the company and dividends as a stockholder.

Despite of the high rates of dividends, railroad companies still enjoyed tax benefits. They were exempted from both state and federal taxes during the early stages. In 1846,

Table 3. Percentages of Dividends for the Michigan Central Railroad

<u>Year</u>	<u>Dividends(%)</u>
1847 a	-
1848 b	8
1849	8
1850	8
1851	9
1852	14
1853	8
1854	8
1856	6
1866-67 c	10
68	10
69	10
70 d	9.60
71	8.37
72	8.55
73	6.10
74	6.04

Sources: a. Michigan Central Railroad Company, Annual Reports vol., 1-19, (1847-1865), recited from Parks, Democracy's Railroads (1972) p. 112.
 b. Through April 1847. Seven months converted to a twelve month rate.
 c. Poor, Manual (1877-78), p. 301
 d. Railroad Gazette (1886), p. 25

the Michigan Central Railroad paid to the state an annual tax of one-half of one per cent. Also, property and effects of the Michigan Central Railroad, whether real, personal, or mixed, were exempt from every other tax, charge and exaction.¹³¹ In 1857, the Michigan Central Railroad was paying one per cent to the state, based upon the value of the road and its equipment and appurtenances of whatever kind. The laws of Michigan said "it shall be lawful for the legislature of this State, in their discretion, after ten years, to impose upon either or each of said railroad companies the payment of a further tax upon the gross of total earnings of such road of not exceeding two per cent."¹³²

Whether the Michigan Central Railroad had paid a tax more than two per cent after 1867 is unknown. There at least is no evidence of tax raise for the Michigan Central Railroad shown in the Public Act until 1880. Even if we apply the maximum two per cent of tax to the Michigan Central Railroad, it still was lower than those tax rates that other businesses had to pay at the time. The average tax rate for business in Battle Creek was 3 per cent in 1865.¹³³

A two per cent tax rate is relatively low when it is compared with the other major industries which had stockholders, such as mining companies. In 1865, specific taxes for corporations and chartered companies engaged in the business of mining, smelting, or refining ores in the state of Michigan were established. The Legislature of 1865 reads;

... every such corporation and chartered company engaged in iron mining, shall pay a tax of one and one-half cents for each ton of ore or mineral obtained and exported from this State before being smelted or refined; pig, bloom or other iron manufactured in this State, shall be free from specific tax, except upon the capital stock; every such corporation and chartered company engaged in coal mining, shall pay a tax of one-half cent for each ton of coal obtained by such corporation or chartered company, in such mining business.¹³⁴

The specific tax rate for mining industries does not show any evidence of changes in the Public Act either until 1880. Therefore, if we apply the tax rate of the Michigan Central Railroad of 1857 and that of mining companies of 1865 to 1880's figure, the coal mining company paid a 4.6 per cent tax while the Michigan Central Railroad still paid a 2 per cent tax to the state government.¹³⁵ (see Table 4).

Table 4. Tax Rates of the Mining Companies in 1880

<u>Mining</u>	<u>Tax Rate</u>
Coal a	4.3
Iron b	2.3

Net Profit = Value of Total Product - Total Capital (real and personal) invested - Total Wages

Sources: a. Tenth Census of Population: Mining Industries (1880), pp. 658-659.
b. Ibid., pp. 44-45.

The increase of the benefits of railroad as an economic component for railroad companies and their bondholders paralleled with the development of railroads. During the first years of railroad operation, most railways had much higher

passenger than freight revenues. At the beginning people, even railroad executives, were skeptical about its efficiency. Most of the first enterprises expected to make their profits largely by carrying passengers, by serving small localities, and by serving as feeders to waterways. In New York legislature, it is said, "... in regard to the construction and maintenance and also in reference to the expense of conveyance at moderate velocities, canals are clearly the most advantageous means of communication. On the other hand, where high velocities are required, as for the conveyance of passengers, and under some circumstances of competition, for light goods of great value, in proportion of their weight, the preference would be given to a railroad."¹³⁶

However, by 1850 passenger and freight revenues were about equal on most railroads and by the eve of the Civil War, freight receipts exceeded passenger receipts. This trend accelerated after the Civil War as the nation experienced its rapid industrialization. For example, during 1864-65, a total mileage for passengers was 68,338,876 while that for freight was 72,937,319. But, during 1869-70, a total mileage of freight jumped to 132,903,174, almost double the total mileage of passengers which was 70,155,418.¹³⁷

The amount of freight railroad carried not only exceeded that of passengers but also that of freight carried by boats. In 1851-1852, boats carried six times as much freight as railroads; in 1880-1890 railroads carried five times as much

freight as boats.¹³⁸

In its early stage, people expected railroads to be transportation of local use rather than that of long distance. But, railroads again changed the general belief as they developed their role as a transportation for through traffic rather than that of domestic trip. This was more significant in freight traffic than in passenger traffic. As early as 1860 the amount of through transportation versus carried by U.S. domestic was more than double in freight and more than four times in passenger.¹³⁹

It is interesting to see the character of passenger and freight the Michigan Central Railroad carried. As a transportational system in the frontier field, the Michigan Central Railroad carried more passengers westward, while it carried more freight eastward. But, as the frontier was closing, we can see the decrease in west-bound passenger traffic, as we see in Table 5.

Table 5. Mileage for Passengers and Freights

	<u>1866</u>	<u>1877</u>
<u>Passenger miles</u>		
through east	16,475,692	14,867,968
west	30,684,496	22,946,064
Total	47,160,188	37,814,032
Local	46,072,242	41,870,042
<u>Ton miles</u>		
through east	387,015,495	332,767,450
through west	168,031,830	85,157,565
Total	555,047,325	417,925,015
Local	165,972,088	130,128,692

Source: Railroad Gazette (1880), p. 245.

Contrary to the general belief, rail freight rates were much higher than the combined tolls plus freight rates on the canal.¹⁴⁰ Also, the rates of passengers and freight were applied differently, depending on what direction they were heading. The Michigan Central Railroad shows a higher rate for the westward than the eastward in its through traffic. The difference in rates was larger in freight traffic than passenger traffic. There was a high competition in the shipments made from Buffalo to Chicago and the competing points between, which forces the rates down to almost nothing for freight.¹⁴¹ The Report from the Director of the Michigan Central Railroad shows a difficulty in balancing traffic in each direction.

Doubtless, the traffic received from the Michigan Central forms by far the largest part of the traffic which the Great Western delivers to the New York Central and the Erie at Suspension Bridge and Buffalo, and vice versa... it is virtually dependent upon the New York Central for an outlet to New England...it could not so well transfer its Boston and New England shipments from the New York Central, and it would have no other connection to Chicago than the Michigan Central. The sum of it is that the Michigan Central and the New York Central are indispensable to the Great Western, or nearly so, but the Great Western isn't...through the New York Central especially, it may be very useful, chiefly by reason of the Milwaukee business to New York which it will command.¹⁴²

Table 6 shows a difference in rates between the westward and the eastward.

Table 6. Average Rates per Mile between Chicago and Buffalo, 1879

	<u>Passengers</u>	<u>Freight</u>
<u>through</u>		
eastward	2.31	0.599
westward	2.28	0.548
<u>local</u>		
eastward	2.75	1.520
westward	2.74	2.049

Rate in Dollars

Source: Railroad Gazette (1879), p. 277.

