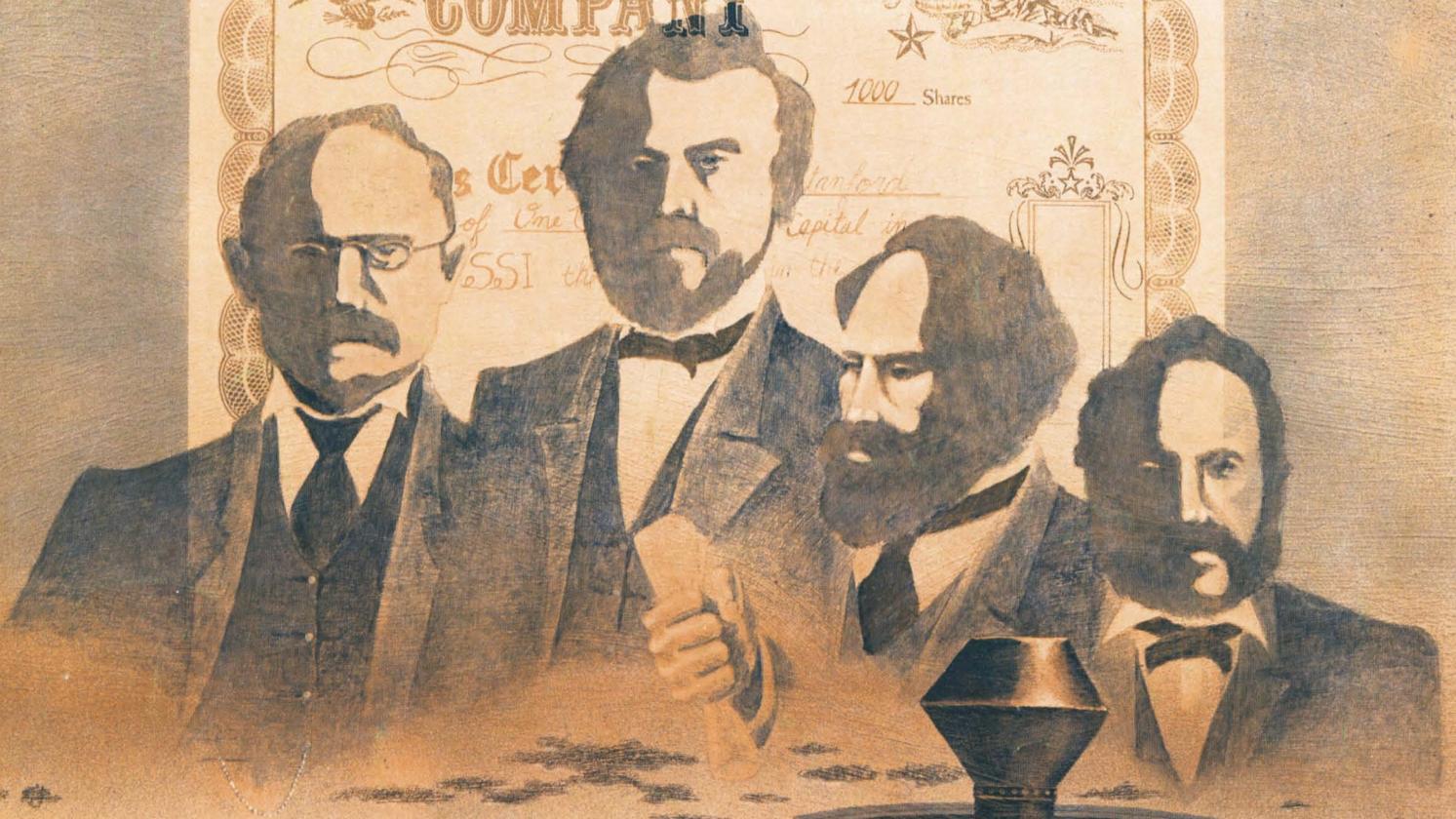


PLAYER MANUAL

RAILS WEST!

A GAME ON THE FINANCING & BUILDING OF THE AMERICAN TRANSCONTINENTALS, 1870-1900



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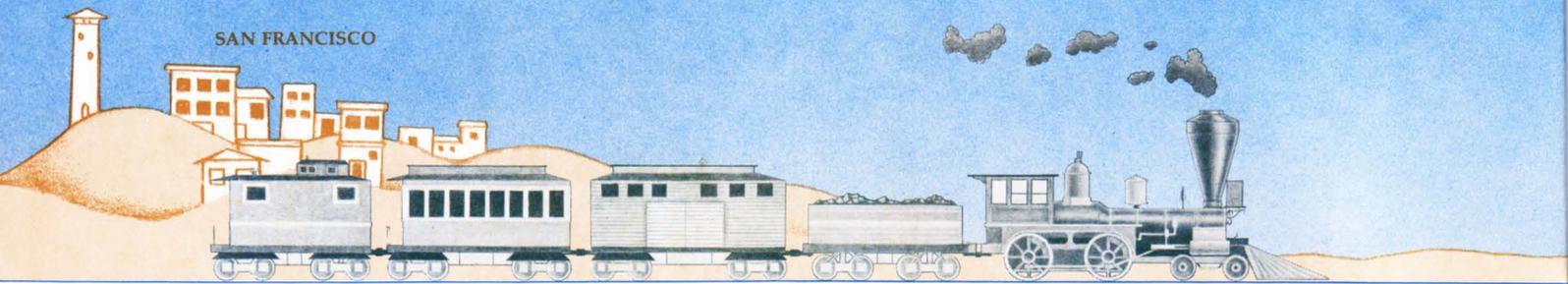
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Short Rules

Number of Players: 1 to 8, up to 4 under computer control.

Length of Game: The long scenario starts in 1870 and ends after the 1900 turn (31 turns). The short scenarios start in 1890 and end either in 1895 (6 turns) or 1900 (11 turns).

Winning the Game: The object is to accumulate cash, stocks, and bonds and to control viable transcontinental railroads. A transcontinental runs between one or more of the western terminals (Seattle, Portland, San Francisco, Los Angeles, or Mojave) and one or more of the eastern terminals (Duluth, Chicago, St. Louis, or New Orleans). Viability is the healthy relationship between the railroad's ability to make money by hauling traffic and its debts (bonds and call loans).

The Game Map: The map shows 33 cities connected by 68 potential or actual rail lines. Potential lines are white. Other colors show the efficiency level.

APPLE: Violet—low, Orange—medium, Green—high.

ATARI: Dotted red—low, Purple—medium, Red—high.

Starting the Game:

APPLE: Boot the RAILS WEST! disk. Have a blank disk ready if you think you might want to save the game. Instructions for making an SSI Game Save Disk will be given on the screen at the appropriate time.

ATARI: Be sure the BASIC cartridge is in place. Boot side one of the RAILS WEST! disk. Have an initialized DOS II disk available if you think you might want to save the game.

The setup menu seen in Figure 2.1 will appear on your screen.

The highlighted items describe the game that is ready for play. If you prefer a different setup, press the number of the item to be changed. (In short games, note the railroad under your control.)

Phases of a Turn:

1) Operations: Economic level is determined, railroad balance sheets calculated and displayed, bond interest and stock dividends subtracted from railroads' cash and added to companies' cash, stock and bond prices calculated and displayed, interest on call loans collected, bad call loans called and companies

declared bankrupt as appropriate, and some good call loans randomly called. The number of action points is determined for each company according to the difficulty level and number of players, with one action point deducted for each of the company's railroads. 2) Computer or Player Phase: Difficulty Levels 1 and 2: Computer Action Phase comes first. Difficulty Level 3: Random on turn 1, rotated thereafter. Difficulty Level 4: Players come first. (See Player Action Phase below). 3) Computer Action Phase: The computer-run players' actions are displayed. APPLE ONLY: Hit the space bar once to freeze (expect slight delay). Hit the space bar again to continue. Note actions that affect your interests.

Player Action Phase

MENUS and ACTION POINTS: There are two menus: Player Action Menu and RR Action Menu (reached by choosing RR ACTION from the Player Action Menu). Most actions cost 1 action point. The four free actions are READ MAP, READ ACCOUNT, RR STATISTICS, and READ ACCOUNT (on RR Action Menu). A bankrupt player or one with no action points left cannot select actions. A player can back out of an action with no point loss by pushing ESC.

PLAYER ACTIONS

BUYING AND SELLING SECURITIES: Transactions are in blocks of 1000 shares or bonds. During a turn, purchase or sale results in the price of stocks being recalculated, the price of bonds remaining unchanged.

SELL STOCK: The general public never buys stock at prices less than 3 and buys only as much as it already owns, a minimum of 1000-4000 shares.

BUY STOCK: A player must buy with cash. The general public does not offer all of its stock, it offers fewer (minimum: 1000) higher priced shares, more lower priced shares.

SELL BONDS: The general public does not buy bonds selling for less than 101.

APPLY FOR LOAN: The maximum is the net worth in cash and securities less the value of previous loans.

REPAY LOAN: This cancels a banker's loan.

START NEW RAILROAD: If fewer than 20 exist, the player may start a new railroad corporation, acquiring control and 100,000

shares of stock for a minimum payment of \$300,000. The new railroad must charter a line during the turn or be eliminated.

READ MAP: This is used for reference.

READ ACCOUNT: The player sees his cash balance, outstanding call loans, and number of stocks and bonds.

CONTROL RAILROAD: The player must own at least 10% of the outstanding shares of stock and more than any other player trying to gain control.

RR STATISTICS: The computer displays assorted information on any railroad selected.

RECALL RR LOAN: The player recalls all or part of any previously made loan. To repay, the railroad must have cash and not owe interest on its bonds.

RR ACTION: Actions can only be taken for a railroad under the player's control.

RAILROAD ACTIONS

SELL STOCK, BUY STOCK, SELL BONDS, BUY BONDS: These actions are performed in the same way as for player companies, with three exceptions: 1) A railroad may sell to or buy from the controlling player company or the market. 2) The cash a railroad gets for selling goes to paying off call loans. 3) Railroads are not allowed to own securities of other railroads.

REPAY BANK LOAN: This repays call loans that result from building or from raising efficiency.

RESIGN CONTROL: A player may resign control of a railroad to save action points in future turns.

READ ACCOUNT: The controller of a railroad can see how much cash it has, how much it owes in call loans, and how many unissued stocks and bonds are in its treasury. The extend of a railroad bankruptcy is shown as a negative bank balance.

CHARTER LINE: A railroad must charter (cost: \$300,000) a line segment before it can build on it. A railroad may have only one unfinished line segment at a time. The new line segment must connect to an existing line, if one exists. It must be completed within a given time limit (with exceptions) or the charter is lost and the partly finished line wiped off the map.

RAISE EFFICIENCY: The railroad does not need cash, but must not be bankrupt or owe bond interest. The new color is drawn on the

map; several important financial operations take place. These also occur when a railroad builds.

