The Future of . . .

RAIL PASSENGER TRAFFIC IN THE WEST

Prepared for:
THE SOUTHERN PACIFIC COMPANY
SAN FRANCISCO, CALIFORNIA

By:
STANFORD RESEARCH INSTITUTE
Menlo Park, California

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By:
Ely M. Brandes and Alan E. Lazar
SRI Project 5676

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INTRODUCTION

There has been a decline in intercity railroad passenger travel in the United States since the 1920s, interrupted only by the unique demands of World War II. The decline has been particularly persistent and steep since the war. To explore the underlying causes of this downward trend, the Southern Pacific Company asked Stanford Research Institute to undertake a comprehensive study of railroad passenger traffic in the Western States.

Objectives of the study were to examine postwar trends in passenger travel in the West and factors underlying these trends, to project the outlook for rail passenger travel, and to analyze policy alternatives available to railroad management. The study is reported in four sections.

Section I summarizes the principal findings and presents the conclusions regarding the outlook for railroad passenger travel in the West, with recommendations of appropriate policy for railroad management to follow in the interests of economics and public policy.

Section II examines trends in passenger volume, fares, and level of services of three types of common carriers (rail, bus, and air) along four selected routes of the Southern Pacific.

Section III analyzes the competitive environment for intercity rail passenger travel, particularly with regard to technological developments affecting travel by air, bus, and automobile. This section also attempts a comparison of the cost efficiency of common carriers.

Section IV reviews the responses of western railroads to the declining passenger traffic and the changed competitive environment. It also evaluates the alternative policies pursued by the railroads.

The project team is indebted to the many officials of the Southern Pacific Company and other western railroads for the assistance given in this study. The research was conducted under the direction of Ely M. Brandes, project leader, assisted principally by Alan E. Lazar. Major contributions to the study were also made by Richard F. America and Dale R. Weigel. Other members of the project team included Betty J. Neitzel, Nancy S. Borgeson, and Joanna Paxson.

SECTION I

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

The postwar decline of intercity rail passenger travel has been virtually uninterrupted in the western United States. Since 1950, with only one or two exceptions, all of the major western railroads have experienced a significant decline in the number of passengers carried on their intercity routes and moderate to substantial declines in terms of the passenger miles generated.

The extent of the decline was measured along four western routes—Los Angeles to San Francisco, San Francisco to Chicago, Los Angeles to Chicago, and Los Angeles to New Orleans—and the pattern was substantially the same on all four: air travel increased sharply, rail travel declined sharply, and bus travel showed a mixture of small gains and losses.

Changes in travel market shares among the three common carrier modes on the four routes were accompanied by changes in fares and the quality of service offered. Rail and bus fares showed the greatest increases, while air fares increased only moderately, particularly when account was taken of the greater availability of coach service, which has kept the average cost of air travel down.

In terms of travel time, air travel showed the greatest improvement, primarily as a result of the introduction of jet airplanes. Bus travel times generally showed small decreases, caused partly by the use of more express buses and partly by the vast improvement in highways. Rail travel times generally showed the least change.

Frequency of service offered by the three common carriers changed in line with traffic shares. Air schedule frequencies increased sharply, and rail schedule frequencies declined sharply. For bus schedules, the most important change was a shift from local to express service for long distance travel.

Cost increases were significant for all three carriers. For railroads, the rise in labor and material costs was only partly offset by improvements in technology. But in air transportation, significant technological improvements were applied, particularly through introduction of the jet airplane, the increased efficiency of which more than offset other cost increases. Buses also had the advantage of significant technological improvements with the development of the interstate highway system and better equipment.

Changes in the distribution of intercity travel by common carrier mode must be viewed against a background of rapid changes that affected both the demand for and supply of intercity transportation. On the demand side, the phenomenal increase in automobile ownership after World War II gave most Americans a high standard of performance against which to judge common carriers with respect to both cost and convenience. As a result, automobile travel has become the primary mode of intercity travel, accounting for more than 80 percent of all overnight trips. The postwar period also saw the emergence of air travel as the preferred mode of business travel, as businessmen were quick to seize the timesaving advantages of flying.

On the supply side, air transportation and to a much lesser extent bus transportation were able to take advantage of technological improvements to keep unit costs down and improve performance. The railroads have not shown equivalent gains.

As to future technological changes, air travel will probably show a further level of service improvement and unit cost reduction, with the expectation that air travel costs will decline over the next ten years. Bus service should show some improvement, primarily as a result of the completion of the interstate highway system. Rail passenger service in the West, however, will not show any significant technological progress in the next ten years, since the experimental high speed ground transportation project in the Northeast Corridor is not likely to be completed by 1975 and there is little chance that any other large scale passenger train project of this type will be started before completion of the first venture.

As a result of these technological developments, bus travel and especially air travel have acquired a substantial cost competitive edge over rail travel on medium to long distance trips. Estimates of direct per passenger costs on the San Francisco to Los Angeles route revealed that air and bus costs are between $9 and $10 per passenger trip, while rail costs are more than $18.

In each case, the estimates were based on public data and included only the costs directly associated with the service. The wide differences in cost are explained by two findings: that an air passenger trip requires less than one-eleventh the labor input on the vehicle needed for a rail trip and that the equipment cost of a jet airplane (a Boeing 727) per

passenger trip per day is less than half the comparable cost for a new coach train.

The decline of rail passenger travel affected all 11 major western railroads. But the impact varied, partly because of different policies followed by the railroads with respect to passenger service. Analysis of published data and interviews with a number of railroad officials concerned with passenger service indicated that four major railroads have a policy of reducing costs and deficits as much as possible in intercity passenger service, which generally entails a sizable reduction in volume of service. Four roads apparently pursue a policy of maintaining passenger volume, which entails relatively large passenger deficits. And three seem to maintain an in-between position.

Analyses of these three policies showed that the policy of maintaining passenger volume is not economically sound, primarily because: (1) no one really expects an upturn in the trend of rail passenger travel, and the policy therefore simply tends to prolong the decline and increase the deficit; (2) while large passenger volume might lower unit costs, the reduction would be far from enough to make rail passenger service profitable; and (3) the benefits that rail passenger service brings to the freight business are vague, indeterminable, and maybe even nonexistent. As an indication of the cost of this maintenance of volume policy, the four railroads following it had a combined passenger deficit of $83,500,000 in 1965 as against total passenger and allied service revenues of $124,600,000.

The reduction of passenger deficit policy was found to be economically sound. But the effectiveness of the methods used by some railroads in carrying it out was found questionable: too-active pursuit of this policy in terms of train discontinuance tends to harden public opposition to the railroad, with the result that regulatory agencies become more reluctant in granting discontinuances.

Policies of the Post Office Department were also examined with respect to railway mail, and it was found that reorganization of the postal system based on sectional centers has made the old mail railcar obsolete, to some extent. While rail revenues from carrying mail are still substantial and are likely to continue, there is some thought that piggy-back trains are better suited than are passenger trains to carry bulk mail. If so, the Post Office is not likely to be a strong force working for continuation of rail passenger service.

CONCLUSIONS

The major conclusions of this study can be stated in the form of answers to three questions.

What is the probable future trend for rail passenger service in the West?

The decline in intercity rail passenger travel will continue unabated. The annual rate of decline will at least equal the rate of decline for the last ten years. A contributing factor is the steadily growing competition from automobiles and airplanes.

Automobile travel is maintaining, if not increasing, its predominant share of intercity travel in the United States. Per capita ownership of automobiles and average annual miles traveled per automobile are increasing and the interstate highway system, by significantly reducing travel time between many cities, will help maintain the primacy of the automobile among the modes of intercity travel. In terms of cost and convenience to the traveler, the automobile is unrivaled.

Among common carriers, the competitive advantage of the airplane—even the bus—over trains will be not only maintained but also increased over the near term. The recent surge in air travel testifies to the ever-growing acceptance of this form of transportation. Furthermore, the excellent earnings of the airline industry in recent years raises the likelihood of regulatory authorities requiring even lower air fares in the future. The special youth air fares at 50 percent of regular fares (introduced by major airlines in 1966) have already had a noticeable impact on other common carrier modes.

The generations of Americans most accustomed to train travel are slowly passing, and few in the younger generations have any interest in this mode.

The outlook for the profitability of rail passenger service is equally pessimistic. During the 1970s, the cost structure of airlines will be favored by the introduction of large, subsonic airplanes with unit operating costs considerably lower than those at present. This, with the rising earnings of the airline industry, will undoubtedly lead to lower airline passenger fares. This process has already begun, and while there has been no general fare reduction, the introduction of various special fares (some as low as 50 percent of regular one way fares) has had the effect of a reduction in the average fare.

If railroads try to maintain the current differentials between air and rail fares, they will have to do so without any prospect of gains in productivity to match gains of the airline industry. With present equipment, the outlook for future unit costs in rail passenger service is for continued increases, especially with higher labor and equipment costs and the rigid work rules current in the industry.