The inequality of the fare did not lie only between westward and eastward traffic. Both passengers and freight had to pay higher rate for local traffic than for through traffic. Table 6 also shows the evidence that passengers and freight for local traffic had to pay higher rate than through traffic. In 1879, a total number of through passengers occupied 50.6% of the traffic while that of local passenger occupied 49.4%. However the Michigan Central Railroad made 41.5% of their earnings from through passenger traffic while local passengers made up the other 58.5%.¹⁴³

Both agriculture and industry developed in previously unsettled or sparsely settled regions because the railroads promised to provide cheap transportation. But, rates got so high that goods could not shipped to market. People in Battle Creek had to pay higher rates for less service. Again we are indebted to Brooks for this description of the unfair rate which inhabitants of Battle Creek had to pay:

For example, take the rates of the passenger tariff established by the proper authorities of this State as soon as this road was in condition to invite the

travel from Chicago, via this inland. By those rates the Illinois passenger was enabled to travel over this road from Kalamazoo to Detroit at a less charge or cost than the Michigan passenger could from Battle Creek to Detroit, a much less distance. Or the Chicago passenger was carried from Kalamazoo to Detroit for \$3.00, while the passenger from Kalamazoo was charged for the same distance \$4.40, and this arrangement for "through" travel, being the only one that could succeed, was widely made as beneficial to the revenues of the road, and to the State at the large by inducing travel and business through its territory.¹⁴⁴

People who resided between major points paid higher rates than those who lived in transportational centers, despite their shorter distance to destinations. Where a railroad was the only means of conveyance, it could charge what the traffic would bear, without restraint. In those areas where there was no competition with water-routes, or with other railroads made to pay the fixed charges, the rates for competitive businesses would little more than pay train and station expenses.¹⁴⁵

In mid 1870's, with high competition among railroads for the area between New York and Chicago, railroad companies started decreasing their fares. Average rates received per ton and per passenger decreased steadily. Table 7 shows a steady decrease in average rate of the Michigan Central Railroad.

Table 7. Average Rate for Freight and Passengers

<u>Year</u>	<u>Ton-miles</u>	<u>Av. Rate</u>	<u>Passenger miles</u>	<u>Av. Rate</u>
1875-76	396,046,422	1.030	86,848,899	2.67
1876-77	473,837,807	0.880	93,830,515	2.67
1877	446,708,939	0.982	89,805,454	2.36
1878	548,053,707	0.848	79,684,072	2.41
1789	721,019,413	0.692	93,232,430	2.21

Rate in Dollars

Source: Railroad Gazette (1880), p. 245.

Yet, there is little evidence that the decrease in rates had damaged the profits of the company as well as their stockholders. Freight movement was greatly stimulated by the lower rates. The increase in through movement being more than 14 percent. Director's Report of the Michigan Central Railroads reads:

The total traffic was about 7 percent greater than the previous year, but the reduction in rates was such that there was a decrease of three and half percent in gross earnings. This loss was overcome by a decrease of working expenses. For example, the average through freight rate was 0.81 cent per ton per mile, whereas the average expense was 0.721 cent per ton per mile. Therefore, actually net earnings were a trifle greater and investors in the east did not lose any of their benefits.¹⁴⁶

Again in 1880, Michigan Central Railroad still provided a 8 per cent of dividend rate.¹⁴⁷ Director of the Michigan Central Railroad stated that stockholders had seen a steady gain in dividends. He said:

It is true that numerous leased branches in Michigan did not earn their rentals; but the traffic has all the time grown faster than fixed charges, so that but for the great reduction in rates, the losses on account of these causes could have been met and dividends still have been maintained.¹⁴⁸

After a long railroad war, railroad companies began to compromise instead of competing with each other by consolidating and arranging some of their routes. By these actions of the railroad companies, the public again lost their advantage of low rates from competition. In 1878, the Michigan Central and the Lake Shore and Michigan Southern, under the

new administration of the Vanderbilt group, made arrangements by which competition between them would be avoided for the larger part of their local traffic. It reads;

The basis of the division is the traffic actually obtained by the roads respectively in the years 1876 and 1877, the Lake Shore from Chicago to Toledo being taken as the equivalent of the Michigan Central between Chicago and Detroit. if either road receives more than the proportion of the business which it got in 1876 and 1877, it will be permitted to retain one-half of the earnings from it, as an allowance for the cost of carriage. This will be in most cases less than the actual cost, and will take away chief motive for working to divert business from one road to another, so that it may be expected hereafter to divide itself naturally.¹⁴⁹

IV. Conclusion

This study is an attempt to examine the relationship between the local economy and the eastern interest from the western point of view. The region of the study is limited in northeast, New England and New York, and Michigan. During the mid nineteenth century, Michigan was not well known to the South yet for a source of investment. Also, there was a strong "geographical psychology" that the Southerners felt more comfortable with southwest, such as Arizona and Texas, than northwest, such as Michigan and Illinois. This is why the South, even though there were southern capitalists who were looking for investment, is excluded. The study of a single program of public works in a single state cannot offer sweeping reinterpretations of the history of either transportation or eastern investment. Nonetheless, since Michigan shared so many aspects of its development with other western states, it would at least be able to show a pattern of the development of local economy.

First, it is true that Michigan farmers were better off than most midwestern farmers and more diversified in their

choices for transportation. So, railroad rates were less oppressive in Michigan than they were in the most westerly states.¹⁵⁰ Even though there even was an attempt, such as the Michigan Grange, to support greater state control and protection from unreasonable rates, it did not pursue those goals with the well-organized or virulent opposition that was characteristic of their fellows in Wisconsin, Illinois, Minnesota, and Iowa.¹⁵¹

Second, land grants provided a key element to the importance of Michigan railroads. Their adoption was sought not only by the people of the West and the newer parts of the South, but also by the people of the manufacturing East.¹⁵² In fact, conspiracies from the close connection of railroad companies with political power became so severe, the public started voicing their concerns for the matter. The editor of Railroad Gazette described his concern about the matter:

That a certain number of the United States Senators should be found resisting the bill to prohibit members of the Senate from acting as railroad attorneys is only an outcome of the influences which got them their positions... If it cannot be drawn, what is to prevent the Senate in some future event becoming simply the battle-ground of two or more rival railroads, in which the road with the largest pocket, retaining the largest number of senators in its employ, will be the winner?¹⁵³

A third key element in Michigan Railroad history was the stock speculator, who used borrowed money in a search for short-run returns. This figure might come closest in reality to the "pure" type of opportunistic investor. The developmental investor, on the other hand, was more likely to commit himself only when he had the opportunity to participate in entrepreneurial decisions that would influence the productiveness of his investment.¹⁵⁴

Fourth, difference in railroad charges affected the local economy for towns located between two major transportation points. High rates could bring economic blight to a region just as surely as low rates could bring prosperity. The prosperity of the merchant depended in large upon the volume of the commerce in his home port and upon the trade carried by his ships and distributed from his own warehouse.¹⁵⁵

Yet, local business at the intermediate points had even less power to resist against railroad discriminatory charges even though they were the one who suffered most. Most of the local business at intermediate points, such as those in Battle Creek, were so small that this alone could not support the road, no matter how high the rates were made. As a result, businessmen in intermediate points relied completely on the railroad authorities, because it was impossible to find any other means of transportation equally good and cheap.