BUILD NEW LINES: A railroad must have an uncompleted chartered line to perform this action and can do so only once per turn on any rail line. It does not need cash, but must not be bankrupt or owe bond interest. Cost is based on the economic level, with a premium charged for more than 15 dots and a maximum of 30 dots possible on one line in one year. The first line of a railroad is always built at low efficiency. Lines of established railroads will be built at their efficiency. The computer will perform

several financial operations. In a year in which a railroad builds 10 or more dots, the time limit is extended one year.

CHANGE DIVIDEND: The controller can set a dividend rate from 0 to 25.

PAY INTEREST: If a railroad passed its bond interest at some time, the railroad may pay one year's back interest. This option may be selected more than once. The railroad must have enough cash to make the payments.

FLOAT SECURITIES: To circumvent the limitations of the open market, the railroad may float its securities through an investment banker. The bankers may offer free stock

shares to encourage the purchases in the market. The bankers' charge is 10%.

MERGE: If the proper conditions exist, this action allows one corporation to absorb another. A merger requires 3 action points.

End Turn Phase

During the End Turn Phase, the computer performs actions on railroads which have not completed lines within allotted times and on railroads involved in bankruptcies, receiverships, or reorganizations.

Historical Background

The railroads were the first great corporations in American life. Up to the 1880's and 1890's, even the greatest mercantile and manufacturing concerns were owned by individuals or partnerships. A successful business could start small and become large by operating efficiently and putting profits back into the business. Most businesses could be created with a small initial investment.

In contrast, a railroad business needed a large initial investment to build and equip even a short railroad. Money had to be spent before any revenue could come in. The problem was greater with the western American railroads, the subject of this game, than with railroads in other parts of the country. In many cases, the railroads were built into territories with few or no potential customers, and the railroads' hopes of making a profit relied on attracting settlers to their territories. Furthermore, the western rail lines had to be built over long distances and poor terrain, conditions that again necessitated a large initial investment. This meant that no individual or small group had enough cash to build a line. Entrepreneurs who wanted to get into the railroad business had to attract investment funds from many people or from government. Ultimately, for the western railroads, this meant that railroads had to be organized as corporations.

Normally, a corporation has several characteristics. The business belongs collectively to the owners of the numerous shares of its stock. An individual stockholder's risk is limited to the cost of the shares he has purchased, and he can sell all or some of his shares at any time. Well-organized markets exist to make it easy for a stock owner to learn the value of his holdings and to find buyers.

During the time covered by RAILS WEST!, most corporations worked in this way. But some railroad companies were started on the hope that stock shares could be sold to finance the building of the lines, while, as a matter of fact, investors seldom wanted to purchase the shares of the new railroads. Investors might be interested in a new railroad's bonds which could represent a first mortgage on the railroad's property and which could have the first claim on any income made by the railroad, but investors were seldom interested in its stocks which might represent nothing substantial at all and which might never produce any income in the form of dividends. Also, while entrepreneurs found it easier to sell bonds than stocks, sometimes it was hard even to find a market for the bonds. The entrepreneur who was building a new road spent much of his time desperately searching for various kinds of short term financing to carry the railroad from day to day.

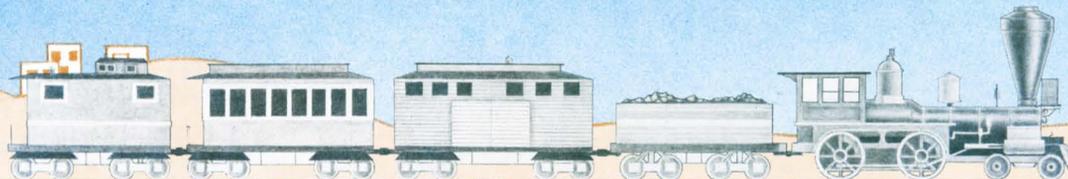
Often, this financing took the form of a call loan. Call loans, usually for a high rate of interest, were made

for an indefinite period of time. This means they could be "called," or cancelled, at any time. A banker did not make a loan without security, most often consisting of stocks and bonds in the railroad's files. As long as short-term credit help up, the railroad could continue its building. The entrepreneur was engaged in a juggling act. He tried to keep his loans in the air while hoping 1) that the bankers would not get nervous and call in the loans and 2) that a good market would be found for the railroad's bonds. If the bankers were to get nervous, the bonds would have to be sold too soon, and the railroad would have to carry a burden of excessive bond debt for years.

The general state of the economy was important. In good times, there was a better bond market, interest was lower on call loans, and railroad operations were profitable. In bad times, the bond market collapsed, interest on call loans skyrocketed, railroad incomes declined, and bankers tended to get very nervous.

If stock did not play the role that was originally hoped for it, what kind of role did it play? When a railroad was new, shares of stock were virtually worthless. If a railroad became well established, the stock might acquire a considerable value. Meanwhile, they figured in the story in two ways: often, they were given away with bonds in order to increase the attractiveness of those investments or they were kept by the entrepreneur as his profit from the enterprise if things went well.

LOS ANGELES



How did the situation differ for railroads that were no longer new? An established railroad already had a market for its bonds and maybe even its stock. When it built new lines, bond sales could retire any call loans it had acquired. To get control of an established railroad, an entrepreneur had to buy shares from the previous owners until he had enough to assert control. Since most shareholders were not interested in running a company, an entrepreneur did not need to get an actual majority in order to start running things himself. An entrepreneur who had cash and wanted to gain control of a company might actually welcome a depression because it allowed him get to control cheaply. Even as the head of an established railroad that had cash, he might welcome a depression that brought building costs down.

I have been assuming that the interest of the entrepreneur was the same as the interest of the railroad he ran. Sometimes it was and sometimes it wasn't. Sometimes an entrepreneur had control of more than one railroad. If he had, let's say, all of the stock of railroad A and only a little of the stock of railroad B, he might find it in his interest to run the two roads so that railroad A prospered, even as railroad B suffered. An entrepreneur as a railroad manager might make deals with himself as an investor. Again, if he did not own most of the railroad, he might make deals which were not in the railroad's best interest.

RAILS WEST! is a complex game, but it is a considerable simplification of the reality it attempts to mirror. In reality, for example, there were all kinds of bonds (which were almost as speculative as stocks). There were bonds issued at interest rates of from three to nine percent. Most bonds had a maturity date — a time when the principal had to be paid and the bonds retired. Any single railroad might have as many as a dozen different kinds of bonds current at any one time. In the game, this is simplified; only one kind of non-maturing bond at one interest rate is sold.

The legal relationships between railroads were even more varied, and the simple merger of two railroads which in the game represents all of these relationships was something which was seldom seen at all. And, although the influence of the government was slight during the period represented in the game, its actions were not limited to creating land grants.

Many more lines were built in the West than are allowed in the game. Also, a more accurate representation of the whole building process would have taken account of the great variations in expense of building over different terrains. Building through mountains is obviously quite different from building across prairies.

Despite these simplifications, I believe RAILS WEST! reflects the basic problems of financing the American railroad system in the latter part of the 19th century.

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The Game Plan

RAILS WEST! is a game in which the players are late 19th-Century entrepreneurs — like Jay Gould, James J. Hill, and Collis P. Huntington. Players must make decisions about their personal financial strategies and about the strategies of the railroads they own and control.

The railroads were the first great corporations in American. As corporations, they were controlled by the person or persons who held their stocks. The long game begins in 1870; some railroads were established prior to this and

their stocks are owned by the "general public." The player-companies can buy into these railroads by buying their stocks from the general public through the market. Since most people do not take an interest in the running of the companies in which they hold shares, the game only requires that the player get 10% of the shares of stock of an existing railroad in order to control it (unless another player is also buying the same stock and chooses to contest control). The players may start new railroads as well. Since they are starting new corporations, they start with 100% of the stock and total control. Depending on the course of the game, they may or may not keep the stock.

Although the stockholders are the owners of a corporation and can direct its moves, their actions are limited by the rights of the people to whom the corporation owes money. Building a railroad required payment or promises of payment for material, wages, and equipment before the railroad earned money. Since few of the creditors could stay content for very long with just the promise to pay, the railroads met these heavy pre-operating expenses by



borrowing from as many bankers as possible. The only money readily available for such expenses was in the form of call loans. These were loans with high interest rates, due and payable at the whim of the bankers who made them. Even at high rates of interest, bankers required collateral, but the only assets a new railroad had that could be conveniently grabbed if the debt went bad were its stocks and bonds.

Bonds are also promises to pay, but of a different form. A railroad's debts were divided into small chunks (in the game, a bond has a face value of \$1000); in this form, the debt of a sound railroad could appeal to all kinds of investors. A bond had a low rate of interest and a solid maturity date (when the principal had to be paid). In the game, bonds do not mature. Naturally, railroads preferred a debt in the form of bonds to one of call loans. But the low interest of a bond is actually only low if the bond is sold by the railroad at something close to its face value. If a bond is like those in the game and has an interest rate of 7% on a face value of \$1000, it will have an actual interest rate of 14% if the railroad is compelled to sell the bond for \$500, and a ruinous 28% if it sells the bond for \$250. It should be clear then that the primary problem of a new railroad is not raising the cash to build, but raising the cash in such a way as to put its debt on a sound footing.

Therefore in the game, when a new rail line is built, a call loan is automatically established; and at the same time, the railroad is given the opportunity to authorize (print) some new bonds and stock

shares. These securities will act as collateral for the loan until the railroad controller sees that it would cost less to sell bonds and retire the loans than to hold onto the bonds and continue to juggle call loans. If an old established railroad is building an addition, it might be desirable to sell bonds every year because bonds of an established railroad might have a good reputation and be selling at or near their face value. But the bonds of a new railroad are hard to sell; and if the railroad sells very many for their market value early in its operation, the railroad will saddle itself with a permanently unmanageable debt.

While the controller waits for the value of a bond to go up, he can attempt to work through the bankers by "floating" a limited number of bonds. In this way, the bonds are sold for artificially high prices by bundling them with free stocks. Under some circumstances, this action will cause the permanent market price to go up faster than it would otherwise. On the other hand, a railroad which allows its debts to rise above the value of the securities in its vaults will find the bankers foreclosing and forcing the sale of those securities at low prices. Quite often, such a sale will be a prelude to bankruptcy because the bond sale will fail to pay off the call loans.

A railroad which falls into bankruptcy either by failing to pay its call loans or by failing to pay the interest on

its bonds will not cease operating. As a public service, a railroad cannot be allowed to stop running simply because it cannot pay its debts. Therefore, a railroad with extreme financial problems will be operated under the direction of a court in what is known as a receivership. In time, a receivership leads to reorganization. The theory of reorganization is this: the stockholders of a corporation are its owners and therefore the owners of its property, but the bonds of a railroad are a first mortgage on that property. If the owners cannot operate the railroad so as to pay the mortgage holders, the latter can foreclose and take over the property. The old stockholders are out in the cold, and the old bondholders become the stockholders themselves. The new owners of the railroad now allow the railroad to cancel part of the debt that it owed to them so that it can handle the rest of the debt better, and the new owners hope that eventually the railroad will become profitable enough to pay them dividends on their new stock shares.

In short, a player may try to nurse a railroad that he owns all or part of into financial health, to invest in low price bonds of railroads that are close to reorganization, or to play the stock market without worrying about the problems of controlling railroads, being very careful not to invest in any railroad that is about to be reorganized. Later in the game, he may have control of a sound railroad and try to make it better.