There is some doubt about the immediate prospect for technological improvements in rail passenger service. The establishment of high speed ground transportation would probably lead to considerably higher unit costs, since it would entail construction of new and separate ways and development of new vehicles with initial costs far higher than for present equipment.

On this basis, it is apparent that in five to ten

years the railroad industry will be in an even poorer position to compete on a cost basis with its primary long haul common carrier competitor, the airlines. Any attempt to maintain the present spread in relative fares will result in even higher deficits per unit of passenger traffic.

Is it within the power of any single western railroad to avoid the projected trend in rail passenger service?

It must be assumed that present policy alternatives—to maintain the maximum volume of traffic or to reduce the deficit as much as possible—will continue for some time. Given the fact that most western railroads are relatively prosperous, at least in comparison with many eastern railroads, it must be assumed that some western roads could afford to continue a maintenance of passenger volume policy, even though such a policy would undoubtedly result in higher deficits in five or ten years than it does now.

But this apparent freedom of alternatives does not mean that any single railroad, or even a group of railroads, can reverse the trend. The policy alternatives can determine, to some extent, the rate of decline for a railroad over the next five or ten years; but a slow rate of decline in traffic volume purchased at the price of a large deficit is not preferable, in economic terms, to a faster rate of decline with smaller losses. As indicated earlier, the costs entailed in keeping passenger volume losses at a minimum tend to mount in the form of even higher deficits.

The basic reasons for the inevitability of the decline of rail passenger traffic are primarily external to the railroads themselves: the competitive superiority of the airplane, the automobile, and even the bus.

Since it is not within the power of the railroads to reverse the decline, given present technological developments, the various remedies continuously suggested to them—to promote, to advertise, to reduce fares, to "improve" service—are basically suggestions to substitute a slow decline-large loss policy for a faster decline-smaller loss policy.

Given the probable future trend in rail passenger service, what policy or set of policies appears most appropriate, from the points of view of both economics and public policy?

The reduction of deficit policy is the only realistic policy for a railroad to follow, from either point of view. From the economic point of view, the choice is fairly clear. Businesses in every field continually make decisions to discontinue products and activities that are declining and profitless. Without this constant elimination of weak lines, few multiproduct companies would enjoy economic health.

This policy of loss reduction is sound even from the point of view of public policy, the public utility status of railroads notwithstanding. Railroads, while regarded as public utilities in a legal and political sense, are no longer so in an economic sense. An electric power utility, for instance, enjoys a legally sanctioned monopoly in return for which it must service all users in the areas assigned to it. As a general rule, railroads enjoy no such monopoly position in any of their activities, and least of all in passenger service. As a matter of fact, it is the impact of competition that has brought passenger rail service to its present low state.

The public policy obligation of the railroads must be viewed in its entirety, and not merely as an obligation to provide service to the ever-diminishing number of rail passengers. The railroads have an obligation to all their users, and many other users depend on the railroads for their economic survival to a far greater extent than do rail passengers. To the western forest product industries, to western mining industries, and to a good portion of western agriculture, railroads are not merely indispensable agents of distribution; the level of costs experienced by railroads and the rates they charge can determine the profitability of many ventures in these fields. To serve these users and help maintain their competitive positions, a financially healthy railroad industry is required.

Despite some recent gains, the railroad industry still ranks very low in profitability, measured by return on investment, and large passenger deficits have contributed to this unsatisfactory situation. The railroads also have an obligation to their stockholders to invest capital wisely and profitably. It is doubtful that many rail stockholders view the continuation of large passenger deficits as a necessary public obligation of the railroads.

These various "public" responsibilities of railroads must be balanced to arrive at a proper assessment of a railroad's real responsibility toward passenger service. As the demand for passenger traffic declines, responsibility toward freight shippers and stockholders must loom larger in the balance.

While railroads that have pursued a deficit reduction policy have been correct in the selection of this alternative, there is some doubt that these railroads, in general, have adopted the correct methods for pursuing this policy. The "hard" pursuit of a deficit reduction policy practiced by some railroads has aroused considerable opposition in the segment of the public that is partial to railroads, and this opposition has undoubtedly influenced regulatory commissions in their deliberations and decisions regarding such matters as train discontinuances. Such a hard-line policy has been partially self-defeating.

RECOMMENDATIONS

Recommendations are stated in response to a fourth question:

Can a deficit reduction policy be pursued by

methods that differ significantly from those chosen by some railroads and that would have a greater chance of success?

The answer is yes. Here is the outline of such a policy and the methods that could be followed with prospects for success.

1. In pursuing a deficit reduction policy, railroads should not rely solely on train discontinuance as a means of reducing the deficit.
2. In discontinuance cases, railroads should make more vigorous efforts to gain public support of their position, or at least understanding of it.
3. As part of a policy to gain greater understanding of the problems of rail passenger service, the railroads should adopt an attitude of open-mindedness, if not support, toward federal programs to develop new high speed ground transportation systems for intercity travel.
4. The railroads should inaugurate a significant program of public education concerning the economics of rail passenger service.

Regarding the first point, the reliance on train discontinuance, railroads should try in some cases to improve the cost-revenue relationship of trains with significantly higher fares and to abandon efforts to set coach rail fares on a basis competitive with bus fares. Such a pricing policy is not advocated for areas where railroads are filling the role of a low cost volume carrier, such as on the Pennsylvania Railroad route between Washington and New York, and where sharp fare increases might lead to disproportionate losses in traffic. Such a situation is rare, however, in the West. From all indications, a good proportion of rail travelers choose the train for reasons other than cost. Therefore, it is likely that fare increases in the West would result in less than proportionate traffic reduction and thus would increase passenger revenues.

The basis for this suggested change in pricing policy is the obvious economic principle that goods and services should not be offered at less than the direct cost associated with producing them. Even the most liberal interpretation of a railroad's obligation to provide passenger service cannot include a commitment to provide such services at less than out-of-pocket costs. The only substantial reason for many railroads failing to bring their rates into line with cost is the fear of excessive traffic loss.

Regarding the second point, in a number of train discontinuance cases, public opposition to the cases has been hardened by the lack of previous information that the railroads intended to seek abandonment of these trains. There is no apparent reason why a railroad should treat a decision to file for a train discontinuance as a secret until the actual filing, thus adding the element of surprise to the already strong feelings of opposition (on the part of individuals who feel wronged). In such circumstances, a railroad would do far better to discuss openly, and for months ahead, the possibility that a discontinuance might be sought unless public support for a train showed improvement. With such preparation, a discontinuance filing, if it materialized, would meet with substantially less opposition, because the public would have had time to see the railroad's side of the case.

Regarding the third point, while an attitude of skepticism may be realistic, particularly with regard to the economic future of high speed ground transportation systems, outspoken opposition to such systems by the railroads reflects negatively on the railroads themselves. If the railroad industry is sincerely arguing for freedom of entry and exit in the field of passenger service, it cannot logically deny such freedom to others, including the federal government.

Furthermore, the role of the federal government in interstate transportation is long established. While the economic wisdom of a federally sponsored transportation system may be doubted, the system can hardly be faulted on legal or political grounds. In this connection, it should be emphasized that this study's generally negative outlook for rail passenger transportation relates solely to the question of whether such a service can be profitable. The study does not deal with the question of whether or not an intercity rail passenger transportation system merits government support on social or political grounds.

Regarding the fourth point, concerning the need for public education in the economics of rail passenger service, not only is the public generally uninformed about the true state of passenger trains but there is a large amount of misinformation current on the subject. The basic piece of misinformation that the railroads need to combat is the notion that rail passenger service is cost competitive with other modes of intercity passenger transportation. The data needed to prove the cost inferiority of passenger trains as compared with airplanes or buses are easily obtainable from public sources. Yet the public is generally unaware of them.

One important factor contributing to this situation is the ICC formula used to determine costs associated with providing rail passenger service and to measure the resulting deficit. Because the formula attempts to measure "full cost," including some costs that would not be avoidable if passenger trains were discontinued, it has become fashionable for informed laymen to argue that the whole cost formula is unrealistic and that the enormous passenger deficit simply does not exist.[1]

[1] See *Fortune*, July 1, 1966, "The Rail Route to a More Mobile America," by Edmund K. Faltermayer.

The passenger deficit is based on the ICC formula for fully distributed costs, with an arbitrary allocation of common and joint costs between freight and passenger operations. It is true that such fully distributed costs do not reflect the avoidable cost of maintaining passenger service in the short run (a year or two); but over the longer run (five to ten years), it is likely that most of the fully distributed costs could be avoided if passenger operations were discontinued.

As a matter of fact, one authoritative study has even argued that long run avoidable costs of rail passenger service exceed ICC fully distributed cost figures—that is, that the ICC cost formula understates rather than overstates the railroad passenger deficit.[2] But, regardless of its exact size, the passenger deficit is substantial and represents a drain on railroad capital that could be profitably employed elsewhere.