Also, other than the high rate of railroads, local farmers also had to suffer with a low rate of compensation for

their livestock from railroad companies. The local farmers were paid only half of the market value of livestock killed by the railroad. Yet, when the farmers retaliated, they were brought to trial, where they received jail sentence.¹⁵⁶

What Westerners suspected at the beginning of the private capitalization of railroads, came true. Many Westerners suspected that the concentrations of the capital in railroad system might somehow be used to determine the course of local development. People of Michigan, as well as those in other states, tried as hard as they could to prevent the monopolization of railroads. However, it failed. It failed because main capital, invested in Michigan railroads came from the outside financiers. It failed because Michigan could not restrain monopolization of the railroad company with its local capital. Due to the lack of entrepreneur skills and organization, as well as the absorption of local capital in numerous other local opportunities, interests for local residents often ignored.¹⁵⁷

It failed, most of all, because the main intention of railroads was not to provide services for the benefits of the people in Michigan. As Sydney Dillon has argued, railroads contributed to the development of the local towns as well as a whole nation. There is little doubt about that. However, this study shows that the development of local towns in the west was not a major intention of the eastern-capital railroads at all. Examples of this study, such as decision-

makings in where to build the railroad-track, unfair applications in fare for local residents, prove that the policy making of the railroad company did not rely on the benefits for the local residents at all.

Different from the general belief, railroads, built by the eastern capitalists, contributed little to the development of local interests. Eastern capitalists, such as Forbes, involved in the railroad business for the benefit of personal interests rather than with a patriotic or frontier enthusiasm.

If local economy developed with the arrival of railroads, that was an unintentional side-effects of railroads as the private enterprise. Railroads, in its early stage of building, therefore, should be interpreted as a beneficiary factor to the eastern capitalists rather than to local residents of the West.

NOTES

NOTES

¹ John F. Stover, Iron Road to the West (New York: Columbia University Press, 1978), p. 16.

² Ibid., p. 96.

³ United States Department of Commerce, Historical Statistics of the United States: Colonial Times to 1957 (Washington: Government Printing Office, 1960), p. 711.

⁴ Sydney Dillon, "The West and the Railroads", North American Review CLII (1891), p. 443.

⁵ Walter W. Rostow, The Stage of Economic Growth (Cambridge: Harvard University Press, 1960), p. 55.

⁶ Fogel argued that the social savings the railroad attributed was under 3 per cent of G.N.P of 1890 figures and Fishlow argued that social savings attributable to railroads was 4 per cent of the 1859 G.N.P.

Robert W. Fogel, Railroads and American Economic Growth (Baltimore: Johns Hopkins Press, 1964) Albert Fishlow, American Railroads and the Transformation of the Anti-Bellum Economy (Cambridge: Harvard University Press, 1965)

⁷ Krooss, American Economic Dvelopment (Englewood Cliff, 1959), p. 439.

⁸ August C. Bolino, The Development of the American Economy (Columbus, 1961), p. 173.

⁹ This term used in a sense of developmental pattern for a village which was an edge of civilization.

¹⁰ Fifth Census of the United States (Washington D. C.: Duff Green Government Printing Co., 1832), pp. 24-5.

¹¹ George R. Taylor and Irene D. Neu, The American Railroad Network, 1861-1890 (Cambridge: Harvard University Press, 1956), p. 2.

- 12
Ibid., p. 6.
- 13
"Poor's Manual", American Railroad Journal (November 16, 1850), p. 727.
- 14
Frank N. Elliott, When the Railroad was King (Lansing: Michigan Historical Commission, 1966), pp. 6-7.
- 15
Henry V. Poor, Manual for Railroads (New York: Poor's Co., 1881), pp. lxxviii-lxxix.
- 16
Tenth Census of the United States, p. 526.
- 17
George N. Fuller, Messages of the Governor's of Michigan (Lansing: Michigan Historical Commission)
- 18
Robert J. Parks, Democracy's Railroad (New York: Kennikat Press, 1972), p. 11.
- 19
George R. Taylor, The Transportation Revolution, 1815-1860 (New York: Holt, Rinehart and Winston, 1964) p. 21.
- 20
American Railroad Journal (November, 16 1860) p. 727.
- 21
Lewis H. Haney, A Congressional History of Railways in the United States to 1850 (Madison: University of Wisconsin, 1903), p. 298.
- 22
Federal Coordinator of Transportation, Public Aids to Transportation (Washington: Government Printing Office, 1938), p. 11.
- 23
Thomas Donaldson, The Public Domain (Washington: Government Printing Office, 1884), pp. 269-70.
- 24
Poor, Manual (1890), p. vi.
- 25
Carter Goodrich, Government Promotion of American Canals and Railroads, 1800-1890 (New York: Columbia University Press. 1960), pp. 268-70.
- 26
Historical Statistics of the United States, p. 13.
- 27
Donaldson, The Public Domain, pp. 274-7; Richard Peters, The Public Statues at Large of the United States (Boston. 1846), vol.,5. pp. 453-8.
- 28
Ibid., p. 261.
- 29
Michigan Department of Transportation, 150 Years of Michigan's Railroad History.

- 30
Peters, The Public Statues..., vol., 5. pp. 59-60.
453-8.
- 31
Alfred D. Chandler Jr., The Railroads: The Nations First Big Business (New York: Harcourt, Brace & World, 1965), pp. 48-50.
- 32
John L. Larson, Bonds of Enterprise: John Murray Forbes and Western Development in America's Railway Age (Boston: Harvard University Press, 1984) p. 34.
- 33
Taylor, The Transportation Revolution (1964), p. 347.
- 34
The Eighth Census of the United States: Morality and Property, p. 331.
- 35
Ibid.
- 36
Poor, Manual, (1876) p. xii.
- 37
Stover, Iron Road to the West (1978), pp. 14-5.
- 38
G. S. Callender, "The Early Transportation and Banking Enterprise of the States in Relation to the Growth of Corporations", Quarterly Journal of Economics (November 1902), pp. 142-3.
- 39
Henry G. Pearson, An American Railroad Builder: John Murray Forbes (Boston: Houghton, Mifflin & Co., 1911), p. 22.
- 40
Ibid., p. 22-3.
- 41
Dorothy Adler, British Investment in American Railways, 1834-1898 (Charlottesville: University Press of Virginia, 1970), p. 23. 66.
- 42
Railroad Gazette (1879), p. 269.
- 43
Pearson, An American Railroad Builder (1911), pp. 43-4.
- 44
Fishlow, American Railroads... (1965), p. 278.
- 45
Laws of the Territory of Michigan (vol., III. 1894), p. 844.
- 46
Ibid., p. 960.
- 47
Public Acts (1837), pp. 282-9; Senate Doc., No. 11. (1838), p. 161.
- 48
Elliott, When the Railroad was a King (1966), p. 18.

49

The Board of Internal Improvement Meetings, Michigan Board of Internal Improvement 1837-1847 (Lansing; State Archives), microfilm; Public Acts, pp. 282-9.

50

Michigan, Senate Doc., No. 11. (1838), p. 161.

51

Ibid., p. 204.

52

Figure 1

53

Frank E. Robson, "An Experiment in Government Ownership", New York Central Magazine (vol., 6. 1926), p. 21.

54

"...the capital stock of \$1,500,000 aided by the earnings, properly managed, would have been adequate according to the plans first devised, to build the road." in James V. Cambell, Political History of Michigan (Detroit: Schober & Co., 1876)

55

Fuller, Messages of the Governor's... (1926), vol., I. pp. 314-315.

56

Stover, Iron Road to the West (1978), p. 20.

57

Fuller, Messages of the Governor's.... (1926), vol., I. p. 385.

58

Robson, New York Central Magazine (1926), p. 23.

59

Sherman Stevens, "The Building of the Pontiac Railroad", Michigan Historical Collections (Lansing. 1889) vol., 13. pp. 484-5.

60

Michigan Legislature, Annual Report of the Board of Internal Improvements (December 2, 1845), in Joint Doc., (1846), No. 4. p.6.

61

Fuller, Messages of the Governor's... (1926), vol., I. p. 512.