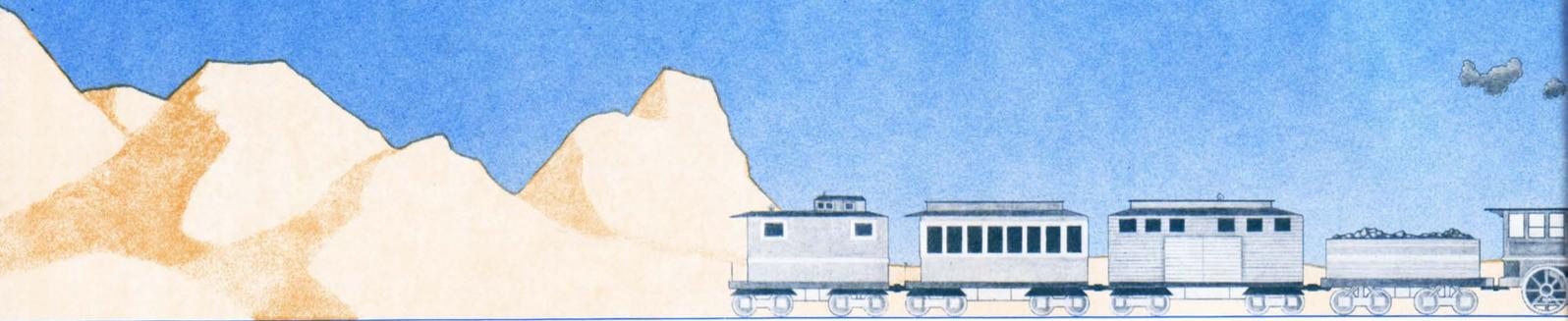
Winning the Game

In the longer scenarios, there are two ways to be a winner (by having the greatest personal fortune at the end of the game and by controlling the most viable transcontinental railroad) and one way to be a GRAND WINNER (by accumulating the greatest number of adjusted points). In the 1890-1895 scenario, there is one winner, the player with the largest net worth.

A transcontinental railroad is defined as one which runs between one or more of the western terminals (Seattle, Portland, San Francisco, Sacramento, Los Angeles, or Mojave), and one or more of the eastern terminals (Chicago, Duluth, St. Louis, or New Orleans). The most viable railroad is the one which has the healthiest ratio between its ability to make money and its debts (consisting of bonds and call loans).

A railroad makes money primarily by carrying traffic. Each dot that the railroad builds will originate a small

amount of traffic. Furthermore, each city that the railroad serves also originates some traffic. Cities are sources not only for their own traffic, but also are gathering places for the traffic that has been shipped from other cities. City traffic is divided evenly among all competitive lines. A railroad gets a traffic advantage for having a connection with Chicago. By counting dots and calculating connections, the computer arrives at a traffic variable for each railroad. The traffic



variable is multiplied by an amount which varies according to the state of the economy to give the traffic income. At the end of the game, a "fair" economy is assumed for the purpose of the calculation.

The traffic income is the amount of money the railroad takes in from its shippers and passengers. But it must also pay money out in the form of operating expenses. This amount varies from 50% to 70% of the traffic income depending on the efficiency of the railroad. Thus a railroad will always make a profit of 30% to 50% on the traffic it hauls. Some railroads will also make a small amount on land sales to

settlers (the exact amount depends on the number of land grant dots in the railroad and the state of the economy). But although railroads always make money on operations, they are not always in good financial shape because of their fixed costs — the amounts they have to pay in interest on their bonds and call loans.

The only way to increase traffic is to build new lines, but increasing traffic does not always increase profitability or viability. The ways to increase those

qualities are to increase efficiency if it is at low or medium levels, to sell bonds at high prices in order to retire call loans, and to buy back bonds from the market when the railroad has extra cash in its treasury (especially during a depression when the railroad might be able to buy its bonds back for a price lower than it originally sold them for). The price of a railroad's stocks has nothing to do with its viability, so it is also valuable to the railroad to cut dividends to zero and to sell stock in order to buy bonds. However, these latter activities, while helping the railroad's viability, may harm the net worth of the railroad's controller.

Playing Strategies

There are three readily identifiable strategies for playing RAILS WEST!: Speculating, Building, and Wrecking. A player may concentrate on one of these or move among them as circumstances change.

Speculating

The speculator hopes to make his profit from rises in the prices of stocks and bonds. To be a speculator, you do not need to control a railroad; but speculation is less risky if you deal in the securities of a railroad that you control. Successful speculating ordinarily needs a rising market. If the economy has gone from Good Times to Great Times or from Great Times to Boom Times, a stock may have gone up some, but not yet reached its peak. Since a stock is reevaluated every time a player buys or sells it, a player's actions may build the price of the stock. The first step in taking advantage of a rising market is to shop for a good stock, either by buying 1,000 shares of a likely prospect and watching to see if the price rises or by comparing the prices of shares in one year with those of the previous year. If a stock has just risen in a market that has just risen, an even greater rise is possible. After identifying an available stock that is likely to rise, buy as many shares as you can afford while saving enough cash for purchase of an additional few thousand shares.

After purchasing shares, check the price. If it has not risen more than two or

three points, it is not worth your time. Sell it and look for a livelier property. Similarly, if it falls, get out fast. But if it rises by more than a few points, it may continue to rise. Continue to buy 1,000 shares at a time so as to cause the maximum number of reevaluations. If you are running out of action points, consider selling out to get your profits; the market may decline in the next year.

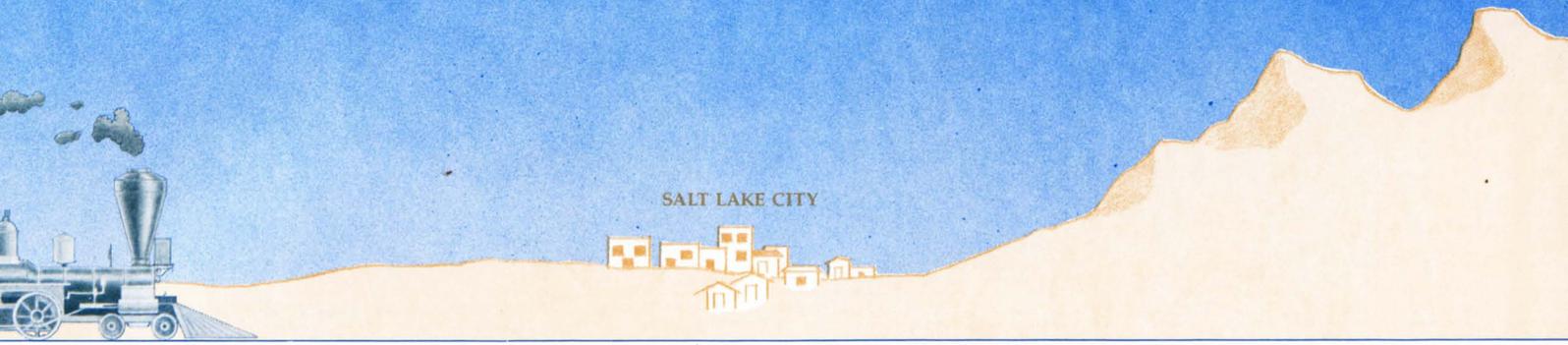
Beware of buying too many shares. When you are ready to sell, if you own more shares of a specific stock than the general public, it will not buy all of them from you at once. So if your sales cause the price to go down or if you run out of action points, you will not be able to turn all of your paper profits into actual profits. Be aware of the total number of stocks that the railroad has issued and watch what the other players are buying.

A stock's price is dependent on several factors. The two most important are the state of the economy and the railroad's profits. The price is also sensitive to the number of shares owned by players (a stock owned by insiders tends to go up), the number of bonds issued (money paid to bondholders is not available to pay dividends), and the dividends actually paid. Some of these factors can be affected by the player who controls the railroad. For example, if a railroad can be made to pay a large dividend, the price of its stock will go up.

Before buying, you may want to borrow as much as you can from the

bank. Borrowing will increase your winnings if you are right. But it will increase also your chances of bankruptcy if you are wrong. Later in the turn, when you have made a paper profit, consider selling so that you can pay back loans and save a second year's interest. On the other hand, if you have a stock that has risen in price, consider borrowing still more money. The bankers will be more willing to lend you money in the middle of a turn than at the beginning. You should seldom if ever borrow money at the end of a turn since you will have to pay a year's interest on it without being able to use it.

In general, the opportunities in bonds are not as great as in stocks. Bond prices do not change during a turn, and the prices of good bonds do not change as much as those of stocks. Furthermore, bonds are much higher in price, often making them too expensive for involvement with them. Cheap bonds, however, are usually a good investment. They are available if a railroad is failing, especially if it has just missed paying its interest. Cheap bonds are especially good if the railroad is about to be reorganized. Reorganization usually results in a dramatic increase in the value of the bonds; this more than makes up for the fact that their number is cut in half in the process. It also gives the bondholder some stocks to convert to cash or to use to control the railroad. Of course, do not invest in the stocks of a railroad that is about to be reorganized.



Building

To be a builder, acquire a substantial interest in a good railroad; then do everything you can to make the railroad better. If you succeed, you will increase 1) the value of your substantial interest and 2) the possibility of being a controller of the most viable transcontinental (a winner in the longer scenarios).

At the beginning of the 1870 scenario, there are two ways to acquire a substantial interest in a good railroad: 1) start a railroad yourself and make it a good one or 2) buy stock in one of the smaller, potentially profitable railroads. Acquiring a substantial interest in one of the well-established railroads before you have made some money on something else is not feasible. In the 1890 scenarios, you will be given a substantial interest in a railroad at the start.

How does a railroad become a good railroad? Unless you have at least 10 million dollars to tide it over its first few years, start it only in Great Times or Boom Times. Often, the best way to provide enough cash is to lend it some. Pay particular attention to its bond prices. A railroad can afford to build lines only if its bonds sell for good prices, preferably \$900 or more. A new railroad will be in trouble immediately because its bonds sell for \$200 unless particular steps are taken. One such step is to float some bonds through a banker. If the railroad gives away 5 free stock shares with each bond and sells at least 10,000 bonds, not only will the railroad get more for its bonds, but in a good economy the action will tend to increase the permanent price of the bonds. Another is to assure that the railroad has enough cash in its treasury at the end of the turn to pay the interest on its outstanding bonds and that it has at least 1,000 bonds outstanding. The general public, buying bonds as an investment, is encouraged as a railroad establishes a record of paying its interest on time.

If you pay no attention to the bond prices and interest, you may find that the bankers have called their loans, forcing the sales of the bonds at ridiculously low prices and saddling the railroad with a debt that leads directly to bankruptcy. There are some times in which you might choose that as a strategy. If you can snap up the bonds in a subsequent action phase at those same ridiculously low prices and wait for the railroad to go bankrupt and be reorganized in three years, you may find that you have

acquired a healthy railroad at a bargain price. In the process, however, you certainly will have lost your original investment of at least \$300,000. You might find also that some other player has snapped up the bonds before you or that the wait is unacceptably long.