The consequences of public misinformation are considerable. They include not only lack of public support for railroads seeking to discontinue passenger trains but also lack of public sympathy for the financial losses that these trains incur. (The telephone industry has aroused much more sympathy with its complaint of inadequate earnings than the railroad industry can muster with its substantial losses.)

The consequences of misinformation also involve such public issues as the proposed federal program for a high speed ground transportation system for the Northeast Corridor. This program has been thoroughly publicized in every respect except one—whether the costs associated with this new transport system will be competitive with the costs of air or bus travel.

Railroads have little to lose and much to gain from a comprehensive public discussion of their passenger service cost structure. In fact, so long as the railroad industry must seek public approval for any significant change in its passenger service, the development of any sound policy in this field must entail a program of prior public enlightenment.

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[2] Aeronautical Research Foundation, *Avoidable Costs of Passenger Train Service*, September 1957.

SECTION II

PASSENGER TRAFFIC TRENDS OF COMMON CARRIERS ALONG SELECTED ROUTES OF THE SOUTHERN PACIFIC

Trends in common carrier passenger traffic were examined along four Southern Pacific routes: San Francisco-Los Angeles, San Francisco-Chicago, Los Angeles-Chicago, and Los Angeles-New Orleans. Trends in passenger volume, fares, and the level of services were analyzed, and a comparative analysis of passenger traffic trends was made for the four routes.

TRENDS IN PASSENGER VOLUME

Trends in the number of passengers traveling by air, bus, and rail along each of the four routes are shown in Figures 1 through 4, which are supplemented by Tables 1 through 4. The period covered is 1953–1965, except for air travel on the San Francisco-Los Angeles route, where the latest available data are for 1964. (Sources, definitions, and qualifications of data are given in detail in Appendix A.)

TABLE 1
COMMON CARRIER PASSENGER VOLUME
SAN FRANCISCO–LOS ANGELES 1953–1965
(In Thousands)

	Rail	Bus	Air
1953	1551.7	726.4	582.1
1954*	1400.0	732.0	705.0
1955	1262.3	743.3	853.4
1956	1160.5	887.0	858.1
1957	1001.4	975.8	1174.7
1958	841.1	1044.2	1185.4
1959	769.4	1272.4	1372.9
1960	676.8	1275.7	1493.2
1961	666.7	1425.5	1511.1
1962	635.4	1424.1	1695.5
1963	538.9	1392.3	2103.8
1964	512.2	1383.6	2572.2
1965	450.4	1386.3	N.A.

* Estimated

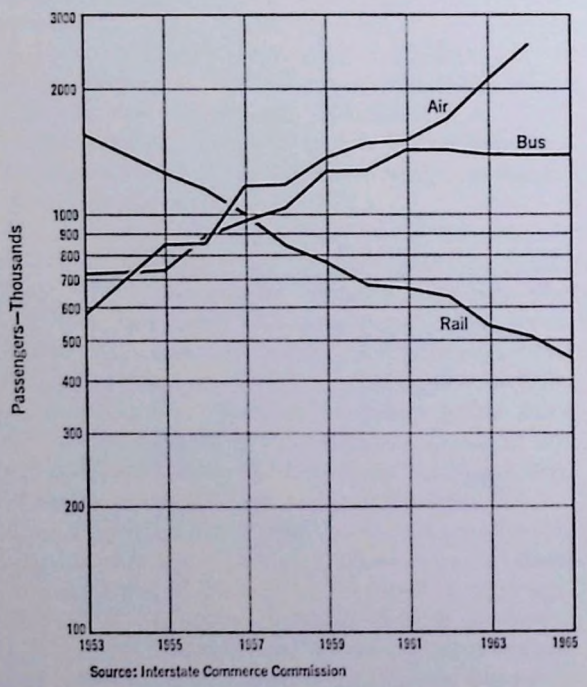

Fig. 1—Common carrier passenger volume—San Francisco-Los Angeles 1953–1965

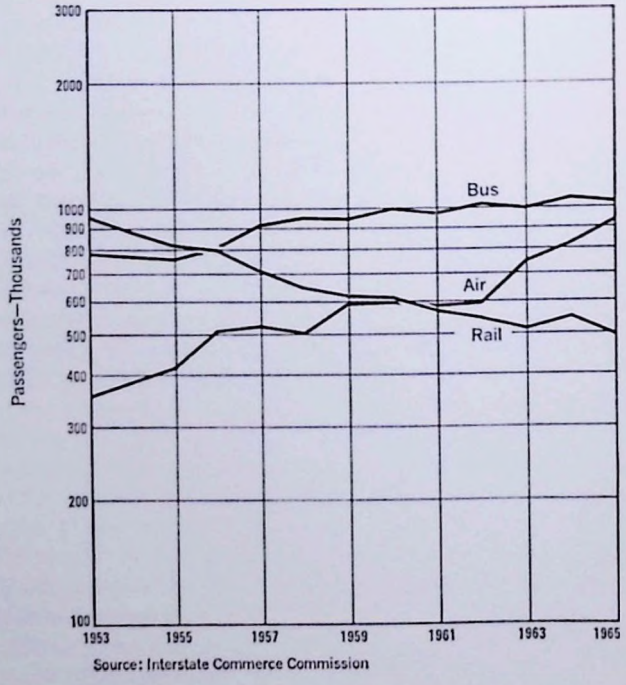

Fig. 2—Common carrier passenger volume—San Francisco-Chicago 1953–1965

TABLE 2
COMMON CARRIER PASSENGER VOLUME
SAN FRANCISCO–CHICAGO 1953–1965
(In Thousands)

	Rail	Bus*	Air
1953	959.5	786.0	355.4
1954†	885.0	772.0	384.0
1955	823.0	761.1	417.0
1956	801.9	805.8	512.2
1957	709.2	914.0	524.1
1958	645.5	954.1	502.8
1959	617.8	948.4	592.6
1960	613.6	995.7	599.8
1961	568.5	973.7	584.1
1962	546.6	1017.9	592.2
1963	515.5	999.4	744.1
1964	550.0	1057.9	822.1
1965	495.8	1027.5	930.0

* Includes San Francisco-Chicago, San Francisco-Reno, and San Francisco-Sacramento † Estimated

Rail and bus passengers include those traveling part way or all of the way along the route indicated. Air passengers are those traveling between selected city pairs along the route indicated. Passenger volumes for each mode are therefore not strictly comparable. However, they are adequate indicators of passenger traffic trends for each mode.

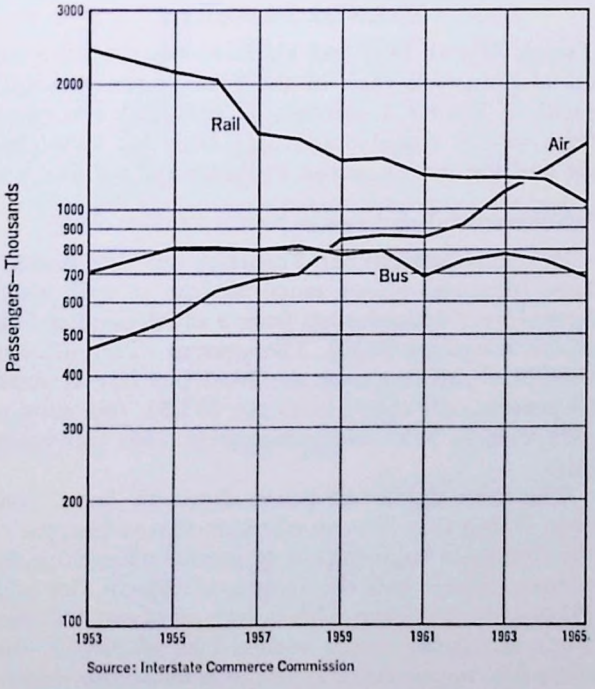

Fig. 3—Common carrier passenger volume—Los Angeles-Chicago 1953–1965

TABLE 3
COMMON CARRIER PASSENGER VOLUME
LOS ANGELES–CHICAGO 1953–1965
(In Thousands)

	Rail	Bus*	Air
1953	2416.6	708.5	464.7
1954†	2280.0	755.0	503.0
1955	2133.6	805.6	547.0
1956	2054.5	812.0	637.5
1957	1522.2	796.7	677.2
1958	1469.5	814.1	698.6
1959	1301.2	776.8	845.3
1960	1321.1	792.3	866.6
1961	1201.3	689.9	856.8
1962	1184.1	752.1	918.8
1963	1186.9	777.1	1102.1
1964	1172.9	749.4	1237.4
1965	1028.4	682.6	1430.2

* Includes Los Angeles-Chicago, Los Angeles-St. Louis, and Los Angeles-Phoenix-Tucson † Estimated