62

Public Acts (1846), p. 170.

63

Fuller, Messages of the Governor's... (1926), vol., II. pp. 44-5.

64

Ibid., pp. 44-7.

65

Parks, Democracy's Railroads (1972), pp. 101-2.

66

Public Acts (1846), p. 37.

67

Journal of the Senate of Michigan (1846) pp. 274-5.

68

Public Acts (1846), pp. 37-64.

69

Arthur M. Johnson and Barry E. Supple, Boston Capitalists and Western Railroads (Cambridge: Harvard University Press, 1967), pp. 90-2; Thomas C. Cochran, Railroad Leaders, 1845-1890 (Cambridge: Harvard University Press, 1953), pp. 266-7.

70

James F. Joy, "Railroad History of Michigan", MPHC vol., 22. (1894), pp. 292-304; Cochran, Railroad Leaders (1953), p. 364.

71

John W. Brooks, Report upon the Merits of the Michigan Central Railroads, as an Investment for Eastern Capitalists (Detroit: Charles Wilcox, 1846), pp. 1-11.

72

Larson, Bonds of Enterprise (1984), p. 39.

73

Sarah F. Hughes, eds., Letter and Recollections of John Murray Forbes (Boston: Houghton, Mifflin & Co., 1899); Reminiscences of John Murray Forbes (Boston: Geo H. Ellis, 1902); Letters of John Murray Forbes, (Boston: Geo H. Ellis, 1905)

74

Pearson, An American Railroad Builder (1911), p. 30. However, Parks argues "at the price set by the state in 1846, the Central was bargain, but it was neither a shabby piece of property nor dilapidated. It was a profitable economic unit demanding future investment to increase its usefulness to the community", in Parks, Democracy's Railroads (1972), p. 106.

75

John W. Brooks, Reply to a Communication from Mitchell Hinsdill, Esq. and others of Kalamazoo located in the Library of Congress Special Collection. p. 5.

76

Alvin F. Harlow, The Road of the Century: The Story of the New York Central (New York: Creative Age Press, 1947), p. 228.

77

Cochran, Railroad Leaders (1953), p. 331.

78

Richard C. Overton, Railway System of the Burlington (Westpoint: Greenwood Press, 1982), p. 118.

79

Figure 2

80

Railway World (1876), p. 134.

81

Chicago Tribune (September 22, 1875)

82

Michigan Emigrant (October 16, 1834)

- 83
Parks, Democracy's Railroads (1972), p. 74.
- 84
Joy, MPHC (1894)
- 85
Larson, Bonds of Enterprise (1984), p. 34.
- 86
Michael Gregory, The Forgotten Years of Battle Creek (Battle Creek: Kal-Gale Printing); Berenice B. Lowe, Tales of Battle Creek (Battle Creek: Albert L & Louise B. Miller Foundation, 1976); Larry B. Massie and Peter J. Schmitt, Battle Creek (Woodland Hills: Windsor Publishing Inc., 1984)
- 87
Parks, Democracy's Railroads (1972), p. 30.
- 88
Massie, Battle Creek (1984), p. 10.
- 89
Ibid., p. 23.
- 90
Gregory, The Forgotten Years ... (1986), p. 11.
- 91
Public Acts (1851), pp. 118-21.
- 92
Public Acts (1859), pp. 90-1.
- 93
Figure 3
- 94
Elliott, When the Railroad was a King (1966), p. 14.
- 95
Gregory, The Forgotten Years ... (1986), p. 11.
- 96
Official Railway Guide of the United States and Canada (New York: Sanford, Cushing & Co., 1868), pp. 163-4
- 97
E. G. Rust, Calhoun County Business Directory for 1869-1870 (Battle Creek, 1869), pp. 321-4; A. G. Nedham, Battle Creek and Marshall City Directory for 1883 (Battle Creek: Musical messenger Book and Job Print, 1882)
- 98
Stevens, Michigan Historical Collection (1889), pp. 484-5.
- 99
Elliott, When the Railroad was a King (1966), p. 36.
- 100
Railroad Gazette (1878), p. 167.
- 101
Irene D. Neu, Erastus Corning: Merchant and Financier, 1794-1872 (Ithaca: Cornell University Press, 1960)
- 102
James A. Ward, Railroad and the Character of America, 1820-1887 (Knoxville: The University of Tennessee Press, 1986)

- 103
The Merchant's Magazine (vol., 12. 1845) p. 158.
 pp. 323-324.
- 104
Hughes, Letter and Recollections of John Murray Forbes
 (1899); Reminiscences of John Murray Forbes (1902); Letters
of John Murray Forbes (1905)
- 105
 Chandler, The Railroads (1965), p. 53.
- 106
American Railroad Journal (vol 25), p. 515.
- 107
 Michigan Central Railroad, Report of the Directors
 (1854)
- 108
 Johnson, Boston Capitalists... (1967), p. 55.
- 109
 For "speculator" I mean a person whose main intention
 of the purchase of the land is in a re-sale within a
 relatively short period. On the other hand, "investor" is a
 person whose major purpose of the purchase of the land rather
 lies in actual movement of the region, such as westward
 migrants.
- 110
 Chandler, The Railroads (1965), p. 56-7.
- 111
 Calhoun County, Record of Deeds, 1836-1848
- 112
 Bureau of Land Management, Land Track Book (1836)
- 113
 Lance Davis, Richard Easterlin, and William Parker eds.,
American Economic Growth (New York: Harper & Row, 1972), pp.
 104-5.
- 114
Land Track Book (1836)
- 115
Record of Deeds (vol., 1 and 2)
- 116
Public Acts (1837) pp. 282-9.
- 117
 Figure 4
- 118
Record of Deeds (vol., 4), p. 32.
- 119
Record of Deeds (vol., 5), p. 191.
- 120
 Ibid., p. 159.
- 121
Record of Deeds (vol, 7), p. 45.
- 122
Record of Deeds (vol., 2), p. 227.
- 123
Record of Deeds (vol., 5), p. 561.

124 Land Track Book; Certificate of Purchase, a special collection in the National Archives, Washington D. C.

125 Record of Deeds (vol., 11), p. 428.

126 Ibid.

127 Even though there is evidence that Sands McCamly has been involved in land speculation as an investor as well as realtor, since his speculation did not directly include the granted land, his role as a speculator has been ignored in this study.

128 Goodrich, Government Promotion of ... (1960), pp. 268-70.

129 Elliott, When the Railroad was a King (1966), p. 260.

130 Public Acts (1859), p. 254.

131 Public Acts (1846), p. 135.

132 Public Acts (1857), p. 353.

133 List of Persons residing in Division No. 5 of Collection District No. 3 of the State of Michigan, liable to a Tax under the Laws of the U.S. and the Amount, thereof, as assessed by Assistant Assessor. Internal Revenue Assessment Lists for Michigan, 1862-1866 Microfilm in the National Archives in Washington D.C.