A railroad that is run at high efficiency paying only 50% of its traffic income in operating expenses is better off than one paying 60% or 70%; therefore, increase efficiency as soon as possible. Extend the railroad by chartering and building new lines and when appropriate, merge with other railroads. Obviously, these actions can only occur when the railroad can afford them, and this again depends on the bond prices. It is easier to build and raise efficiency in poor times (Panic, Depression, and Mild Depression) when prices are low. The desirability of merging depends on the other railroad's location and financial state. If you can complete a transcontinental or achieve a connection with Chicago (worth something in itself), then the merger is probably a good idea; but if the railroad that could be merged is overloaded with bonds and other debts, its acquisition could harm your healthy railroad.

When you have a strong railroad going, pay some attention to its stock prices. Before you start to raise its stock prices, be sure you personally hold as much as possible. If your railroad has given away shares with its bonds or been forced to sell some of its shares, go into the open market and pick them up from time to time. You may also have your railroad sell you some of its shares from its treasury. Keep in mind that the more outstanding shares there are, the harder it is to raise the price. On the other hand, there is a limit over which the price cannot go, so it is possible when a stock is at that limit to issue (that is, sell yourself) much more stock without causing a fall. The most effective way to control the price of a stock other than by regulating the number of shares is by adjusting the dividend rate. The higher the rate, the more it will drive up the price of stock, up to its limit. You must be careful not to get so greedy as to raise the dividend rate to an impossible height, causing the railroad to pass its dividend. As the holder of the great majority of your railroad's stocks, you will be enriched by a high dividend in two ways: 1) the dividends themselves will go into your bank account as cash and 2) the

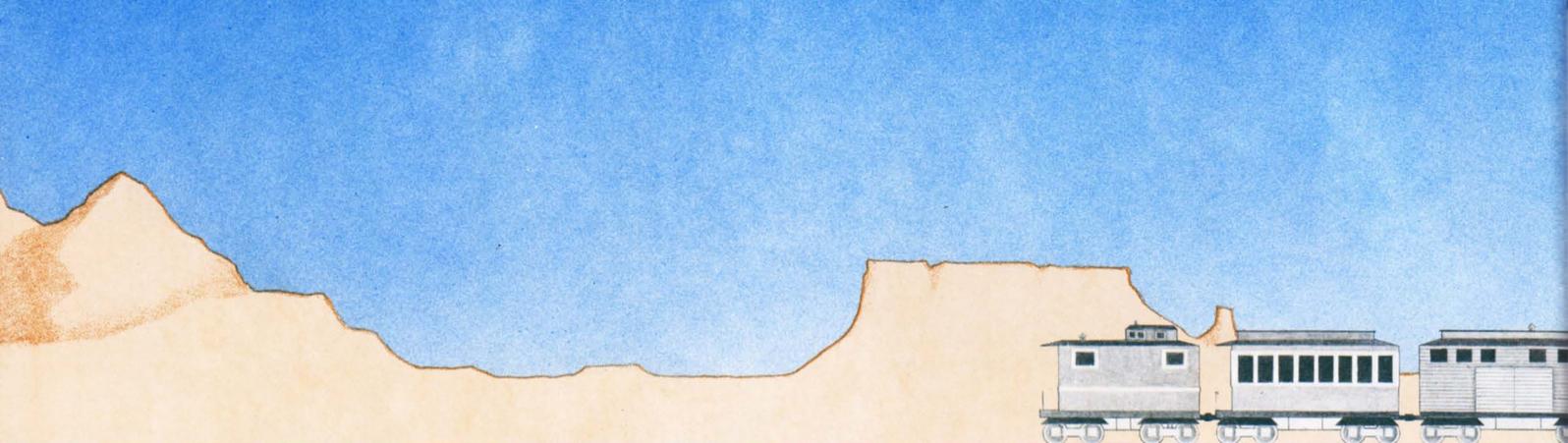
value of your stock portfolio will increase at the same time.

A good way to increase the health of your railroad is by having it buy up its own bonds. The viability index of a railroad at the end of a game is determined by the ratio between its net income and its debt. Stocks, which are certificates of ownership, do not count as debt. Bonds are usually the major debts; thus, if you can decrease the number of bonds, you will increase the viability. You will tend also to increase the value of stocks which react favorably to the increase in profit per share.

Wrecking

Sometimes you can make more money by wrecking a railroad than by trying to make it successful. There is a classic way to do this. Start a new junky railroad and acquire as many of its stocks and bonds as you can. Let it go bankrupt if you run out of action points, but be sure it does not pass its bond interest. Meanwhile, purchase an interest that is just enough to establish control of a healthy railroad. The two railroads must adjoin and must have the same efficiency levels. Then merge the two railroads and sell out all your holdings before the suckers (general public) realize that the newly expanded railroad is not as healthy as it used to be. Of course, this tends to be a self-limiting strategy. If you and your opponents have done it very often, you will find that there are very few healthy railroads around to do anything with by the end of the game. Furthermore, if your timing is just a little off, you may get burned.

It is possible to use wrecking tactics without using a wrecking strategy — that is, without completely destroying the railroad involved. For example, take systematic advantage of the 10% you are allowed to cheat your railroad. Buy its shares on the market for their regular price and then sell them to the railroad for 10% more. Or reverse the process. Occasionally, adopt the tactic of selling bonds for the purpose of paying inflated dividends (mostly to yourself as majority stockholder). Of course, this is a very bad financial practice, but an otherwise healthy railroad can do it in moderation. Remember, with any kind of wrecking, you may have to live with the results; and except in the shortest scenario, you need to have control of a healthy transcontinental railroad to get the impressive double win.



Complete Rules and Instructions

1.0 THE GAME: PHASES OF PLAY

1.1 THE OPERATIONS PHASE.

The computer evaluates, alters, and displays the economic conditions in the country and the current situation of each of the player companies and railroad corporations.

1.2 THE ACTION PHASE. The player-run companies and the computer-run companies make their moves.

1.3 THE END TURN PHASE. The computer reports the actions it takes on the railroads; and if the players choose to end the game as well as the turn, the computer determines the winners.

2.0 GETTING STARTED

2.1 SETTING UP

APPLE: Boot the RAILS WEST! disk. Have a blank disk ready if you think you might want to save the game. Instructions for making an SSI Game Save Disk will be given on the screen at the appropriate time.

ATARI: Be sure the BASIC cartridge is in place. Boot side one of the RAILS WEST! disk. Have an initialized DOS II disk available if you think you might want to save the game.

```

1) NEW GAME      SAVE GAME
2) NBR. OF PLAYER COMPANIES: SOLITAIRE 2 3 4 5 6 7 8
3) NBR. OF COMPUTER-RUN COMPANIES: 0 1 2 3 4
4) LEVEL OF DIFFICULTY: 1 2 3 4
   (1 = HARDEST  4 = EASIEST)
5) 1870-1900 SCENARIO
6) 1890-1895 SCENARIO
7) 1890-1900 SCENARIO
8) HISTORICAL SETUP  RANDOM SETUP

PRESS 1-8 TO CHANGE SETUP
OR <SPACE> TO CONTINUE

1) ACTION PHASE CONTROL
   AUTOMATIC      PLAYER CONTROL
PUSH 1 TO CHANGE OR <SPACE> TO START
  
```

Figure 2.1

The setup menu seen in Figure 2.1 will appear on your screen.

The highlighted items describe the game that is ready for play. If you prefer a different setup, press the number of the item to be changed.

2.2 TYPES OF PLAY

The players may choose to see or to keep secret the accounts of both the player-run companies and the computer-run companies. Players may display the accounts on the screen or print hard copy.

2.3 PLAYERS

The maximum total number of player companies is 8. The computer may control from 0 to 4 of these companies. The assets of the companies vary according to the number of players and the level of difficulty chosen for play.

2.4 ASSETS

The tables in Figures 2.4-A, 2.4-B, and 2.4-C sum up the assets resulting from the various options shown in 2), 3), and 4) of the Set-up Menu.

ACTION POINTS	
Total number of companies:	1-5
Computer-run companies:	8 APs per turn.
Player-run companies:	
Difficulty Level 1:	5 APs per turn
Difficulty Level 2:	6 APs per turn
Difficulty Level 3:	8 APs per turn
Difficulty Level 4:	11 APs per turn
Total number of companies:	6-8
Computer-run companies:	7 APs per turn.
Player-run companies:	
Difficulty Level 1:	5 APs per turn
Difficulty Level 2:	6 APs per turn
Difficulty Level 3:	7 APs per turn
Difficulty Level 4:	10 APs per turn

Figure 2.4-A

2.5 SEQUENCE OF PLAY

2.5.1 Player-run Companies and Computer-run Companies.

The level of difficulty determines the sequence.

Difficulty level 1 or 2: All computer-run companies move before any player-run companies. Difficulty level 3: The computer randomly picks the player-run company or the computer-run company to move first and then alternates. Difficulty level 4: All player-run companies move before any computer-run companies.

2.5.2 Players

The sequence may be under automatic control or player control.

Automatic control. The computer randomly selects the first player in the first year. Thereafter, the first turn rotates according to the sequence in which the player companies were originally entered.

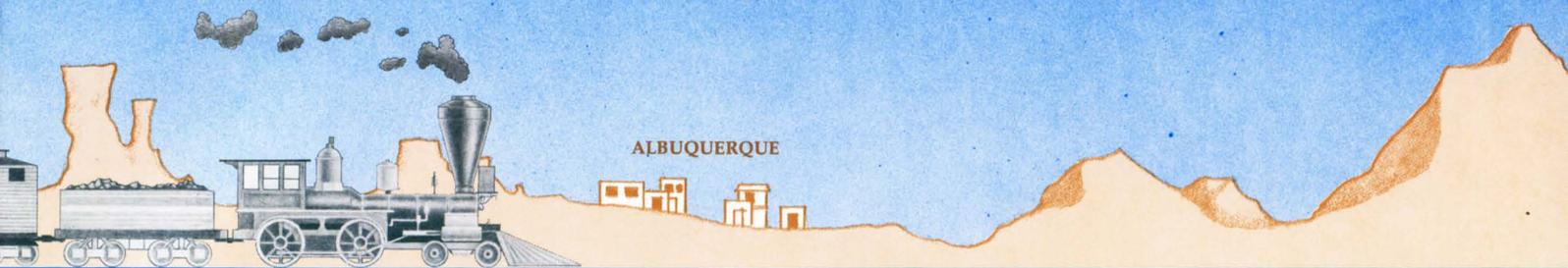
Within each year, the computer calls on each player to move in order, skipping over those who were bankrupt at the start of the action phase and those who have used up their action points.