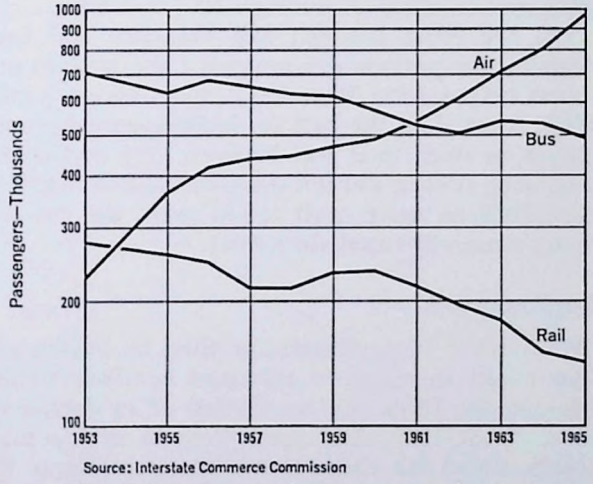

Fig. 4—Common carrier passenger volume—Los Angeles-New Orleans 1953–1965

TABLE 4
COMMON CARRIER PASSENGER VOLUME
LOS ANGELES–NEW ORLEANS 1953–1965
(In Thousands)

	Rail	Bus	Air
1953	275.8	703.2	222.4
1954*	266.5	665.0	286.0
1955	257.5	630.0	362.3
1956	247.8	673.5	418.4
1957	213.8	653.3	438.6
1958	213.5	624.8	441.9
1959	232.7	619.5	467.2
1960	235.1	570.9	483.7
1961	218.2	525.2	536.5
1962	195.6	502.2	609.4
1963	179.4	538.6	711.2
1964	149.4	530.2	806.9
1965	141.9	491.3	972.1

* Estimated

Rail Passengers

The number of passengers traveling by rail declined almost without interruption on all four routes during the entire period. The only appreciable increase was a brief one on the Los Angeles-New Orleans route between 1958 and 1960. The largest relative decline was on the San Francisco-Los Angeles route, from about 1,550,000 to 450,000, or more than 70 percent. The smallest declines—both a little under 50 percent were on the Los Angeles-New Orleans route (from about 275,000 to 140,000) and on the San Francisco-Chicago route (from more than 950,000 to not quite 500,000). The decline on the Los Angeles-Chicago route was from about 2,400,000 in 1953 to a little more than 1,000,000 in 1965, or upwards of 55 percent.

Reductions in rail passengers on both routes between the West Coast and Chicago were parallel over time, though a little different in degree. The greatest relative declines occurred between 1956 and 1959, and the smallest between 1961 and 1964.

On the route between San Francisco and Los Angeles, the pattern was somewhat the same as on routes between the West Coast and Chicago, until 1962. After that, the rate of decline again became almost as steep as it was between 1956 and 1959. The steep decline did not come on the Los Angeles-New Orleans route until recent years, the decline being especially rapid since 1961.

Bus Passengers

The number of passengers traveling by bus on all four routes increased or remained relatively stable through the 1950s and has leveled off or decreased since about 1960. Any upward trend in bus passenger travel on these routes therefore seems to have been reversed several years ago.[1]

A substantial increase in the number of bus passengers was recorded on the San Francisco-Los Angeles route from 1953 through 1961, from about 725,000 to more than 1,400,000, and then the number leveled off. Passengers on the San Francisco-Chicago route also increased until the early 1960s, from a little under 800,000 to about 1,000,000, and then stabilized at about 1,000,000. There was a small increase on the Los Angeles-Chicago route during the 1950s and a decrease of similar proportions since 1960, with about the same number of passengers (700,000) at the beginning and the end of the 1953–1965 period. There was a slight decrease in the number of passengers on the route between Los Angeles and New Orleans during the 1950s, and the decrease accelerated substantially during the 1960s; the overall decline was from about 700,000 in 1953 to less than 500,000 in 1965.

[1] Data from Continental Trailways were not available, so the figures for bus travel are understated, especially on the Los Angeles-New Orleans route. Nevertheless, the trends indicated for bus travel are probably accurate.

Air Passengers

The number of passengers traveling by air on all four routes increased almost continuously throughout the 1953–1965 period. The rate of increase has been particularly large since the prevalent employment of jet aircraft on these routes in the early 1960s.

The general patterns of growth on the four routes have been similar since 1953. The overall growth on the San Francisco-Los Angeles and Los Angeles-New Orleans routes, however, was higher than on routes between California and Chicago. The number of passengers between San Francisco and Los Angeles increased from less than 600,000 in 1953 to almost 2,600,000 in 1964—a more than fourfold increase. An increase of like relative size was recorded between Los Angeles and New Orleans, where there were about 220,000 passengers in 1953 and 970,000 in 1965.

Growth of passenger volume on the Los Angeles-Chicago and San Francisco-Chicago routes was less dramatic but still substantial. Between Los Angeles and Chicago the number of passengers rose from approximately 465,000 in 1953 to 1,430,000—more than triple that figure—in 1965. During this period, the number of passengers between San Francisco and Chicago increased by more than two and a half times, from about 355,000 to 930,000.

TRENDS IN FARES

Trends in rail, bus, and air fares between the terminal points on each of the four routes are indicated in Tables 5 through 7. Included are coach fares for all three modes and fares for first class air and the lowest priced Pullman rail service.

San Francisco-Los Angeles

Bus fares between San Francisco and Los Angeles have increased about twice as fast as rail coach fares since 1953, although from a much smaller base ($5.95 as against $9.50). The present differential of the $12.50 rail fare over the $9.65 bus fare is about 30 percent. Air coach fares are $13.50, the same as they were in 1953 and competitive with rail coach fares.

The most significant point about air fares, however, is that they have in effect decreased because of the change in composition of service offered by the airlines. About half the seats available in the mid-1950s were first class with a fare of about $22, the other half being coach with a fare of $13.50. But currently, approximately 95 percent of the passengers traveling between San Francisco and Los Angeles use the coach fare of $13.50, or even a special

thrift fare of less than $11.50. Thus, the average air travel fare between the two cities has actually declined significantly since the mid-1950s.

Since 1953, the lowest priced Pullman rail fare, for a one passenger roomette, has increased by a higher percentage (about 40 percent) than rail coach

TABLE 5
COMPARISON OF RAIL, BUS, AND AIR FARES
COACH AND FIRST CLASS
SAN FRANCISCO–LOS ANGELES
1953–1965

	Rail				Bus		Air			
	Coach		One Passenger Roomette		Coach		Coach		First Class	
	Fare	Index	Fare	Index	Fare	Index	Fare	Index	Fare	Index
1953	$ 9.50	100.0	$23.57	100.0	$ 5.95	100.0	$13.50	100.0	$22.05	100.0
1955	9.50	100.0	25.23	107.0	5.95	100.0	13.50	100.0	22.05	100.0
1957	9.50	100.0	28.20	119.6	6.80	114.3	13.50	100.0	22.05	100.0
1959	10.50	110.5	30.30	128.6	7.48	125.7	15.05	111.5	23.95	108.6
1961	11.00	115.8	30.30	128.6	8.35	140.3	13.50	100.0	27.55	124.9
1963	12.50	131.6	33.31	141.3	9.19	154.4	13.50	100.0	28.45	129.0
1965	12.50	131.6	33.31	141.3	9.65	162.2	13.50*	100.0	28.45	129.0

* A special thrift fare of $11.43 is also available.

TABLE 6
COMPARISON OF RAIL, BUS, AND AIR FARES
COACH AND FIRST CLASS
SAN FRANCISCO–CHICAGO AND LOS ANGELES–CHICAGO
1953–1965

	Rail				Bus		Air			
	Coach		One Passenger Roomette		Coach		Coach		First Class	
	Fare	Index	Fare	Index	Fare	Index	Fare	Index	Fare	Index
1953	$55.44	100.0	107.01	100.0	$41.65	100.0	$76.00	100.0	$114.75	100.0
1955	55.44	100.0	107.01	100.0	41.65	100.0	76.00	100.0	114.75	100.0
1957	61.12	110.2	119.36	111.5	46.40	111.4	76.00	100.0	114.75	100.0
1959	61.12	110.2	119.36	111.5	51.70	124.1	80.05	105.3	120.35	104.9
1961	67.39	121.6	119.36	111.5	54.30	130.4	102.30	134.6	131.40	114.5
1963	67.39	121.6	119.36	111.5	54.30	130.4	105.45	138.8	135.40	118.0
1965	67.39	121.6	119.36	111.5	57.30	137.6	105.45*	138.8	116.55	101.6

* A special thrift fare of $90 is also available on the Los Angeles-Chicago route.