134 Public Acts (1865), p. 245.

135 United States Department of Commerce, Tenth Census of Population; Mining Industries (1880), pp. 658-660.

136 Thurman William van Metre, Early Opposition to Steam Railroads (New York, 1924), p. 42.

137 Poor, Manual (1876), p. 460.

138 Fogel, Railroads and American ... (1964), p. 5.

139 Brooks, Reply to a Communication ... p. 16.

140 Taylor, The Transportation Revolution (1964), pp. 173-4.

141 Railroad Gazette (1879), p. 270.

142 Railroad Gazette (1878), p. 211.

- 143
Railroad Gazette (1880), p. 245.
- 144
 Brooks, Reply to a Communication ... pp. 14-8.
- 145
 Chandler, The Railroads (1965), p. 168.
- 146
Railroad Gazette (1876) p. 351.
- 147
Railroad Gazette (1880), p. 694.
- 148
 Ibid., p. 245.
- 149
Railroad Gazette (1878), p. 371.
- 150
 Elliott, When the Railroad was a King (1966), p. 14.
- 151
 Sydney Glazer, Labor and Agrarian Movement in Michigan
Doctoral Dissertation. (Ann Arbor: University of Michigan),
 pp. 134-9.
- 152
 Robert S. Henry, "The Railroad Land Grant Legend in
American History Text", MVHR (vol., 32. 1945), p. 190.
- 153
Railroad Gazette (1887), pp. 42-3.
- 154
 Johnson, Boston Capitalists ... (1967), pp. 335-6.
- 155
 Chandler, The Railroads (1956), p. 4.
- 156
 Stover, American Railroads (1961), p. 150.
- 157
 Taylor, The Transportation Revolution (1964), p. 227.

BIBLIOGRAPHY

PRIMARY SOURCES

The American Railway and Supply Directory for 1873. Boston: Greenough, Jones & Co., 1873.

Annual Report of the Board of Internal Improvements. Lansing: Library of Michigan, Microfilm

Annual Report of the Commissioner of the Land Report of the State of Michigan.

Ashcroft, John. Railway Directory, 1868. New York: John W. Amerman, 1868.

Battle Creek, Michigan. Charter of the City of Battle Creek, Michigan. Battle Creek: William C. George & Sons, 1891.

Beers, F. W. Atlas of Calhoun County. New York: F.W. Beers & Co., 1873.

Brooks, John, W. Reply to a Communication from Mitchell Hillsdill Esq. and others of Kalamazoo. Washington: Library of Congress. Special Collection

----- Report upon the Merits of the Michigan Central Railroads, as an Investment for Eastern Capitalists. Detroit: Charles Wilcox, 1846.

Calhoun County, Record of Deeds, 1836-1848. Marshall, Michigan. Collection in the County Clerk Office.

Charter of the Michigan Central Railroad.

Farmer's Railroad. Detroit: Farmenr & Co., 1862. 1872.

Flint, Henry M. The Railroads of the United States. Philadelphia: J.E.Porter & Co., 1868.

Interstate Commerce Commission, Annual Report on the Statistics of Railways of the United States. New York: Poor's Railroad Manual Co., 1869 et seq.

Forbes, John Murray. Letter and Recollections of John Murray Forbes. 2 vols., Sarah F. Hughes, ed. Boston: Houghton, Mifflin & Co., 1899.

Forbes, John Murray. Reminiscences of John Murray Forbes.
3 vols., Sarah F. Hughes, ed. Boston: Geo. H. Ellis,
1902.

-----. Letters of John Murray Forbes. 3 vols., Sarah F.
Hughes, ed. Boston: Geo. H. Ellis, 1905.

Fuller, George N. ed., Messages of the Governor's of Michigan.
4 vols., Lansing: Michigan Historical Commission, 1926.

Laws of the Territory of Michigan. 4 vols., Lansing, 1894.

Map of Calhoun County. Washington City: Douglan Houghton,
1836-1845.

Michigan, General Railroad Laws of Michigan: Including All
Affecting Rail. Lansing: State Printing Office, 1875.

-----. Auditor Generals Office, Annual Reports of the
Railroad Corporation in the State of Michigan 1867-
1871.

-----. Board of Internal Improvement, Annual Reports
1838-1850.

-----. Board of State Auditors on Land Claims, Annual
Reports 1845-1849.

-----. Board of State Tax Commissioners, Reports of the
Board of State Tax Commissioners 1899-1916.

Michigan Central Railroad, Annual Reports 1846-1880.

Modelski, Andrew M. Railroad Maps of the North America: The
First Hundred Years. 1984.

Nedham, A. G. ed., Battle Creek and Marshall City
Directories. Battle Creek: Musical Messenger Book & Job
Print, 1882.

Peters, Richard. The Public Statues at Large of the United
State. Boston, 1846.

Pierce, H. B. History of Calhoun County, Michigan. L. H.
Everts & Co., 1877.

Polk, R. L. ed., Battle Creek City Directory 1896-1916.

Poor, Henry V. History of Railroads and Canals in the United
States of America. New York: J. H. Schultz, 1860.

Portraits and Biographical Album of Calhoun County. Chicago: Chapman Brother, 1891.

Public Act. Lansing: State Publishing Co.

Railroad Maps of the United States. Washington: The Library, 1975.

Rust, E. G. Calhoun Company Business Directory, 1869-1870 Battle Creek, 1869.

Schaffner, Margaret A. The Territorial Tax Legislation of Michigan. Ann Arbor: Michigan Political Science Association, 1902. vol. 5.

Stevens, Sherman. "The Building of the Pontiac Railroad", Michigan Historical Collections. vol. 13. Lansing, 1889.

Swineford, Alfred P. "Annual Review of the Iron Mining and Other Industries of the Upper Peninsular Marquette", Mining Journal. 1882.

Travelers Official Railway Guide of the United States and Canada. New York: Sanford, Cushing & Co., 1868.

Travis, Benjamin F. The Story of the 25th Michigan Kalamazoo: Kalamazoo Publishing Co., 1897.

United States Department of Commerce, Historical Statistics of the United States. Washington: Government Printing Office, 1960.

United States Department of Interior, Bureau of Land Management. Michigan Track Books. 1830. in the National Archives

----- . Federal Land Patents in the National Archives.

Vernon, Edward. ed., American Railroad Manual for the United States and the Dominion. New York: American Railroad Manual Co., 1873. 1874.

Watson's New County, Railroad and Distance Map of Michigan. New York: G. Watson, 1875.

Webber, William Lewis. The State and Its Railroads. East Saginaw: Courier Co., 1877.

NEWSPAPERS and PERIODICALS

American Railroad Journal. New York

Battle Creek Enquirer. Battle Creek, Michigan

Kalamazoo Gazette. Kalamazoo, Michigan

The Merchant's Magazine. New York

The Poor's Manual of the Railroads of the United States.
New York

The Railroad Gazette. (later, The Railway Age) Chicago

The Railway World. New York

SECONDARY SOURCES

- Adams, Charles F. Jr. Railroads: Their Origins and Problems. New York: G. P. Putnam & Co., 1878.
- . "The Greater Movement", North American Review. vol. 120. (1875)
- Adler, Dorothy. British Investment in American Railways, 1834-1898. Charlottesville: University Press of Virginia, 1970.
- Barnett, LeRoy. Railroads in Michigan: A Catalog of Company Publications, 1836-1980. Marquette, Mi., : Northern Michigan University Press, 1986.
- Barton, Richard H. A History of Railroad Regulation in Michigan. Master Thesis. M.S.U., 1948.
- Benson, Lee. Merchants, Farmers, and Railroads: Railroad Regulation and New York Politics, 1850-1887. Cambridge: Harvard University Press, 1955.
- Bliss, George. Historical Memoir of the Western Railroad. Springfield, Mass., 1863.
- Body, Geoffrey. The Railway Era: Life and Lines in the Great Age of Railways. Ashbourne: Mooreland, 1982.
- Bolino, August C. The Development of American Economy. Columbus: C. E. Merrill Books, 1961.
- Callender, G. S. "The Early Transportation and Banking Enterprises of the States in Relation to the Growth of Corporations", Quarterly Journal of Economics. 1902.
- Campbell, James V. Political History of Michigan. Detroit: Schober & Co., 1876.
- Chandler, Alfred D. Jr. ed., The Railroads: The Nations First Big Business. New York: Harcourt, Brace & World, 1965.