STARTING CASH: 1890	
The number of companies does not affect the starting cash value.	
The computer-run companies always get the amounts listed for level 3.	
The player-run companies acquire the following amounts.	
Difficulty level 1:	\$30,000,000
Difficulty level 2:	\$50,000,000
Difficulty level 3:	\$70,000,000
Difficulty level 4:	\$100,000,000

Figure 2.4-C

STARTING CASH: 1870		Total number of player companies...amounts in thousands							
Diff. Level		1	2	3	4	5	6	7	8
1:	\$4000	\$2000	\$1333	\$1000	\$800	\$666	\$571	\$500	
2:	\$6000	\$3000	\$2000	\$1500	\$1200	\$1000	\$857	\$750	
3:	\$8000	\$4000	\$2666	\$2000	\$1600	\$1,333	\$1,142	\$1,000	
4:	\$13000	\$8000	\$6000	\$5500	\$5000	\$4666	\$4428	\$4252	

Figure 2.4-B



Information actions (READ MAP, READ ACCOUNT, READ RR ACCOUNT, and RR STATISTICS) do not use up action points.

Players may have unequal numbers of action points at the start of the phase (because of unequal control of railroads) and may run out of action points unevenly (because of the actions chosen).

If a player runs out of things to do before he runs out of APs, he may push ESC. He will be asked to confirm that he does want to pass, in which case the computer will subtract one AP from his allotment and go on to the next player. A player must pass once for each AP that he does not want to use.

2.6 STARTING CONDITIONS

2.6.1 Historical. The initial setup represents the actual situation in 1870 and is the same each time the game is played.

2.6.2 Random. The initial setup differs from game to game, the situation of the railroads being determined by a random factor.

3.0 SCENARIOS

3.1 LONG GAME

3.1.1 Each turn of the long game represents one year from 1870 to 1900. The game ends automatically at the end of the 1900 turn. At the conclusion of any turn before that, the players may tell the computer to end the game and determine the winners.

2.1.2 The following railroads exist as the game opens:

1. Central Pacific (CEN PAC)
2. Union Pacific (UN PAC)
3. Kansas Pacific (KS PAC)
4. Southern Pacific (SO PAC)
5. Denver Pacific (DEN PAC)
6. Atlantic & Pacific (A & P)
7. Kansas City, St. Joseph & Council Bluffs (KC & CB)
8. St. Louis, Kansas City & Northern (KC & N)
9. Missouri Pacific (MO PAC)
10. Chicago, Milwaukee & St. Paul (C,M&SP)
11. Chicago & Northwestern (C & NW)
12. Chicago, Rock Island & Pacific (CHI, RI)
13. Chicago, Burlington & Quincy (C B & Q)
14. Chicago & Alton (C&ALTON)

3.1.3 The map at the start of the game shows the situation of the western railroads in 1870. As the game proceeds, the map changes to reflect the building of new lines and the increasing efficiency of older lines. The map shows 32 cities and one strategic location, called Raton Pass. The cities are connected by

68 potential or actual railroad lines. At first, 53 of these western lines are only potential lines, shown on the map in white.

APPLE: Fourteen are built, shown on the map in violet or orange, and one is partly built, shown as partly violet and partly white.

ATARI: Fourteen are built, shown on the map in dotted red or purple, and one is partly built, shown as partly dotted red and partly white.

The year before the start of the game, the first transcontinental rail connection had been completed when the Union Pacific and the Central Pacific were joined in Utah.

3.1.4 Winning The Game

In the long game, there are three winners:

1. A Money Winner — the player who has amassed the greatest net worth.
2. A Transcontinental Winner — the player who has control of the most viable transcontinental railroad.
3. A GRAND WINNER — the player who has amassed the greatest number of adjusted points: number of dollars of net worth/1000 + (total ratings of all transcontinental railroads controlled × 100,000).

Note: Since this formula counts more than one transcontinental, it is conceivable, though unlikely, that the GRAND WINNER will be different from either the Money Winner or the Transcontinental Winner.

If there is no viable Transcontinental at the end of the game, then neither a Transcontinental Winner nor a GRAND WINNER will be named.

3.2 SHORT GAME

The short version begins in 1890 with players already owning railroads as if they had been taking actions in previous years.

3.2.1 This scenario starts with the following railroads built.

1. Central Pacific (CEN PAC)
2. Union Pacific (UN PA) ★
3. Southern Pacific (SO PAC) ★
4. Missouri Pacific (MO PAC) ★
5. Chicago, Milwaukee & St. Paul (C,M&SP) ★
6. Chicago and Northwestern (C&NW) ★
7. Chicago, Burlington & Quincy (C B & Q) ★
8. Chicago and Alton (C&ALTON)
9. Atchison, Topeka, & Santa Fe (AT & SF) ★
10. Northern Pacific (NO PAC) ★
11. Denver and Rio Grande (DV & RG)
12. Texas Pacific (TEX PAC)
13. Great Northern (GT NTHN) ★
14. St. Louis & San Francisco (STL & SF)
15. Atlantic & Pacific (A & P)

3.2.2 Each player is given the following:

- control of one of the major railroads (marked with '★' above)
- 50% of the railroad's outstanding stock
- 10% (rounded down) of its outstanding bonds, and
- starting cash (see Fig. 2.4-B) amounting to \$70,000,000 minus the market value of the allotted stocks and bonds.

3.2.3 The game is played in the same way as the regular game until 1895, the regular end of the short game. Players have an opportunity to extend play to 1900.

3.2.4 Ending the game normally after the 1895 turn results in only one winner . . . the player with the greatest net worth.

3.2.5 Ending the extended game after 1900 may result in three winners, as in the long scenario. (See 3.1.4)

4.0 THE OPERATIONS PHASE

4.1 The computer first calculates and displays the economic level of the country for the year.

4.2 The computer then calculates a railroad balance sheet which may be printed out or displayed on the screen. Choosing the screen display offers a second opportunity to see the data on an individual railroad.

4.3 The following information is given for each of the railroads.

4.3.1 NAME: the seven character or fewer abbreviation.

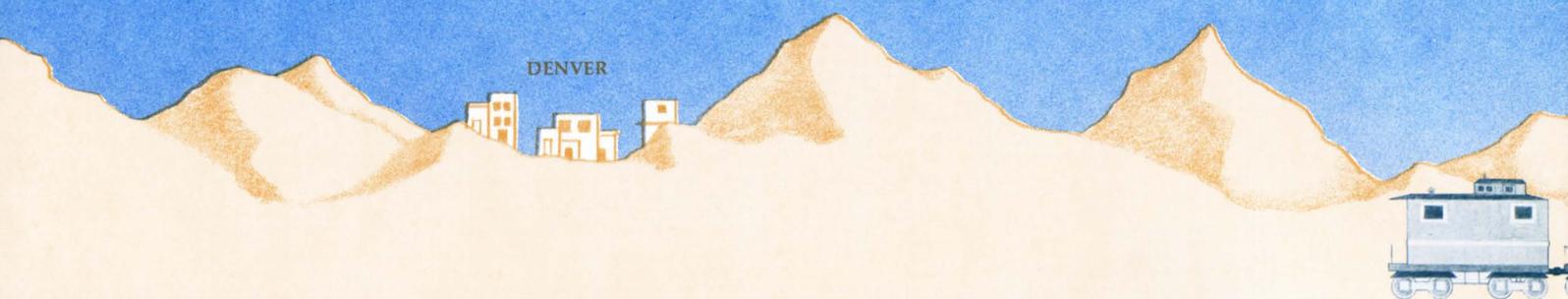
4.3.2 TRF INC: traffic income (the gross amount made by hauling traffic)

4.3.3 LND SALES: land sales (the net amount made by selling grant land)

4.3.4 OPR EXP: operating expenses (the cost of hauling traffic, a percentage of traffic income — 70% for low efficiency railroads, 60% for medium efficiency, and 50% for high efficiency).

4.3.5 BNDS: Bonds (the number of bonds that have been issued by the railroad — all bonds are first mortgage bonds and have a face value of \$1000 and a 7% interest rate).

4.3.6 INTRST: the total amount of interest in its bonds paid out to the railroad for the year, or the word "PASSED" if the railroad was unable to "pay its coupons" (the amount paid



is \$70 per bond, but if the railroad cannot afford to pay all bondholders, it pays none).

4.3.7 STCKS: stocks (the number of shares of stock that the railroad has issued).

4.3.8 DV: dividends (the dividend rate of \$0 to \$25 per share that has been established by the railroad controller).

4.3.9 AMT PD: amount paid (the total amount paid out by the railroad in dividends or the word "PASSED" — the dividend rate times the number of shares, but nothing will be paid if the railroad cannot afford to pay both the dividend and any interest on call loans, or if the railroad has any delinquent interest).

4.3.10 PROFIT/LOSS: a negative figure indicates a loss, a positive figure a profit (the figure

is derived by the formula: traffic income + land sales — operating expense — interest on bonds — interest on call loans = profit or loss).

4.4 After showing the balance, the computer calculates new stock and bond prices and displays them.

The computer does several things in connection with call loan accounts. (On the first turn, although none of the player companies have call loans, some of the railroads do.)

4.4.1 Collects interest

The interest rate varies from 9% to 15% depending on the economic level.

A company that cannot pay out of its bank account will have the net worth of its securities assessed. If it is worth a further loan, the

interest is added to the loan. If not worth a further loan, the company is declared bankrupt. All of its securities are sold for current prices, and the proceeds applied to the loan. What remains is the extent of the bankruptcy and will show up as a negative bank balance.

If a player company goes bankrupt, the company ordinarily sits out the action turn and is reconstituted the next turn. Railroads may be rescued by players. If they are not, they will proceed into receivership.

4.4.2 Margin Calls

When a company has a call loan out, the bank evaluate each player and railroad company's stock and bond portfolio (the stocks and bonds are security for the loan). In the case of railroads, it is the unissued bonds and stocks

RAILROAD OPERATIONS		YEAR: 1870		ECONOMY: GREAT TIMES						
ALL FIGURES (EXCEPT DIVIDENDS) ARE IN THOUSANDS										
RR NAME	TRF INC	LND SLS	OPR EXP	BNDS	INTRST	STCKS	DV	AMT PD	PROFIT/LOSS	
CEN PAC	8223	420	5756	26	1820	500	0	0	1067	
UN PAC	9945	560	6961	44	3080	350	0	0	464	
KS PAC	7492	390	5244	21	1470	190	0	0	368	
SO PAC	1618	80	1132	6	420	84	0	0	-654	
DEN PAC	683	80	478	3	210	40	0	0	75	
A & P	4032	190	2822	10	700	150	0	0	700	
KC & CB	3528	0	2469	7	490	28	0	0	69	
KC & N	2646	0	1852	6	420	120	0	0	374	
MO PAC	2646	0	1852	10	700	200	0	0	94	
C,M&SP	8820	0	6174	18	1260	200	4	800	1386	
C & NW	10432	0	7302	9	630	250	7	1750	2500	
CHI, RI	6854	0	4112	9	630	160	8	1280	2112	
C B & Q	6652	0	3991	5	350	165	10	1650	2311	
C&ALTON	5896	0	3537	4	280	110	10	1100	2079	

BOND PRICES

CEN PAC, 900 // UN PAC, 750 // KS PAC, 850 // SO PAC, 200 //
 DEN PAC, 800 // A & P, 800 // KC & CB, 500 // KC & N, 400 //
 MO PAC, 500 // C,M&SP, 900 // C & NW, 900 // CHI, RI, 1000 //
 C B & Q, 1200 // C&ALTON, 1000 //