TABLE 7
COMPARISON OF RAIL, BUS, AND AIR FARES
COACH AND FIRST CLASS
LOS ANGELES–NEW ORLEANS
1953–1965

	Rail				Bus		Air			
	Coach		One Passenger Roomette		Coach		Coach		First Class	
	Fare	Index	Fare	Index	Fare	Index	Fare	Index	Fare	Index
1953	$49.62	100.0	$ $96.06	100.0	$38.90	100.0	$80.90	100.0	$107.80	100.0
1955	49.62	100.0	96.06	100.0	38.90	100.0	80.90	100.0	107.80	100.0
1957	54.71	110.2	107.18	111.6	43.35	111.4	80.90	100.0	107.80	100.0
1959	54.71	110.2	108.73	113.2	50.60	130.1	87.40	108.0	113.15	105.0
1961	60.32	121.6	108.73	113.2	51.75	133.0	90.60	112.0	117.00	108.5
1963	60.32	121.6	111.93	116.5	51.75	133.0	93.35	115.4	120.55	111.8
1965	60.32	121.6	111.93	116.5	54.30	139.6	101.60	125.6	124.35	115.4

fares and first class air fares (both about 30 percent). The one passenger roomette fare of $33.31 currently compares with fares of $12.50 for rail coach and $28.45 for air first class. Comparisons of first class fares are not very significant, however, since the San Francisco-Los Angeles common carrier travel market is dominated overwhelmingly by coach service.

San Francisco-Chicago and Los Angeles-Chicago

Fares for travel between San Francisco and Chicago were the same as for travel between Los Angeles and Chicago throughout the period.

Rail coach fares on the two routes between California and Chicago showed a much smaller percentage increase than bus fares since 1953 (about 22 percent as against 38 percent), though from a higher base. Rail fares advanced from $55.44 to $67.39 between 1953 and 1965, while bus fares increased from $41.65 to $57.30. The differential between the two narrowed from more than 30 percent in 1953 to less than 20 percent in 1965. Air coach fares increased in percentage even more than bus fares—from $76.00 to $105.45, or almost 40 percent—and are currently far more than either rail coach or bus fares. The current differential is about 55 percent between air and rail, and 85 percent between air and bus.

One passenger roomette rail fares between California and Chicago increased about 12 percent. First class air fares are almost the same today ($116.55) as they were in 1953 ($114.75). A shift from first class to coach air service also has occurred on these routes, though not as much as on the San Francisco-Los Angeles route. For example, the numbers of coach and first class air passengers between Los Angeles and Chicago were about the same in 1955; in 1964 about 80 percent of the passengers traveled by coach.

Nevertheless, the stability of first class air fares between California and Chicago is significant in two respects. One is that the differential between first class and coach air fares has narrowed substantially, from about $30 to $11 in the last year, with some swing back to first class to be expected in air travel between California and Chicago. The other is that first class air fares have been competitive with Pullman roomette rail fares throughout the period, even without consideration of the extra expense for meals on train trips of this length.

Los Angeles-New Orleans

Rail coach fares between Los Angeles and New Orleans have increased less than either air coach or bus fares since 1953. While rail fares increased from $49.62 to $60.32 during this period, bus fares rose from $38.90 to $54.30 and air fares from $80.90 to $101.60. In 1953, the differential between rail and bus fares was more than 25 percent, but by 1965 rail fares exceeded bus fares only a little more than 10 percent. Although the differential between air and rail coach fares increased only slightly since 1953, air fares were substantially higher at the beginning of the period and the current differential is almost 70 percent.

As in the other travel markets, first class travel is now relatively unimportant between Los Angeles and New Orleans. Where only about 30 percent of the air travelers between Los Angeles and New Orleans went by coach in the mid-1950s, coach passengers comprised more than 80 percent of this market by 1964. First class Pullman rail service is available on a regularly scheduled basis only between Los Angeles and El Paso.

The first class air fare of $107.80 in 1953 increased by about 15 percent to $124.35 in 1965. One passenger roomette fares between Los Angeles and New Orleans increased from $96.06 to $111.93.

TRENDS IN LEVEL OF SERVICES

Two of the most important objective characteristics of the level of services offered are availability (or frequency) and elapsed time of travel. The weekly frequencies of departure for one way rail, bus, and air travel in 1953 and 1965 are compared for the four routes in Table 8.[2] Minimum elapsed travel

TABLE 8

COMPARISON OF WEEKLY FREQUENCIES OF RAIL, BUS, AND AIR DEPARTURES ONE WAY BETWEEN TERMINAL CITIES ON SELECTED SOUTHERN PACIFIC ROUTES

Route	Year 1953	1965
San Francisco-Los Angeles		
Rail	70	35
Bus*	56	147
Air	350†	763
San Francisco-Chicago		
Rail	28	21
Bus	14	35
Air	105	203
Los Angeles-Chicago		
Rail	77	42
Bus	98	77
Air	203	280
Los Angeles-New Orleans		
Rail	21	7
Bus	21	21
Air	14	42

* Express only

† Estimated

[2] Weekly frequencies are used to allow for any variation in daily schedules during the week.

times on these routes in 1953 and 1965 are compared for the three common carrier modes in Table 9.

TABLE 9

COMPARISON OF MINIMUM ELAPSED TRAVEL TIMES BY RAIL, BUS AND AIR BETWEEN TERMINAL CITIES ON SELECTED SOUTHERN PACIFIC ROUTES

1953 and 1965
(In Hours)

Route	Year 1953	1965
San Francisco-Los Angeles		
Rail	9.8	9.8
Bus	10.5	9.0
Air	2.0	0.9
San Francisco-Chicago		
Rail	40.0	45.0
Bus	59.0	55.0
Air	8.0	4.0
Los Angeles-Chicago		
Rail	40.0	39.5
Bus	61.0	54.0
Air	7.0	4.0
Los Angeles-New Orleans		
Rail	42.0	46.0
Bus	53.0	48.0
Air	8.5	4.0

San Francisco-Los Angeles

The weekly frequency for one way rail was halved (from 70 to 35) on the San Francisco-Los Angeles route between 1953 and 1965, while the one way weekly frequency for air more than doubled (from about 350 to more than 750) and for express bus nearly tripled (from more than 50 to almost 150).[3]

Total offerings of the airlines far exceeded express bus and rail offerings during the entire period. The current ratio of air-to-express bus service frequency is more than 5:1, and the ratio of air-to-rail service is well over 20:1. Train service in 1953 was slightly more frequent than express bus service. The frequency of express bus service is today more than four times greater than train service.

The minimum elapsed travel time for railroads running between San Francisco and Los Angeles—not quite 10 hours—has not changed since 1953. By 1965, minimum running time for the bus was 9 hours—less than for the train by the same 8 percent margin that train running time had been less in 1953 when buses took 10.5 hours. Elapsed running time for air travel, of course, has been far less than for rail or bus travel between the two cities. The minimum air travel time has been cut in half since 1953, dropping from 2 hours to less than 1.

San Francisco-Chicago

The weekly one way frequency for rail between San Francisco and Chicago has decreased from 28 to 21 since 1953. Bus frequency has more than doubled during the period, from 14 to 35, and now exceeds rail frequency by two-thirds. As in the San Francisco-Los Angeles market, total offerings of the airlines approximately doubled and far outnumbered bus and rail offerings. Weekly airline offerings increased from about 100 to 200 since 1953. The current ratio of air-to-bus service is almost 6:1, and the ratio of air-to-rail service almost 10:1.

The minimum running time for railroads between San Francisco and Chicago has actually increased since 1953 from 40 to 45 hours. Although the bus running time has decreased from 59 to 55 hours, it still exceeds train running time by more than 20 percent. The airlines have had a tremendous advantage in running time throughout the period. Minimum air time has been cut in half since 1953, from 8 to 4 hours, and is now less than 10 percent of the minimum running time by rail.

Los Angeles-Chicago

The weekly one way frequency for rail between Los Angeles and Chicago has decreased sharply since 1953—from 77 to 42. Bus frequency also decreased, but its decrease from 98 to 77 was smaller than for rail. Bus service is currently almost double train service frequency. The frequency of air service has risen from about 200 in 1953 to 280 in 1965. The ratios of air-to-bus and air-to-rail service have not been as large on this route as on the San Francisco-Los Angeles or San Francisco-Chicago routes, nor has the increase in air service been as great. Nevertheless, the advantage in frequency to the airlines is still fairly substantial—more than 3.5:1 relative to bus and 6.5:1 relative to rail.

The minimum elapsed travel time by rail between Los Angeles and Chicago has decreased only very slightly since 1953, from 40 to 39.5 hours. As on the San Francisco-Chicago route, bus running time has decreased (from 61 to 54 hours) but still exceeds the train running time by a substantial margin—more than 35 percent. The tremendous advantage in running time differential for airlines has been about the same as for the route between San Francisco and Chicago. Air travel time since 1953 has been reduced from 7 to 4 hours.

[3] Only express buses were considered on this route because they are more nearly comparable to trains and airplanes operating between San Francisco and Los Angeles than are local buses. Actually, while express bus frequency increased during the period, the frequency of local buses declined.

Los Angeles-New Orleans

The weekly one way frequency by rail between Los Angeles and New Orleans declined from 21 to 7—a two-thirds drop from what it was in 1953. The frequency of bus service, still equal to the rail frequency of 21 in 1953, is now triple the rail frequency. Airline service tripled—from 14 to 42—but from a base lower than either bus or rail frequencies in 1953, with the result that the current ratio of air-to-rail service is 6:1 and the ratio of air-to-bus service only 2:1.