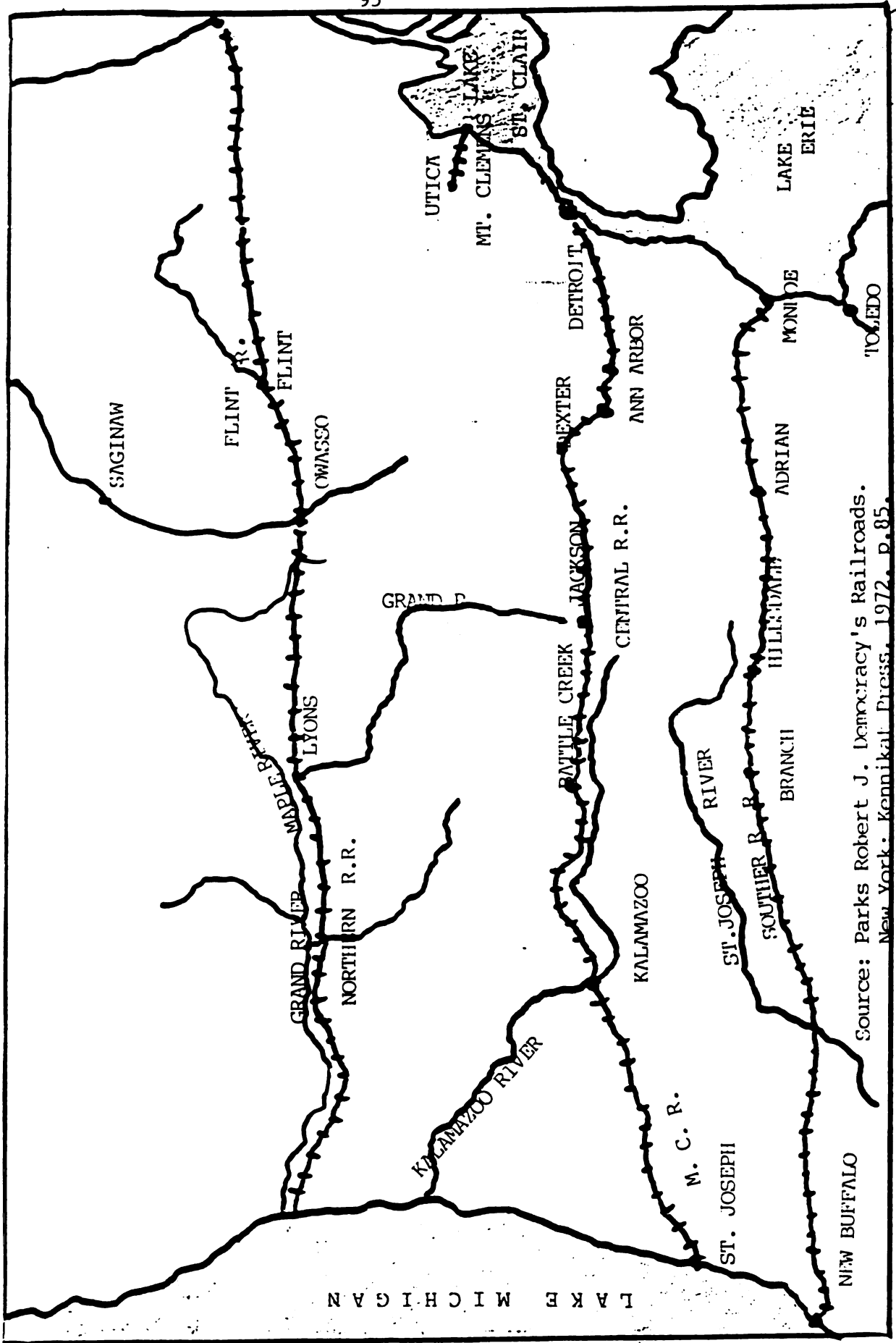
- Cleveland, Frederick A. and Fred W. Powell. Railroad Promotion and Capitalization in the United States. New York: Longmans, Green & Co., 1909.
- Cochran, Thomas C. Railroad Leaders, 1845-1890: The Business Mind in Action. Cambridge: Harvard University Press, 1953.
- Cootner, Paul H. "The Role of the Railroads in United States Economic Growth", Journal of Economic History. vol. 23. (1963)
- Decker, Leslie E. Railroads, Lands, and Politics: The Taxation of the Railroad Land Grant, 1864-1897. Providence: Brown University Press, 1964.
- Donaldson, Thomas. The Public Domain: Its History with Statistics. Washington: Government Printing Office, 1884.
- Dunbar, Willis F. All Aboard: A History of Railroads in Michigan. Grand Rapids: W. B. Eandmans Publishing Co., 1969.
- Elliott, Frank N. When the Railroad was A King: The Nineteenth Century Railroad Era in Michigan. Lansing: Michigan Historical Commission, 1966.
- Federal Coordinator of Transportation, Public Aids to Transportation. 4 vols., Washington: Government Printing Office, 1938-1940.
- Fishlow, Albert. American Railroads and the Transformation of the Ante-Bellum Economy. Cambridge: Harvard University press, 1965.
- Fogel, Robert. W. Railroads and American Economic Growth. Baltimore: Johns Hopkins Press, 1964.
- Gates, William B. Michigan Copper and Boston Dollars. Cambridge: Harvard University Press, 1951.
- Goodrich, Carter. Government Promotion of American Canals and Railroads, 1800-1890. New York: Columbia University Press. 1960.
- Gregg, Washington P., ed., The Railroad Laws and Charters of the United States. Boston: Little & J. Brown, 1851.
- Haney, Lewis H. A Congressional History of Railways in the United States to 1850. Madison: University of Wisconsin, 1908.

- Hansen, Walter J. State Aid to Railroads in Michigan during the Early Statehood Period. Ph.,D. dissertation. University of Michigan, 1941.
- Harlow, Alvin F. The Road of the Century: The Story of the New York Central. New York: Creative Age Press. 1947.
- Hedrick, Wilbur O. The History of Railroad Taxation in Michigan. Lansing: Wynkoop Hallenbeck Crawford, 1912.
- Henry, Robert S. "The Railroad land Grant Legend in American History Texts", Mississippi Valley Historical Review. vol. 32. (1945)
- Hirschfield, Charles. The Great Railroad Conspiracy: The Social History of a Railroad War. East Lansing: Michigan State College Press, 1953.
- Hudson, James F. The Railways and the Republic. New York: Harper and Brothers, 1886.
- Jenkins, LeLand H. "Railroad as an Economic Force in American Development", Journal of Economic History. vol. 4. (1944)
- Jensen, Richard. The Winning of the Midwest. Chicago: University of Chicago Press, 1971.
- Johnson Arthur M., and Barry E. Supple. Boston Capitalists and Western Railroads. Cambridge, Mass.: Harvard University Press, 1967.
- Joy, James F. "Railroad History of Michigan", Michigan Pioneer and Historical Collections. vol. 22. (1894)
- Keith, Hannah E. An Historical Sketch of Internal Improvements in Michigan, 1846-1846. Ann Arbor: Publication of the Michigan Political Science Asso., vol. 4. (1900)
- Kelso, Harold. "Waterways vs Railways", The American Economic Review. vol. 31. (1941)
- Kolko, Gabriel. The Triumph of Conservatism. Glencoe: Free Press of Glencoe, 1963.
- Railroads and Regulation, 1877-1916. Princeton: Princeton University Press, 1965.
- Larson, Henrietta. "A China Trader Turns Investor", Harvard Business Review. vol. 12. (1934)