STOCK PRICES

CEN PAC, 30 // UN PAC, 28 // KS PAC, 3 // SO PAC, 5 //
 DEN PAC, 10 // A & P, 15 // KC & CB, 8 // KC & N, 7 //
 MO PAC, 5 // C,M&SP, 60 // C & NW, 70 // CHI, RI, 126 //
 C B & Q, 152 // C&ALTON, 113 //

Figure 4.3-A



RAILROAD OPERATIONS YEAR: 1890 ECONOMY: GREAT TIMES

ALL FIGURES (EXCEPT DIVIDENDS) ARE IN THOUSANDS

RR NAME	TRF INC	LND SLS	OPR EXP	BNDS	INTRST	STCKS	DV	AMT PD	PROFIT/LOSS
CEN PAC	7215	420	4329	30	2100	580	2	1160	1206
UN PAC	29576	950	20703	90	6300	686	5	3430	3523
SO PAC	51282	1870	35897	105	7350	1188	5	5940	8655
MO PAC	17334	240	10400	51	3570	474	4	1896	2354
C,M&SP	24250	0	12125	105	7350	600	5	3000	4775
C & NW	28459	200	14229	112	7840	636	3	1908	6590
C B & Q	16627	0	8313	60	4200	500	5	2500	3264
C&ALTON	9235	0	5541	13	910	169	3	507	2784
AT & SF	19642	120	11785	101	7070	798	4	3192	907
NO PAC	34272	1250	20563	152	10640	590	0	0	2619
DV & RG	13932	0	8359	42	2940	580	4	2320	2633
TEX PAC	21344	0	14940	52	PASSED	587	0	0	2764
GT NTHN	28153	0	14076	92	6440	600	10	6000	7637
STL&SF	7812	250	5468	31	2170	500	0	0	424
A & P	8943	490	6260	38	2660	800	0	0	513

BOND PRICES

CEN PAC, 1010 // UN PAC, 1130 // SO PAC, 1050 // MO PAC, 900 //
 C,M&SP, 1020 // C & NW, 1020 // C B & Q, 1030 // C&ALTON, 1000 //
 AT & SF, 870 // NO PAC, 1170 // DV & RG, 840 // TEX PAC, 520 //
 GT NTHN, 1000 // STL&SF, 1000 // A & P, 1000 //

STOCK PRICES

CEN PAC, 26 // UN PAC, 40 // SO PAC, 71 // MO PAC, 53 //
 C,M&SP, 44 // C & NW, 98 // C B & Q, 80 // C&ALTON, 110 //
 AT & SF, 23 // NO PAC, 17 // DV & RG, 33 // TEX PAC, 12 //
 GT NTHN, 160 // STL&SF, 10 // A & P, 10 //

Figure 4.3-B

of the railroad itself which are evaluated. If the value of the portfolio does not equal the value of the loan, the bank will take enough cash out of the company's account to make up the difference. If there is not enough cash, the company is bankrupt, and all securities are sold, etc. (as in 4.4.1)

4.4.3 Loan Recalls

A company that passes the above two hurdles is financially sound. However, the banks arbitrarily may still want their call loan money back. The company must then pay. If it does not have the cash, the bank will sell some of its securities until the amount of the recall is paid. This is called a "forced sale." Cash left over after a forced sale is put in the company's account.

4.4.4. Action Points

The computer deducts one action point from each player company's allotted action points for each railroad the company controls.

5.0 THE ACTION PHASE

5.1 The actions of the computer-run player companies are displayed on the screen. Pushing the SPACE BAR halts the movement; pushing it again causes it to continue. A player should note the actions that affect his interests.

5.2 The player action phase starts with the printing of each player company's account.

JAY GOULD: ACCOUNT AND NET WORTH

CASH: \$22980,000
 LOANS: \$55000,000
 NET CASH VALUE: \$-32020,000

STOCKS:
 GT NTHN: 300,000 SHRS = \$48000,000
 C,M&SP: 100,000 SHRS = \$9200,000
 CB&Q: 50,000 SHRS = \$3900,000

BONDS:
 GT NTHN: 9,000 BONDS = \$9000,000
 UN PAC: 30,000 BONDS = \$33900,000
 NET WORTH = \$71980,000

Figure 5.2

5.3 MENUS

5.3.1 Player companies (only if player control was chosen in game setup)



OMAHA

5.3.2 Player company actions

```
JAY GOULD, CHOOSE ACTION  AP'S 7
A. SELL STOCK           B. BUY STOCK
C. SELL BONDS           D. BUY BONDS
E. APPLY FOR LOAN       F. REPAY LOAN
G. READ MAP             H. READ ACCOUNT
I. START NEW RR         J. CONTROL RR
K. RR STATISTICS        L. RECALL RR LOAN
M. RR ACTION
```

PUSH <ESC> FOR NO CHOICE

5.3.3 Railroad company actions

```
GT NTHN, CHOOSE ACTION
A. SELL STOCK           B. BUY STOCK
C. SELL BONDS           D. BUY BONDS
E. GET PVT. LOAN       F. REPAY BANK LOAN
G. RESIGN CONTROL       H. READ ACCOUNT
I. CHARTER LINE         J. RAISE EFFICIENCY
K. BUILD NEW LINES      L. CHANGE DIVIDEND
M. PAY INTEREST         O. FLOAT SECURITIES
P. MERGE
```

PUSH <ESC> FOR NO CHOICE

5.4 MAKING SELECTIONS

Press the letter identifying your selection and RETURN.

During the action phase, if player control of player sequence is chosen in the game setup, the players may make any arrangement about entering their actions. One fair method is to randomly choose the order, allowing each player to enter one or two actions or to pass until the turn is completed.

The Player Company Menu or the Player Action Menu (if under automatic control) will appear. The number of action points the player has available for the turn is adjusted and displayed throughout the turn. The player can at any time return to the Player Company Menu with no loss of action points by pushing ESC.

Some actions are free; others may require more action points than are available. The results of proposed actions that spend or earn money are displayed and the player is given an opportunity to back out of the proposed action, again by pushing ESC.

A game session in a continuing multiplayer game may be ended and the game saved at any time during the action phase. A particularly good time is just after the print out of accounts, but before any new actions have occurred. That way each player will have an up-to-date

situation report to think about until the next session.

5.5 PLAYER COMPANY ACTIONS

(The number in parentheses following each action is the charge in action points.)

5.5.1 SELL STOCKS (1)

The computer determines whether a minimum transaction is possible, and then asks for how many shares, giving a maximum, which is either the number of shares the player has or the number the market is willing to absorb.

The general public will take only familiar railroad shares, that is, only as many shares of a particular stock as it already owns.

However, if it currently owns none, it will buy 1000-4000 shares.

If the stock price is 1 or 2, the general public will not buy any at all.

Again, after the transaction is completed, the computer may change the price of the stock.

5.5.2 BUY STOCKS (1)

Stocks sometimes are purchased as a means of getting income from dividends, but more often are purchased to sell after a rise in price or to get control of an established railroad.

The computer displays the price of railroad stocks, and the player selects the railroad. The computer runs a preliminary check on the player's account and notifies the player of "INSUFFICIENT FUNDS" if a minimum purchase of 1000 shares is not possible.

If a transaction is possible, the computer asks for how many shares, giving a maximum, which is either what the player can afford, the number of shares available on the market, or the number of shares the general public is willing to sell.

Generally, the public is willing to sell low priced shares and reluctant to sell high priced shares to the player.

After a stock transaction, the computer may change the price of the stock; the biggest factor affecting the price is the general state of the economy.

5.5.3 SELL BONDS (1)

Selling bonds follows the same procedure as selling stock; however, the maximum is the number of bonds in the player's account.

5.5.4 BUY BONDS (1)

Buying bonds follows the same procedure as

buying stock; however, the maximum is either the number available on the market or the maximum the player can afford.

Players rarely buy full priced bonds since they are so expensive, with a minimum transaction in the neighborhood of \$1,000,000.

Bonds can be purchased for two reasons: bonds of railroads which will pay their bond interest are investments, and bonds of bankrupt railroads or railroads in receiverships can be purchased as a means of getting control after a reorganization.

5.5.4 APPLY FOR LOAN (1)

This action is the fastest way for a player to increase his working capital, but it involves some problems and dangers.

When the player applies for a loan, the bankers (i.e. the computer) assesses the player's net worth in cash and securities and offers him a loan for that amount minus the value of previous loans. Sometimes a player is not eligible for a loan at all.

The loans created are "call loans," which can be recalled by the bankers at will (See HISTORICAL BACKGROUND and THE OPERATIONS PHASE). Call loans are more likely to be recalled during hard times when the player needs the money the most. Since the player must pay high interest on a loan, he should have some plan for using the money that will make the loan worthwhile. Interest and margin calls can wipe a player out in a hurry, while loan recalls can play havoc with his strategy.

5.5.6 REPAY LOAN (1)

This action allows a player to repay all or part of a loan from the bankers. The computer displays the current balance which includes the current year's interest. The player enters the amount of the payback.

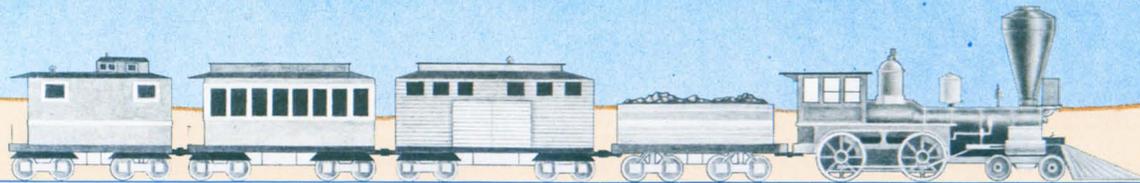
5.5.7 READ MAP (0)

APPLE: The computer displays the map with a map menu of three options: READ CITY NAMES, RR NAMES, and SECTION STATUS.

READ CITY NAMES: By pushing the arrow keys, the player lights up the 32 cities and one strategic location (treated as if it were a city) one by one. Pushing RETURN brings back the map menu.

RR NAMES: By pushing the arrow keys, the player lights up the two names at the ends of each section.

Some pairs of cities are connected by more than one line. Look for the words NORTH, SOUTH, EAST, OR WEST to be sure you have



the correct line. Push RETURN to get the name of the railroad that has been built on that line.

SECTION STATUS: Pushing RETURN after selecting a section (as above) will get information about the charter, the possession of a land grant, and finishing the line.

ATARI: Use the "<" and ">" keys to scroll for information on the railroad charter and the time limit for finishing the line.

To end the map read action, push the ESC key while the map read menu is displayed below the map.

5.5.8 READ ACCOUNT (0)

This action allows the player to read his account on the screen or to print a copy. The account reports his cash balance, the amount of outstanding call loans, and the number of stocks and bonds owned.

5.5.9 START NEW RAILROAD (1)

This option sets up a new railroad corporation, but this action does not itself result in the chartering or building of a line.

If the game is currently running its limit of 20 railroads, the player will be informed and will have to wait until a slot opens through mergers or railroad liquidations.