As between San Francisco and Chicago, the minimum elapsed travel time by rail has increased, in this case from 42 to 46 hours since 1953. Bus running time decreased from 53 to 48 hours and is now almost equal to train running time. The tremendous differential in elapsed time has been an advantage to airlines throughout the period. The minimum running time for air travel has been cut more than half since 1953—from 8.5 hours to 4 hours—and is now less than 10 percent of the time by rail.

COMPARATIVE ANALYSIS

Common carrier passenger traffic trends along the four routes examined are strikingly similar. In terms of passenger volume, the virtually uninterrupted decline in rail travel was substantial between 1953 and 1965, ranging from a little less than 50 percent on the Los Angeles-New Orleans and San Francisco-Chicago routes to more than 70 percent on the San Francisco-Los Angeles route.

During the same period, bus passenger volume increased only on the San Francisco-Los Angeles and San Francisco-Chicago routes—by about 100 percent and 25 percent respectively—but almost all the growth occurred in the 1950s. The Los Angeles-Chicago route showed no growth during this period, and the Los Angeles-New Orleans route declined approximately 30 percent.

In contrast with the other common carrier modes, air passenger volume on all four routes was sharply upward, with particularly dramatic growth since the early 1960s. The smallest percentage that air passenger traffic increased since 1953 was more than 160 percent on the San Francisco-Chicago route, and the largest percentage increase, on the San Francisco-Los Angeles route, was probably well over 400 percent.[4]

These changes, of course, were reflected in changes in frequency of service offered by the competing common carrier modes. In terms of speed, the airplane maintained its tremendous advantage over the train and bus on all four routes.

Air travel increased dramatically during this period, even though air coach fares were not competitive with coach rail or bus fares, except on the San Francisco-Los Angeles route. However, on the routes from California to Chicago or New Orleans, air coach and first class fares have been quite competitive with Pullman fares, particularly in light of extra expenses for meals on trains.

While the current distribution of passenger volumes among the common carrier modes is not uniform along the four routes examined, the basic trend patterns are very similar. The differences occur primarily because the distribution of passenger shares among the common carriers varied among these routes at the beginning of the period, and because there were slight variations in the timing of rapid increases in air travel and sharp declines in rail travel.

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[4] The increase through 1964 was more than 340 percent and would easily be more than 400 percent since 1953 if the recent growth rate continued through 1965.

SECTION III

COMPETITIVE ENVIRONMENT IN INTERCITY PASSENGER TRAVEL

Changes in the distribution of intercity passenger transportation along certain western routes by mode of travel, to be properly understood, must be viewed as part of the nationwide changes that have taken place in transportation since World War II. These nationwide changes, in turn, can be seen most clearly if viewed both from the standpoints of the traveler seeking transportation and the organizations supplying it. Profound changes have taken place with respect to both of them.

CHANGES IN DEMAND

Of all the factors that have influenced the trend of intercity passenger travel since the war, the most important are the tremendous increase in the use of the automobile, now the primary mode for intercity passenger travel, and the emergence of air travel as the primary mode for business travel.

The Automobile—the Primary Mode for Travel

The automobile, in addition to being the dominant mode of travel, has profoundly influenced consumer demand for all travel. The enormous increase in automobile ownership has provided the traveler with a performance standard of high quality and low cost, and this standard, in turn, has altered the traveler's attitude toward all forms of common carrier transportation.

This influence, of course, has occurred only since the war. Because of the depression of the 1930s and the cessation of automobile production during the war, the number of private automobiles in use in 1945—roughly 26 million—was only 12 percent above the 1930 level. By 1964, this number had grown to nearly 72 million.

What are the performance characteristics of this almost universally available means of intercity travel?

It is cheap. Since most families already have at least one automobile, usually purchased for purposes other than long distance travel, the relevant costs to be considered for an occasional long distance trip are only the actual outlays required for the trip—usually between 3 and 4 cents a mile. For trips involving more than one traveler, the cost per traveler becomes a fraction of that figure. Automobile travel, then, is as cheap as any form of common carrier intercity travel even if there is only one traveler per automobile; it is far cheaper than any other form of travel if there is more than one traveler per trip.

It is fast and comfortable. The combination of powerful engines and improved highways allows the automobile traveler speeds averaging 50 mph or more over long distances—speeds fully competitive with many rail and bus schedules, even if no allowance is made for travel to and from rail and bus stations. The same combination of better cars and highways also makes most intercity travel by car very comfortable.

It offers complete freedom over time of departure. Twenty years ago, travelers were willing to adjust their departure times to the schedules of common carriers. But with the automobile at their disposal, they have become accustomed to departure times of their own choosing. In high density intercity travel markets where common carriers account for a sizable proportion of total travel, carriers have had to furnish a high frequency of service. In the San Francisco-Los Angeles market, for instance, air carriers offer more than 100 departures a day each way.

It provides point-to-point service. The relative decline of common carrier intercity transportation can be traced in part to the relative decline of intracity transportation. With the spatial growth of metropolitan areas—particularly in the West—transportation from city center to city center in the case of bus or rail, or from airport to airport in the case of air travel, has become only part of a total journey. The expansion of urban areas has lengthened the average distance from a terminal to the final destination in the area, and with the decline of intracity common carrier transportation, automobile travel has gained an additional edge over common carrier travel.

The competitive advantage of an automobile is particularly great for nonbusiness intercity travel. For example, family pleasure travel often involves not only the intercity trip itself but extensive amounts of travel in the area visited. In these cases, then, the convenience and flexibility of the relatively low cost family car far outweigh any advantages of common carrier travel.

The total effect of the automobile on consumer demand for intercity traffic, then, may be summarized as follows: the availability of the automobile makes the choice of common carrier travel the exception; and, generally, a traveler chooses a common carrier only if he needs a time performance his car cannot furnish or if he is unable or unwilling to drive his own car.

Airplanes—the New Style in Business Travel

Of all the travel market sectors that have contributed to the decline of rail passenger travel, the business travel sector has done so more than any other. This desertion of the passenger train by business travelers was prompted, of course, by the emergence of air travel as the primary mode of business travel. Businessmen were quick to realize the economic value of travel that allows vast distances to be spanned with little loss in work time. As one authoritative study pointed out,[1] "Business travel by rail declined faster than nonbusiness travel."

Evidence of the extent to which the airlines have captured the business travel market can be found in the 1963 National Travel Survey of the Bureau of the Census. While business travelers accounted for only 14 percent of all travelers surveyed, they constituted 56 percent of all airline travelers. In a direct comparison with rail, for every two rail passengers on business travel, the survey found 15 businessmen traveling by air.

This finding was substantiated at a recent discontinuance hearing before the California Public Utilities Commission concerning the Southern Pacific Lark, an overnight Pullman train between San Francisco and Los Angeles. An official of a large company with staff members making more than 3,000 trips a year between the two cities testified that although staff members are free to choose any common carrier mode, less than 3 percent choose rail travel.

The sharp decline in Pullman travel, the preferred mode for business travel before the war, provides additional evidence of this shift. All 11 major western railroads showed a decrease in the number of passenger miles generated on parlor and sleeping car service since 1951. As shown in Figure 5, taken together, the trend of Pullman service was almost continuously downward, amounting to a decline of 75 percent, as compared with a decline of only 25 percent in coach travel.

Some consideration should be given to the function of habit regarding intercity passenger transportation. Many studies of the passenger travel market, including *The Changing Travel Market,* have noted that older people, who became accustomed to rail travel early in life, constitute a large fraction of the rail travel market, while most young people have never been on a train. These passengers will be lost with the passing generations, and railroads that try to attract additional travelers will have to overcome not only the cost and service advantages of other modes but the incidence of habit that will run strongly against train travel.

[1] John B. Lansing and Dwight M. Blood, *The Changing Travel Market,* 1964.

TECHNOLOGICAL CHANGES

Intercity passenger transportation has been marked by vast technological improvements in some modes of transportation and by steady and significant cost increases for all modes of common carrier transportation. These two developments are connected in the sense that the significance of technological improvement can often best be measured by the extent that these improvements offset the steady upward push of costs.

Railroads experienced continued increases in labor and material costs; yet technological improvements in railroading, such as in communications, motive power, and maintenance of way work, did not result in dramatic savings. Specifically, the railroad industry has not produced technological improvements that reduce costs and increase the appeal of passenger trains. As a result, the declining traffic itself added to other cost pressures by minimizing the basic economic advantage of passenger trains, the carrying of a large number of people at one time.