- Larson, John L. Bonds of Enterprise: John Murray Forbes and Western Development in America's Railway Age. Boston: Harvard University Press, 1984.
- Neu, Irene D. Erastus Corning: Merchant and Financier, 1794-1872. Ithaca: Cornell University Press, 1960.
- McClintock, William R., Jr. Early Railroad Regulation in Michigan: 1850-1863. University of Wyoming, 1976.
- McFall, Robert Jr. Railway Monopoly and Rate Regulation. New York: Columbia University Press, 1916.
- Newcomb, Henry T. Railway Economics. Philadelphia: Railway World Publishing Co., 1898.
- North, Douglass C. Economic Growth of the United States, 1790-1860. Englewood Cliffs: Prentice-Hall, 1961.
- Overbey, Daniel L. Railroads, the Free Enterprise Alternative. Westpoint: Quorum Books, 1982.
- Parks, Robert J. Democracy's Railroads: Public Enterprise in Jacksonian Michigan. Port Washington, N.Y.: Kennikat Press, 1972.
- Pearson, Henry G. An American Railroad Builder: John Murray Forbes. Boston: Houghton, Mifflin & Co., 1911.
- Peckham, Howard H. "Michigan and the Transcontinental Railroad", Michigan History Magazine. vol. 21. (1937).
- Poor, Henry V. Influence of the Railroads of the United States in the Creation of its Commerce and Wealth. New York. 1869.
- Porter, Glen. The Rise of Big Business 1860-1910. New York: Thomas Y. Crowell, 1973.
- Potter, David M., ed., The Railroads. New York: Holt, 1960.
- Robson, Frank E. "An Experiment in Government Ownership", New York Central Line Magazine. vol. 6. (1926)
- Rowstow, Walter W. The Stage of Economic Growth. Cambridge: Harvard University Press, 1960.
- Sears, Marian V. "A Michigan Bureaucrat Promotes the State Economic Growth: George F. Porter Sells Michigan Central Railroad to Eastern Capitalists, 1846", Explorations in Entrepreneurial History. 2nd ser., vol. 3. (1966)

- Stover, John F. American Railroads. Chicago: University of Chicago Press, 1961.
- . History of the Illinois Central Railroad. New York: McMillan, 1975.
- . Iron Road to the West: American Railroads in the 1850s. New York: Columbia University Press. 1978.
- Tanner, H. S. A Description of the Canals and Railroads of the United States. New York: Holt, Rinehart & Winston, 1951.
- Taylor, George R. The Transportation Revolution, 1815-1860. New York: Holt, Rinehart & Winston, 1964.
- and Irene D. Neu. The American Railroad Network, 1861-1890. Cambridge: Harvard University Press, 1956.
- Uhelski, John M. Railroad Station Monograph. Crete, Nb.: Railroad Station Historical Society, 1979.
- Vanderblue, Homer B. Railroads: Rates, Service, Management. New York: The McMillan Co., 1923.
- Ward, James A. Railroads and the Character of America, 1820-1887. Knoxville: University of Tennessee Press, 1986.
- Yaggy, Duncan. John Forbes: Entrepreneur. Ph., D. Dissertation, Brandeis, (1974)

APPENDIX



Source: Parks Robert J. Democracy's Railroads.
New York: Kennikat Press, 1972. p.85.

Figure 1. RAILROADS AS STATE PROJECTS

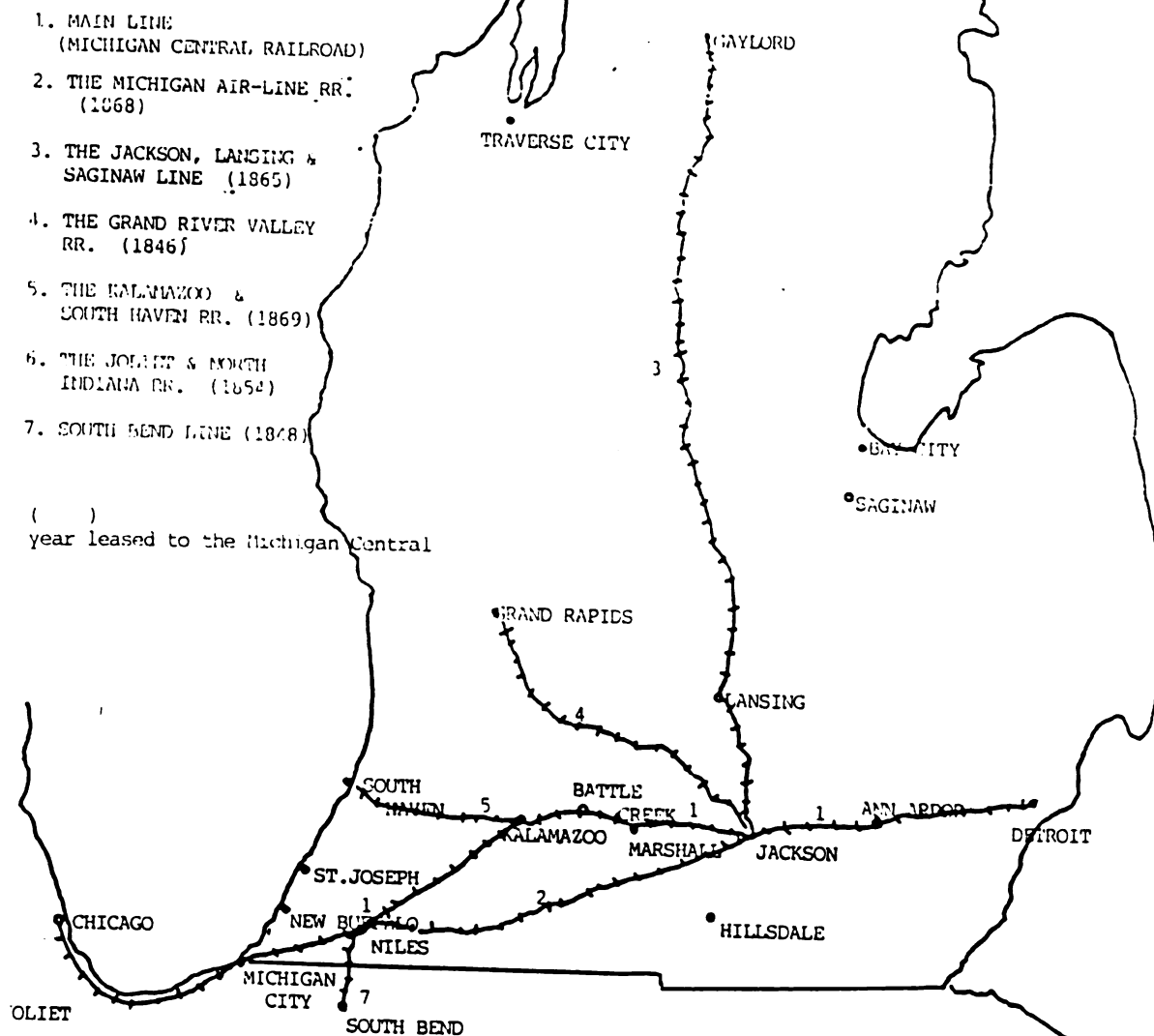


Figure 2. LINES OF THE MICHIGAN CENTRAL RAILROAD.