The computer asks for the name or abbreviation (either limited to 7 characters and spaces), creates 100,000 shares of stock for the new corporation, and deposits these shares in the stock account of the player. Then the player is asked for the total amount he will pay for these shares. The minimum is \$300,000.

The computer sets up the new corporation, the treasury consisting of the amount paid by the founding player and the stock price determined by the price paid for each share. The minimum is \$1.00

The founding player is automatically designated controller and warned that the new corporation must charter a section of line in the current turn or be eliminated.

The new railroad thus created is just a corporate shell. To acquire reality, it must perform railroad actions (especially CHARTER LINE and BUILD NEW LINES). A player should start a new railroad only when he has at least one action point remaining to permit further action.

5.5.10 CONTROL RAILROAD (1)

A player who wishes to control a railroad must own at least 10% of the railroad's outstanding shares of stock and more than any other player who is also trying to gain control of the railroad.

The computer displays a list of the railroads for selection, then checks the player's account to make sure he has the 10% of the stock required to continue the action.

APPLE ONLY. The computer checks all the other players' accounts to see if anyone has an equal or greater number of shares. Each player who qualifies is asked whether he wants to contest control. No player gets control if the contesting controllers are even in their holdings, unless one of them has already established control, in which case he retains it.

The computer announces the controller. Only the player who originally picked the action has to pay an action point.

Control of a railroad is necessary to allow the player to direct any railroad actions.

5.5.11 RR STATISTICS (0)

The computer displays the following information:

- number of dots (representing 18 miles/dot)
- number of land grant dots
- dividend rate
- number of bonds issued
- number of stocks issued
- amount of delinquent interest on bonds
- price of bonds on the market
- price of stocks on the market
- number of unissued bonds (either bonds that have been authorized and not issued or bonds previously issued and bought back by the railroad)
- number of unissued stocks (like bonds)
- controller (or "NONE" or "RECEIVERSHIP")
- the terminals of that part of the railroad that has been completed or the phrase "FROM NOWHERE TO NOWHERE."

```

GT NTHN STATISTICS
NUMBER OF DOTS IN LINES: 144
NUMBER OF LAND GRANT DOTS: 0
EFFICIENCY LEVEL: HIGH
DIVIDEND RATE: 10
NUMBER OF BONDS ISSUED: 92,000
NUMBER OF STOCKS ISSUED: 600,000
AMOUNT OF DELINQUENT INTEREST: 0,000
PRICE OF BONDS ON MARKET: 1000
PRICE OF STOCKS ON MARKET: 160
NUMBER OF UNISSUED BONDS: 10,000
NUMBER OF UNISSUED STOCKS: 100,000
CONTROLLER: JAY GOULD

THE GT NTHN RUNS FROM MPLS/STP TO DULUTH
PRESS <RETURN> TO CONTINUE
  
```

Figure 5.5.11

5.5.12 RECALL RR LOAN (1)

This option allows the player to call back all or part of a loan he previously made while acting as controller of a railroad. He may recall the

loan even if he no longer controls the railroad.

To pay back the loan, the railroad must have cash and must not owe interest on its bonds, a debt which would have precedence.

5.5.13 RR ACTION (1)

A railroad action can only be taken by the controller of the railroad. Unless notified by the computer that he does not have control, the player will be shown the RAILROAD ACTIONS menu for further action.

5.6 RAILROAD ACTIONS

5.6.1 SELL STOCK (1)

The railroad may sell to the player company or to the market. This means the player may choose to deal with himself. If he deals with himself, the controller is not allowed to cheat the railroad by more than 10% of the market price of the securities being transferred.

When a railroad sells securities, the cash it gets automatically goes to paying off any outstanding call loans.

5.6.2 BUY STOCKS (1)

Railroads are not allowed to own securities of other railroads.

WARNING: The computer will not prevent the player from cheating himself; if he selects more securities than the railroad has the cash for or that the computer will allow for payment, he must either cancel the deal (ESC) or settle for whatever cash the railroad has.

5.6.3 SELL BONDS (1)

Railroads sell bonds in the same way as player companies sell bonds, with the exceptions noted above for the sale of stocks by the railroads.

5.6.4 BUY BONDS (1)

Railroads buy bonds in the same way as player companies buy bonds, with the exceptions noted above for the sale of bonds by the railroads.

5.6.5 GET PVT. LOAN (1)

A railroad may borrow from its own controller. The cumulative limit of such a debt is \$65,000,000.

5.6.6 REPAY BANK LOAN (1)

This action can be used to repay call loans that result from building lines or raising efficiency.

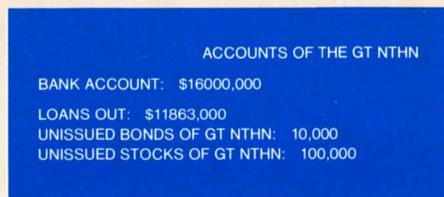
5.6.7 RESIGN CONTROL (1)

A player may relinquish control of a railroad he no longer wants and thereby save action points in future turns.

5.6.8 READ ACCOUNT (0)

The account displays the following information:

- amount of cash
- balance of call loans owed
- number of unissued stocks and bonds in its treasury
- extent of bankruptcy (amount is shown as a negative bank balance)



ACCOUNTS OF THE GT NTHN	
BANK ACCOUNT:	\$16000,000
LOANS OUT:	\$11863,000
UNISSUED BONDS OF GT NTHN:	10,000
UNISSUED STOCKS OF GT NTHN:	100,000

Figure 5.6.8

5.6.9 CHARTER LINE (1)

Before a railroad can start building on a line, it must charter that line segment at a cost of \$300,000.

The line is selected by the same process used in READ MAP, RR NAMES (5.5.7). If a railroad already has lines built, the new line must connect to the existing lines.

A railroad may not have more than one unfinished line segment chartered at a time. The railroad is given a time limit based on the length of its lines for finishing its new line. If that time limit (with extensions) is exceeded, the charter is lost; and the partly finished line, if there is one, is wiped off the map.

5.6.10 RAISE EFFICIENCY (1)

A railroad's efficiency (low, medium, or high) determines the percentage of its traffic income that goes for operating expenses.

Low efficiency means that the railroad must spend 70% of its traffic income on operating expenses. Medium efficiency means 60% and high efficiency means only 50%.

The color on the map shows its efficiency.

APPLE: Violet is low, orange medium, and green is high efficiency.

ATARI: Dotted-red is low, purple is medium, and red is high efficiency.

The computer first checks to see that a raise in efficiency is possible, then calculates its cost, displays it, and asks if the player wishes to continue the action.

The new color is drawn on the map, and several important financial operations occur:

- a) The railroad's bank balance is depleted by the cost of the action.

- b) If there is insufficient cash, the bankers automatically grant a call loan.

- c) The railroad may authorize a number of new bonds based on the cost of the change.

- d) If the stock is selling for more than the bare minimum, the railroad may authorize new stock shares.

These are not issued, but printed up and deposited in the railroad's treasury, ready to be "floated" through a banker or simply sold on the open market.

While in the railroad's treasury, they act as collateral for call loans. They are part of the railroad's net worth for securing loans and avoiding margin calls, but do not cost the railroad anything in interest or dividends.

If a margin call or loan recall is made, the securities are subject to being sold for the current market price to retire all or part of a call loan.

It is generally undesirable to sell the bonds of new railroads since they sell for so little, yet must still pay the same interest as bonds of established railroads.

5.6.11 BUILD NEW LINES (1)

This action can be performed only once per turn by each railroad on each uncompleted railroad section. If a railroad section is completed, the railroad may charter a new line and build on it.

The computer first ascertains that the section is both chartered and incomplete, then displays the cost per dot and asks the player for the number of dots to be built.

The cost is based on the economic level of the year. The first 15 dots are built at the ordinary price; a premium is added for additional dots. No more than 30 dots can be built on one line in one year.

After the player selects the number of dots, the computer displays the railroad being built on the map.

The new line of a new railroad is built at low efficiency; the additional line of an established railroad is built at the same efficiency as the rest of it.

The computer performs several important financial operations (See 5.6.10).

If a railroad builds 10 or more dots during any one year, the time limit for completing the line is automatically extended one year.

5.6.12 CHANGE DIVIDEND (1)

The controller can set a dividend rate from 0

(no dividend) to 25. The railroad attempts to pay this during the operations phase. Care should be taken to set the dividend realistically since if the railroad cannot pay all of it to every shareholder, it will pay none of it to any one of them.

5.6.13 PAY INTEREST (1)

If a railroad has passed up paying its bond interest in a previous operations phase, this option will cause payment of one year's back interest. It may be repeated as many times as it takes to pay back all of the interest owed. The railroad must have sufficient cash in its account to do this.

Paying overdue bond interest will allow the railroad to build and do other things that it cannot do when it owes interest.

5.6.14 FLOAT SECURITIES (1)

To circumvent the limitations of selling stocks and bonds on the open market, the railroad can float its securities through investment bankers. Depending on the circumstances, the bankers float bonds alone, stocks and bonds as a package, or stocks alone.

First, the computer evaluates the interest of the bankers. Generally, only during boom times or great times are they interested in the newest railroads (with bonds worth 200 or less).

If interested, they offer a price for a bond by itself and other prices for bonds with free shares. The player, keeping in mind the number of bonds and stocks in the railroad's treasury, must decide how many free shares, up to a maximum of 5, to offer.

If the player offers five free shares and floats at least 10,000 bonds, then the bankers create some action on the market for those bonds. Ordinarily, this action has the effect of raising the current price of the bonds on the open market.

If the player chooses not to float bonds, the bankers deal with stocks alone; but only if the railroad's stocks are selling currently for at least \$50 a share. The bankers place as many shares as the player wants to sell at the current market price.

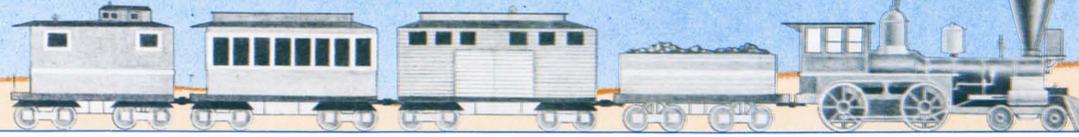
This allows the player to create quickly a demand for the railroad's stocks on the market when the market has not had many of its stocks.

The bankers deduct 10% of the cash received for their services. From the remainder, the railroad automatically retires any existing call loans.

5.6.15 MERGE (3)

To merge two railroads into one, the following

ST. LOUIS



conditions must be met:

1. Both railroads must be controlled by the same player.
2. Both railroads must have the same efficiency level.
3. The railroads must adjoin each other.
4. The railroad doing the absorbing must be an operating railroad — not just a newly formed corporation.
5. Only one of the two railroads can have an uncompleted line.
6. Neither railroad can owe interest on its bonds.
7. The selecting railroad cannot be bankrupt (but the disappearing railroad may be).

APPLE ONLY: 8. The merger must not be blocked by the other players.

Blocking: If the merger passes tests 1-7 above, the computer determines if any player or combination of players has the potential to block the merger.