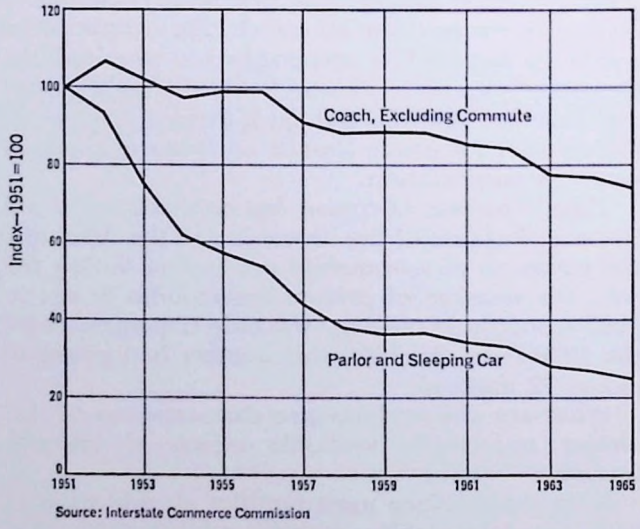


Fig. 5—Index of coach versus parlor and sleeping car passenger miles—eleven western railroads 1951–1965

Other technological improvements, such as great increases in speed, while technically feasible, were not instituted for economic reasons. Through a number of unsuccessful experiments, it was recog-

nized that significant increases in speed of passenger trains could not be achieved merely through the purchase of new equipment. Instead, the construction of new systems is required, with new or improved rights of way. And the cost of such systems, as is being discovered in connection with the Northeast Corridor experiment, is prohibitive for any single railroad.

In contrast, airlines were able to achieve such significant improvements in technology and productivity that the cost increases common to the entire transportation industry were more than offset. This ability of the airlines to offset cost increases is obscured somewhat by the fact that some fares increased during the postwar period. But because of the greater availability of coach travel, the increases in average fares were less than would appear from an examination of fare changes. Moreover, the industry has changed from one that received massive federal subsidies for its operations during the immediate postwar period to one that is making a very substantial profit on its investment.

The primary instrument responsible for this change has been the jet transport. The public is aware of the enormous increase in speed and comfort that jet powered airplanes have brought to air travel. The airline industry, however, is equally aware of the enormous improvement in efficiency and productivity that these planes have provided. In addition to increased speed and seating capacity, conversion to jets meant significantly lower operating and maintenance costs and far greater utilization per day. And the end of this development is not yet in sight.

With improvement in equipment came improvement in terminal facilities. Practically all major airports in this country have been built or extensively modernized in the last ten years. While the major airports are generally profitable, the initial capital for their construction was provided largely by the federal government. The sheer growth in air travel made the airport construction program a necessity, yet the new airports did more than provide for the added travelers: they helped make air travel more attractive.

For bus travel, as for automobile travel, improvement in highways and advancements in equipment have been the primary technological developments of the postwar period. Together, they improved the quality of bus service by lowering the running time. According to the Bureau of Public Roads, average speed of buses on rural highways has increased from 50 to 57 mph since 1950. This increase in speed has, of course, also had the effect of partially offsetting cost increases that bus operators, too, have experienced during this period.

Only in recent years have bus lines become concerned with the improvement of station facilities, and progress to date has not been noteworthy. However, it is the evident intent of bus companies to concentrate on such improvement in the future, in an attempt to broaden the appeal of bus transportation.

FUTURE TECHNOLOGICAL DEVELOPMENTS

Technological developments in intercity passenger travel can be projected for the next ten years with a fair degree of certainty, because most important developments likely during that period are already visible on the horizon. Furthermore, the nature of these developments is already known well enough for their likely economic impacts to be predicted with some reliability.

Air Travel

Air travel from 1966 to 1975 will be highlighted by introduction of larger subsonic jet transports—the Boeing 747 and the stretched Douglas DC-8. These airplanes will have about the same speed as current jets, but much larger capacities and significantly lower unit costs. Seating capacities will range from 250 to more than 400, and the expected per seat costs may be as much as 30 percent lower than equivalent costs on current jet airplanes. Supersonic jet transports built in this country may come into service toward the end of the period, but this prospect is still somewhat cloudy.

From a competitive standpoint, however, the impact of large, low cost subsonic passenger planes will be far more significant. Even with today's jet airplanes, many major U.S. airlines have been able to raise their earnings on investment to 10 percent or more, and as a result, the Civil Aeronautics Board, which has jurisdiction over fares, has begun to exert pressure for lower passenger fares. With the introduction of larger airplanes, such fare reductions could be sizable and would undoubtedly affect the price-conscious segment of the travel market.

While the airlines, with other transportation companies, will continue to be faced with rising material and labor costs, the gains in efficiency will be large enough to permit a significant lowering of air fares.

Automobile and Bus Travel

The primary technological improvement supporting automobile and bus travel during the next ten years will be completion of the 41,000 miles of interstate highway system. As of March 31, 1966, the system was only 52 percent complete, with another 14 percent under construction. While there has been some slippage in the construction schedule, the entire system should be substantially complete by 1975.

In many cases, completion of the system will

reduce travel time significantly. Between San Francisco and Los Angeles, for instance, Interstate Highway 5, 580, and 80 are scheduled to reduce travel time from 10 hours to a little more than 8. And even where reductions in travel time are less, the new highway will have the effect of increasing travel comfort. Savings in travel time will benefit buses and may at least partially offset cost increases that bus companies can expect during this period.

Two other improvements are incidental to technological development. Bus companies have started developing a station-to-station package express business that may make increasing contributions to bus revenues. And the companies will continue to strive to improve their "class image" by better station facilities and other service improvements.

The automobile is not likely to lose its predominate share of the intercity travel market. Per capita ownership of automobiles is still increasing in the United States and will probably continue to do so over the next ten years, especially with important improvements to be made in safety features. Continuation of this upward trend in automobile ownership is significant, since the spread of the use of automobiles is tied closely to their availability.

Train Travel

The only significant technological improvements that can be foreseen in railroad passenger transportation relate to experiments in high speed ground transportation being conducted by the Department of Commerce in the Northeast Corridor between Boston and Washington. But this experimental program will probably not have the immediate impact on railroad passenger travel that the introduction of a new generation of jet transports would have on air passenger travel.

First, a new system of high speed ground transportation cannot be introduced simply by purchasing new vehicles, as in the case with a new generation of jet transports. Any of the new highspeed systems being considered require new or vastly improved rights of way. The cost of such systems, even for a single corridor of no more than 400 miles, has been estimated in the billions of dollars. One designer's estimate for a high speed ground transport system for the Northeast Corridor has been $4 to $5 billion.

Second, the prospective cost of a high speed ground transportation system for passengers rules out any purely private enterprise venture in this field. In addition to the very high cost, there are indications that such a system would have to be physically segregated from existing rail operations for safety reasons, as has been done in Japan in the case of the widely publicized Tokaido Line between Tokyo and Osaka. In other words, the passenger operations alone would have to support the entire system. It is doubtful that on any route in the United States a rail passenger system could be built that would meet its operating costs, as well as repay its capital costs.

Third, the federal government may undertake financing of such a system between Boston and Washington, but even this support is no foregone conclusion in spite of the current experimental program there. Competing airlines and bus companies will likely voice their opposition once Congress is asked to appropriate construction funds. And given the probable cost of this system—upwards of $4 to $5 billion—their protest may carry considerable weight, particularly with congressmen not from the Northeast. But even if this first system is approved, there is likely to be some delay before a second system is authorized.

All these factors make the construction of a high speed ground transportation system in the West unlikely by 1975, or even 1980.

It is doubtful, therefore, that railroads in the West can produce any significant technological improvements over the next ten years that will either reduce the cost of rail passenger operations or enhance the train's appeal to travelers. Instead, costs will continue to rise as wages increase, and the cost competitive gap will continue to widen between trains and their common carrier competitors. The extent of this competitive gap is indicated below.

COST EFFECTIVENESS ANALYSIS

For a clearer view of the impact technological changes have had on the costs of common carriers providing intercity passenger service, an attempt was made to measure the costs per passenger trip for each of the three modes on the route between San Francisco and Los Angeles.

This cost comparison was made on the basis of actual published data. To avoid the problems of allocation of joint and common costs, the cost items considered were associated directly with the vehicle, its operation and maintenance, or were otherwise directly related to passenger service.

Rail transportation data were based on Southern Pacific Coast Daylight Trains No. 98 and No. 99, all coach trains operating between San Francisco and Los Angeles. The costs included were primarily direct operating costs, equipment maintenance costs, and other costs directly associated with operation of the trains. Specifically excluded were all maintenance of way costs. The total train costs were divided by 170, which is the equivalent of a load factor of approximately 65 percent.[2] Actually, the assumption of a 65 percent load factor is not realistic in the light of the actual demand for rail pas-

[2] The actual average passenger count for fiscal year 1965–66 was 236. However, this number included a large proportion of short distance passengers. The estimate of 170 passengers represents the equivalent number of through passengers.

senger transportation in the West. This demand, aside from its level, is basically marginal, with considerable daily variation and high seasonal peaks during the summer and Christmas seasons. Thus, the per passenger trip costs estimated for rail are no doubt conservative.

Calculations of air transportation costs were based on use of the Boeing 727, the airplane that carries most air traffic in the Los Angeles-San Francisco corridor. Data were obtained from the United System of Accounts and Reports for Certificated Air Carriers, CAB Form 41. The average number of passengers per flight was assumed to be 83, which reflects the 65 percent load factor currently experienced by air carriers in that corridor. Since, in the case of air carriers, a large proportion of total costs are allocated to individual flights, the airline costs shown in this comparison probably constitute a greater proportion of total costs than do the railroad costs shown here.