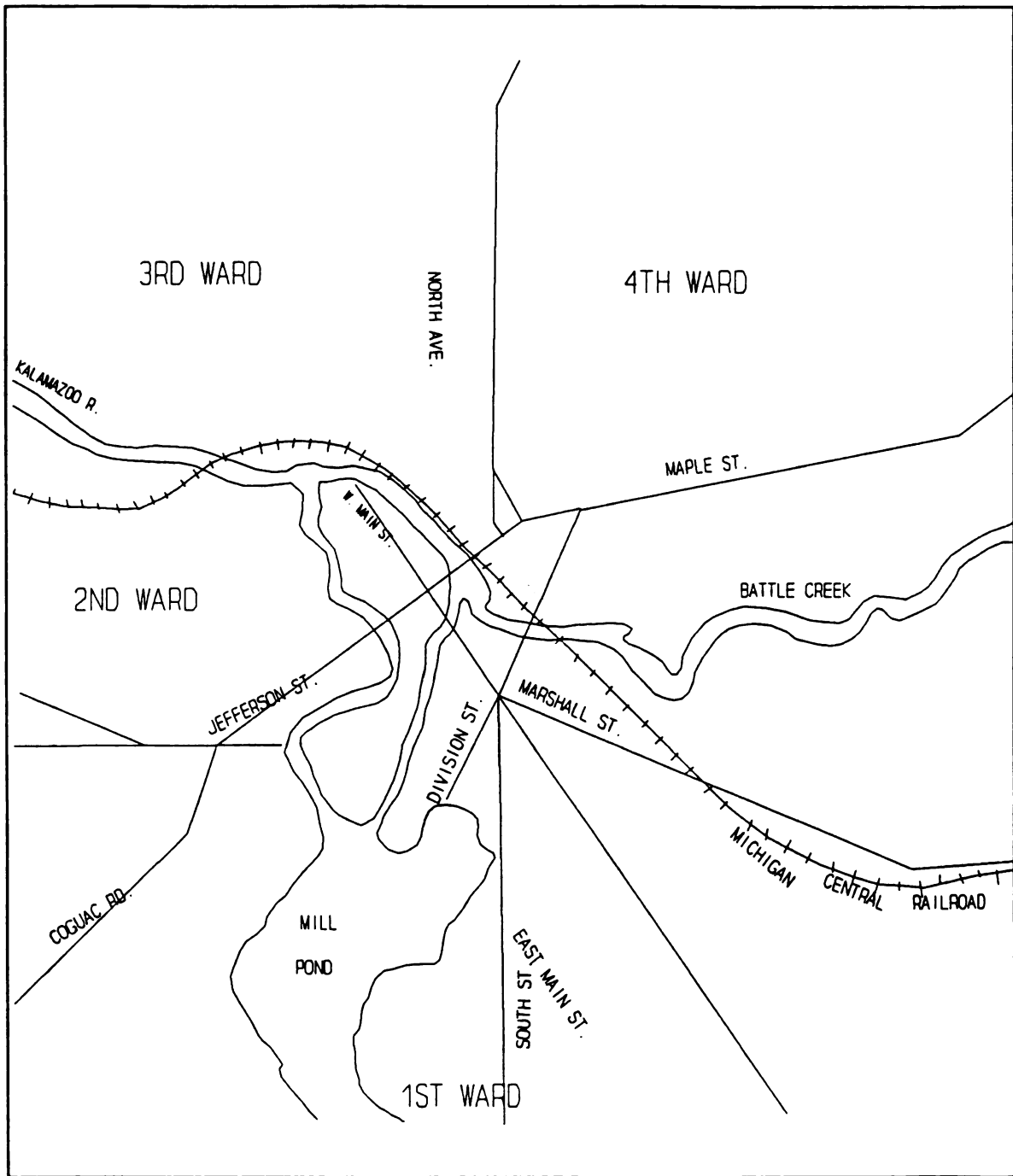
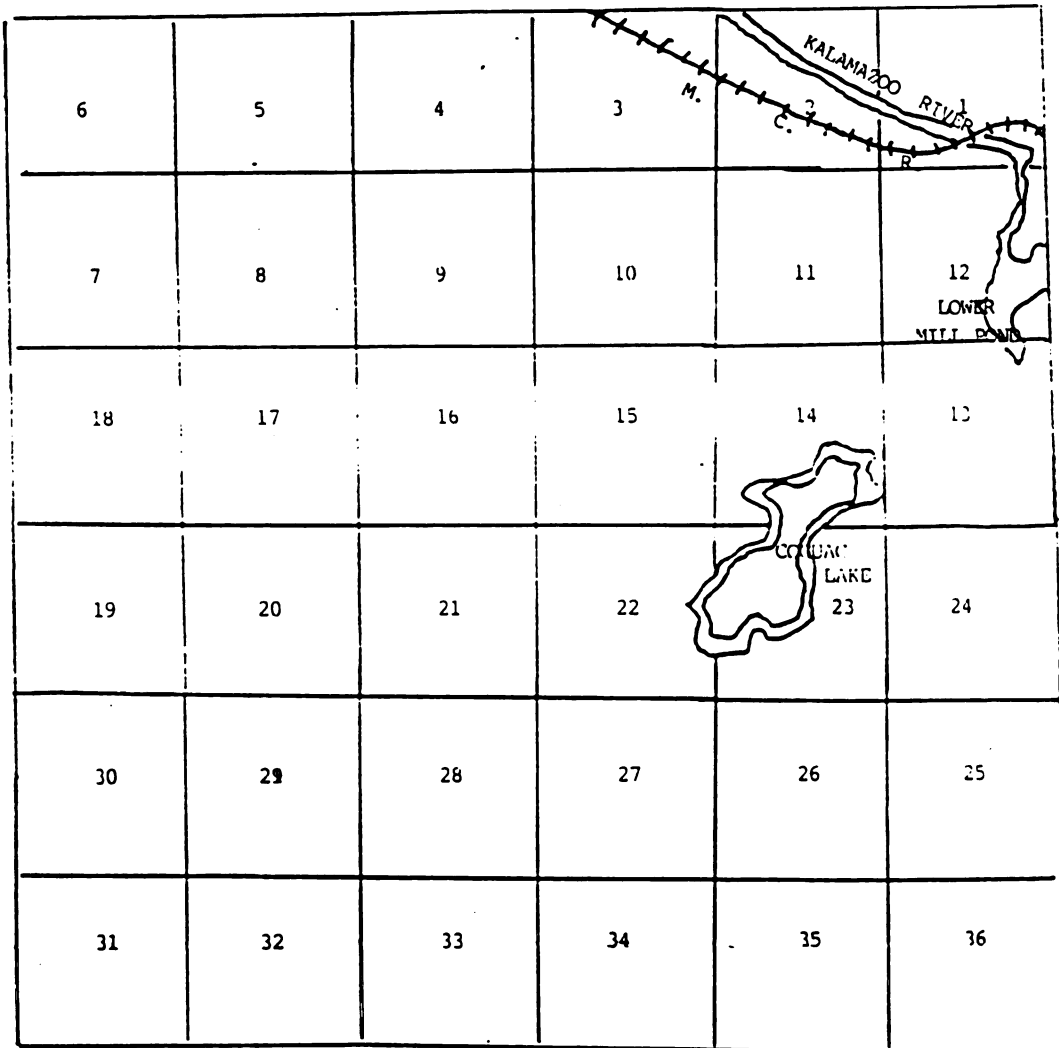


Figure 3. City of Battle Creek. 1859.



GROUP I. SECTIONS NO. 1. 2. 3. 10. 11. 12

GROUP II. SECTIONS NO. SECTIONS EXCEPT GROUP I

Figure 4. S. W. Part of Village of
BATTLE CREEK AND RAILROAD TRACK : T2S. R8W.