Those in favor must own at least 10% of the stock shares of each railroad in excess of those owned by the opposition. The appropriate players will be polled. The computer counts the stocks and bonds of those for and against the merger.

Example: If a railroad has 200,000 shares, the excess of those favoring over those opposing must be 20,000 shares. If those favoring the merger have 100,000 shares, those opposing must have no more than 80,000 if the merger is to go through.

In addition, those favoring the merger must own the same number or more of the bonds of each railroad than the number of the bonds of those opposing, the tally being taken separately for each railroad.

Example: If those favoring the merger own 5000 bonds of one of the railroads and those opposing own 1000 bonds of the other railroad, the merger will not go through.

Securities owned by the railroad treasuries or the general public do not count either way.

After a merger, the following events occur:

1. All lines of the disappearing railroad are added to the surviving railroad.
2. All stocks of the disappearing railroad are replaced by stocks of the surviving railroad, one for one.
3. All bonds of the disappearing railroad are replaced by bonds of the surviving railroad, one for one.

4. The prices of the new railroad's stocks and bonds are reevaluated by the market.

6.0 ENDING A TURN OR A SESSION

6.1 With the player menu on the screen, a turn or a session may be ended with ESC. If pushed accidentally, a second ESC returns the player menu.

6.2 ESC leads to the question "Do you want to save the game? (Y/N)

APPLE: If the player answers "Y" (yes), he is told to insert the SSI GAME SAVE Disk and press RETURN.

ATARI: if the player answers "Y" (yes), he is told insert the initialized DOS II disk and press RETURN.

6.3 Answering "N" (no) leads to the question "Do you want to end the turn? (Y/N).

If the player answers "N" (no), he is returned to the select company menu.

Answering "Y" leads to a display of the companies in receivership and then the question "Do you want to end the game? (Y/N).

If the player answers "N" (no), the game proceeds to the END TURN PHASE (7.0)

If the player answers "Y" (yes), the game proceeds to the end of the game routine (8.0)

7.0 THE END TURN PHASE

7.1 Although the player makes no decisions during the END TURN PHASE, he is given messages and must press RETURN as requested.

7.2 The END TURN PHASE performs the following operations:

7.2.1 A railroad that has not been completed within the allotted time is erased, and the charter is revoked.

7.2.2 A railroad that does not have lines or chartered segments is liquidated.

7.2.3 A railroad that is bankrupt or more than one year in arrears in its bond interest payment is placed in receivership.

7.2.4 A railroad which has been continuously in receivership for three years is reorganized.

All existing stock shares are eliminated; half of the existing bonds are eliminated; and the

eliminated bonds are each replaced by 20 shares of stock.

A deficient bank balance (bankruptcy) or back interest on the old bonds is amortized, i.e. turned into bonds, at the rate of one bond for each \$750 of debt.

The newly reorganized railroad is released from receivership; and its bank balance, loan balance, and delinquent interest balance are all set at zero.

7.2.5 A railroad that has no player controller has its dividends set for the next year and sometimes raises its own efficiency.

7.2.6 A player company that is bankrupt is resurrected, its debt cancelled, and its cash balance returned to the sum at the start of the game.

7.2.7 In the scenarios that go to 1900, the game automatically ends at the end of the 1900 turn.

8.0 ENDING THE GAME

Before the scores and ratings are given, the players may choose to have the information displayed on the screen or printed on hard copy.

The computer calculates and displays the net worth of each player company ... the cash, securities at current value, and loans out to railroads to the extent that those railroads have cash minus the amount of call loans owed by the player. The player with the greatest net worth is named the Money Winner.

The computer then calculates and displays the viability indices for all the railroads, displays them, and determines which of the transcontinental railroads has the highest viability index. If the highest index is positive, the railroad's controller is named Transcontinental Winner.

The computer then determines which player has amassed the greatest number of adjusted points (the number of dollars of net worth/1000) + (total ratings of all transcontinental railroads controlled × 100,000) and proclaims the GRAND WINNER.

After a game is over, one more menu appears. The players may choose to

- 1) Examine Map
- 2) Examine Player Accounts
- 3) Examine Railroad Accounts
- 4) Start New Game

If 1) is selected, the computer will trace over the lines of the most viable transcontinental railroad, if any, in blue.

Glossary

BANKRUPTCY: The state of being unable to pay one's debts. Ordinary businesses cease to operate when they go bankrupt and their assets are divided among their creditors. Society cannot allow a railroad to stop operating; therefore, a bankrupt railroad is operated by a court-appointed receiver until some way is found to return it to financial health and private control. This may be accomplished either by the stockholders paying in some money to save their ownership or by the bondholders and other creditors taking over the property.

BOND: A certificate of indebtedness in which a company like a railroad promises to pay a certain amount of interest every year and the principal at some future date (called the date of maturity). A bond, like other debts, is a claim on the property of the company if the debt is not paid. Although historically there were many different kinds of bonds, in the game there is only one kind: a non-maturing certificate of \$1000 face value paying 7% interest (\$70 per year) and representing a first mortgage on the complete railroad.

CHARTER: Governmental permission to organize a company for a particular purpose and given specific particular rights and duties. In the game, a charter is an exclusive permission to build a railroad along a certain right of way. It may or may not include a land grant. If the terms of the charter are not fulfilled within a certain time, that is, if the railroad is not completed, the charter expires and the partially built rail line is eliminated. (This is one of the most unrealistic parts of the game,

but necessary for game purposes.)

DIVIDENDS: If a corporation makes a profit in a given time period, its directors may decide to divide the profit or part of it among the shareholders (i.e. declare a dividend).

FLOATING SECURITIES: Selling stocks or bonds or both together through an investment banker, who, in exchange for a commission, will find a market or a price that the seller could not reach or get without such services.

INTEREST: Money paid for the use of funds, e.g. on bonds.

ISSUED SECURITIES: Stocks and bonds which are owned by persons rather than the corporation which created them. Interest must be paid on bonds that are issued. If a dividend is declared, dividends must be paid on all stock shares that are issued.

MARGIN CALLS: A margin is a space between the value of a loan and the value of the securities which are the collateral for that loan. If the margin shrinks, that is, if the market value of the securities declines without part of the loan being paid off, the bankers holding the loan get nervous and call for more margin, that is, some cash to pay off part of the loan so that the rest of it will be adequately secured. If the call for more margin cannot be met in cash by the borrower, the worried banker will sell the securities for what he can get.

MERGER: The combining of two companies into one, resulting in a reorganization and

issuance of new securities.

RECEIVERSHIP: Appointment by a court to hold in trust bankrupt property.

SECURITIES: Stock and bond certificates giving evidence of ownership of property.

STOCK: The stock of a corporation is the ownership of that corporation. One share of stock is one part of that ownership. The percentage of ownership represented by each share depends on how many shares have been issued by the corporation. In the real world, there were many kinds of stock. In the game, all stock is common stock, one share of which gives the owner one vote in the operations of the company and one dividend payment if a dividend is declared. The advantage of dividing ownership up in this fashion is twofold: 1) If a corporation goes bankrupt, the stockholder stands to lose only his investment in the stock; he is not liable for the other debts of the corporation. 2) If a stockholder wants to do something else with his money and can find a buyer, he can get rid of his ownership without affecting the operations of the corporation. If he owns stock in a corporation that is traded on a stock exchange, as in the game, he does not have to find the buyer himself. Conversely, if an investor wants to become an owner or increase the percentage of his ownership, he can do so through the exchange.

UNISSUED SECURITIES: The securities legally created and owned by the company, but not yet sold to the public.

Credits

Game Design and Programming
Martin C. Campion

Game Development
Leona R. Billings

Special Playtesting
Shawn Biberdorf and John Chambers

Art & Graphic Design
Louis Hsu Saekow, William Carman
and Kathryn Lee

Typesetting
Abra Type

Printing
A&a Printers and Lithographers

CHICAGO



Appendix: List of Rail Line Sections

NUMBER	LENGTH (# dots)	EAST TERMINAL	WEST TERMINAL	NUMBER	LENGTH (# dots)	EAST TERMINAL	WEST TERMINAL
1	29	Omaha	Cheyenne	35	13	Denver	Pueblo
2	27	Cheyenne	Ogden	36	5	Pueblo	Raton Pass
3	42	Ogden	Sacramento	37	2	La Junta	Raton Pass
4	39	Kansas City	Denver	38	17	Raton Pass	Albuquerque
5	8	Cheyenne	Denver	39	18	Albuquerque	El Paso
6	25	St. Louis	Vinita	40	62	El Paso	Los Angeles
7	38	Vinita	Tucumcari	41	19	Wichita	La Junta
8	5	Tucumcari	Albuquerque	42	36	Wichita	Tucumcari
9	49	Albuquerque	Mojave	43	22	Tucumcari	El Paso
10	6	Sacramento	San Francisco (North)	44	32	New Orleans	Austin
11	8	Sacramento	San Francisco (South)	45	53	Austin	El Paso
12	36	Mojave	San Francisco	46	28	New Orleans	Shreveport
13	3	Mojave	Los Angeles	47	8	Shreveport	Ft. Worth
14	32	Los Angeles	San Francisco	48	38	Ft. Worth	El Paso
15	120	Duluth	Seattle	49	16	Kansas City	Vinita
16	20	Duluth	Bismarck	50	32	Vinita	Ft. Worth
17	105	Bismarck	Seattle	51	22	Ft. Worth	Austin
18	12	Portland	Seattle	52	14	Duluth	Mpls/St. Paul (West)
19	56	Portland	Sacramento	53	18	Duluth	Mpls/St. Paul (East)
20	59	Ogden	Portland	54	9	Sioux City	Omaha
21	4	Ogden	Salt Lake City	55	18	Omaha	Kansas City
22	27	Denver	Salt Lake City	56	14	St. Louis	Kansas City (North)
23	25	Mpls/St. Paul	Bismarck	57	14	St. Louis	Kansas City (South)
24	16	Mpls/St. Paul	Pierre	58	53	St. Louis	Shreveport
25	10	Pierre	Deadwood	59	33	St. Louis	Memphis
26	20	Mpls/St. Paul	Sioux City	60	42	Memphis	New Orleans
27	17	Sioux City	Pierre	61	25	Chicago	Mpls/St. Paul (North)
28	40	Omaha	Deadwood	62	36	Chicago	Mpls/St. Paul (South)
29	14	Kansas City	Wichita (North)	63	24	Chicago	Sioux City
30	12	Kansas City	Wichita (South)	64	24	Chicago	Omaha (North)
31	2	La Junta	Pueblo	65	23	Chicago	Omaha (South)
32	37	Pueblo	Salt Lake City	66	29	Chicago	Kansas City
33	6	Denver	Leadville	67	25	Chicago	St. Louis (West)
34	4	Pueblo	Leadville	68	28	Chicago	St. Louis (East)



If you have any questions or problems regarding the program or game, please send a self-addressed, stamped envelope with your question to: *STRATEGIC SIMULATIONS INC.*, 883 Stierlin Road, Bldg. A-200, Mountain View, CA 94043-1983.
Or call our Hotline Number: **(415) 964-1200** every weekday, 9 to 5 (P.S.T.)