Bus costs are based on published data furnished by Western Greyhound Lines. Again, a larger proportion of total costs were assigned to the estimated cost of individual bus trips than in the case of train operations, primarily because in bus operations a higher percentage of such costs is directly variable with traffic. The estimated cost of operating an entire bus between San Francisco and Los Angeles was divided by 28 passengers, the average occupancy experienced by Greyhound buses. (The capacity of the buses is 44.)

The results, shown in Table 10, are decisive. While direct bus and airplane costs are fairly close—between $9 and $10 per passenger trip—train costs are more than $18 per passenger trip, approximately twice as large. And these costs per passenger trip were calculated on the basis of a load factor of 65 percent, which approximates actual experience for the bus and airplane, but which is unrealistically high for the train.

The actual per passenger trip costs in Table 10 were calculated for a specific route of approximately 400 miles—the exact length varies depending on the mode of transportation. However, the findings are generally valid for routes of this length or longer, particularly as far as the competitive position of rail transportation is concerned. There are two reasons: (1) the spread in costs between rail on one side and bus and air on the other is so great that any minor changes are unlikely to make much difference; (2) the choice of longer routes—and important western routes are almost always longer—would give airplanes an even greater competitive edge, since jet airplanes operate to greater advantage over longer distances.

Some of the factors behind this large cost differential are indicated in Tables 11 and 12. For instance, if the labor input on the vehicle itself is measured in man-hours to produce a passenger trip on each mode, the advantage of the airplane over the train is more than 11 to 1. And this enormous advantage in labor input is not offset by an advantage in capital efficiency. If the capital efficiency of railroads is compared to airlines, in terms of initial cost of replacing present equipment in kind, the advantage of air over rail is well over 2 to 1. Rail passenger service is therefore considerably less efficient than air travel, in terms of both labor and capital efficiency.

TABLE 10

ESTIMATES OF DIRECT COST PER PASSENGER TRIP FOR COMMON CARRIERS BETWEEN SAN FRANCISCO AND LOS ANGELES

Cost Category	Coach* Train	Boeing† 727	Bus‡
Labor	$5.17	$1.25	$4.81
Equipment	8.85	3.39	2.51
Fuel	.59	1.87	.85
Other	3.80	1.81	.94
Additional Passenger Cost	—	1.57	—
Total	$18.41	$9.89	$9.11

* SRI cost estimate based on direct operating cost of Southern Pacific Coast Daylight coach train.

† SRI cost estimate based on CAB Form 41, Unified System of Accounts and Reports for Certificated Air Carriers

‡ SRI cost estimate based on published cost records of Western Greyhound Lines

TABLE 11

COMPARISON OF LABOR EFFICIENCY: MEASUREMENT OF VEHICLE MAN-HOURS REQUIRED FOR ONE PASSENGER TRIP BETWEEN SAN FRANCISCO AND LOS ANGELES

Vehicle (1)	Number of Employees on Vehicle* (2)	Hours of Travel Time† (3)	Vehicle Man-hours per Total Trip (2) × (3) (4)	Average Passengers per Trip (5)	Man-hours Required per Passenger Trip (4) ÷ (5) (6)
Train	15	9.750	146.25	170	0.860
Airplane (Boeing 727)	6	0.917	5.50	73	0.075
Bus	1	9.750	9.75	28	0.348

* Actual number of employees on vehicle at any one time
† Scheduled travel time

TABLE 12

COMPARISON OF CAPITAL EFFICIENCY: MEASUREMENT OF INITIAL CAPITAL COST OF VEHICLE PER DAILY PASSENGER TRIP BETWEEN SAN FRANCISCO AND LOS ANGELES

Vehicle (1)	Initial Cost (2)	Average Occupancy per Trip (3)	Number of Trips per Day* (4)	Number Passenger Trips per Day (5)	Initial Cost per Daily Passenger Trip (2) ÷ (5) (6)
Train	$3,662,000†	170	1	170	$21,541
Airplane (Boeing 727)	4,800,000‡	73	7	511	9,393
Bus	32,000‡	28	1	28	1,143

* Actual daily utilization of equipment by carriers
† Estimated average current purchase price of Southern Pacific Coast Daylight Train 98

1 Baggage-mail car at $220,000	$ 220,000
8 Chair cars at $225,000	1,800,000
1 Triple-unit diner at $288,000	288,000
1 Dome-lounge car at $257,000	257,000
1 Parlor-observation car at $257,000	257,000
3 Locomotives at $280,000	840,000
	$3,662,000

‡ Estimated average purchase price

SECTION IV

PASSENGER SERVICE POLICIES OF WESTERN RAILROADS

This description of the policies pursued by the 11 major western railroads with respect to passenger service is based on research involving analysis of published data and interviews with railroad officials. The findings, however, represent primarily the conclusions of the authors—as for example, the categories of railroads according to the type of policy pursued—and not the opinions of the railroad officials.

BACKGROUND DATA

As background for discussion of the responses by the railroads to trends in passenger traffic, operating statistics available to the public were examined for the 11 railroads for the period 1950–1965.[1] From these statistics, the following data were abstracted for each of the railroads[2]:

1. Passenger volume
   a. Passengers carried
   b. Passenger miles generated
   c. Load factor (the rate of utilization of available capacity)
   d. Average trainload

2. Passenger business in the context of total rail operations
   a. Passenger and allied service revenues as a percentage of total operating revenues
   b. Passenger revenues as a percentage of passenger and allied service revenues

3. Deficit on passenger and allied services[3]
   a. Amount of the deficit
   b. Operating ratio (operating expenses as a percentage of operating revenues)
   c. Deficit as a percentage of freight net railway operating income.

The results are shown in Tables 13 through 23 and illustrated graphically, where appropriate for clarity of presentation, in Figures 6 through 16.

ANALYSIS OF THE DATA

Similarities and differences in the 11 railroads were examined with respect to passenger volume, the significance of the passenger business part of total rail operations, and the deficits on passenger and allied services.

Passenger Volume

All the western railroads except one have seen a significant decline in the number of passengers carried on their intercity routes since 1950. The single exception is the D&RGW, which has registered a moderate gain. When commute passengers are included, the CB&Q has a gain in total passengers carried and the C&NW and CMSP&P have relatively small losses.

The western railroads have generally experienced moderate to substantial declines in terms of passenger-miles since 1950. There are two exceptions, the NP and CB&Q, which registered moderate gains. In the case of the NP, there was an increase from 275 million in 1950 to 332 million in 1965. In the case of the CB&Q, however, there was virtually no growth in passenger-miles if the commute share is excluded. The largest declines in intercity passenger-miles were registered by the C&NW (from 767 million in 1950 to 108 million in 1965) and by the SP (from 2,064 million in 1950 to 653 million in 1965). The smallest decline was registered by the AT&SF (from 1,881 million in 1950 to 1,653 million in 1965). Figure 17, shown on page 32, indicates the variance among the western railroads on an index basis during the period.

Of course, some railroads showing little decline or even a moderate gain may have been filling the breach in certain city pairs where other railroads had withdrawn from the passenger market. For example, between Chicago and Minneapolis-St. Paul, of six major railroads running passenger trains in 1951, there are now only two.

The load factor indicates the rate of utilization of available capacity. For the western railroads, load

[1] The 11 western railroads were the Atchison Topeka & Santa Fe (AT&SF), Chicago & Northwestern (C&NW), Chicago Burlington & Quincy (CB&Q), Chicago Milwaukee St. Paul & Pacific (CMSP&P), Denver & Rio Grande Western (D&RGW), Great Northern (GN), Missouri Pacific (MoPac), Northern Pacific (NP), Southern Pacific (SP), Union Pacific (UP), and Western Pacific (WP).

[2] A complete presentation of the published statistics from which these data were abstracted can be found in Appendix B.

[3] Data on expenses and consequently deficits are available only for the broad category of passenger and allied services; there are no comparable expense data for passenger revenues only.

TABLE 13

OPERATING STATISTICS—ATCHISON, TOPEKA & SANTA FE

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	3,617	3,405	2,526	2,317
Passenger-miles (thousands)	1,881,349	1,943,349	1,689,324	1,653,006
Load factor (percent)	23.7%	30.2%	36.5%	39.4%
Average trainload	80	91	109	116
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	17.5%	14.6%	13.9%	13.2%
Passenger revenues only as percentage of passenger and allied service revenues	48.9%	49.5%	46.8%	45.1%
Deficit on passenger and allied services				
Amount (thousands)	$20,087	$40,858	$37,646	$31,243
Operating ratio (operating expenses as percentage of operating revenues)	110.9%	136.3%	130.2%	127.8%
Passenger deficit as percentage of freight net railway operating income	19.8%	35.6%	46.3%	30.4%

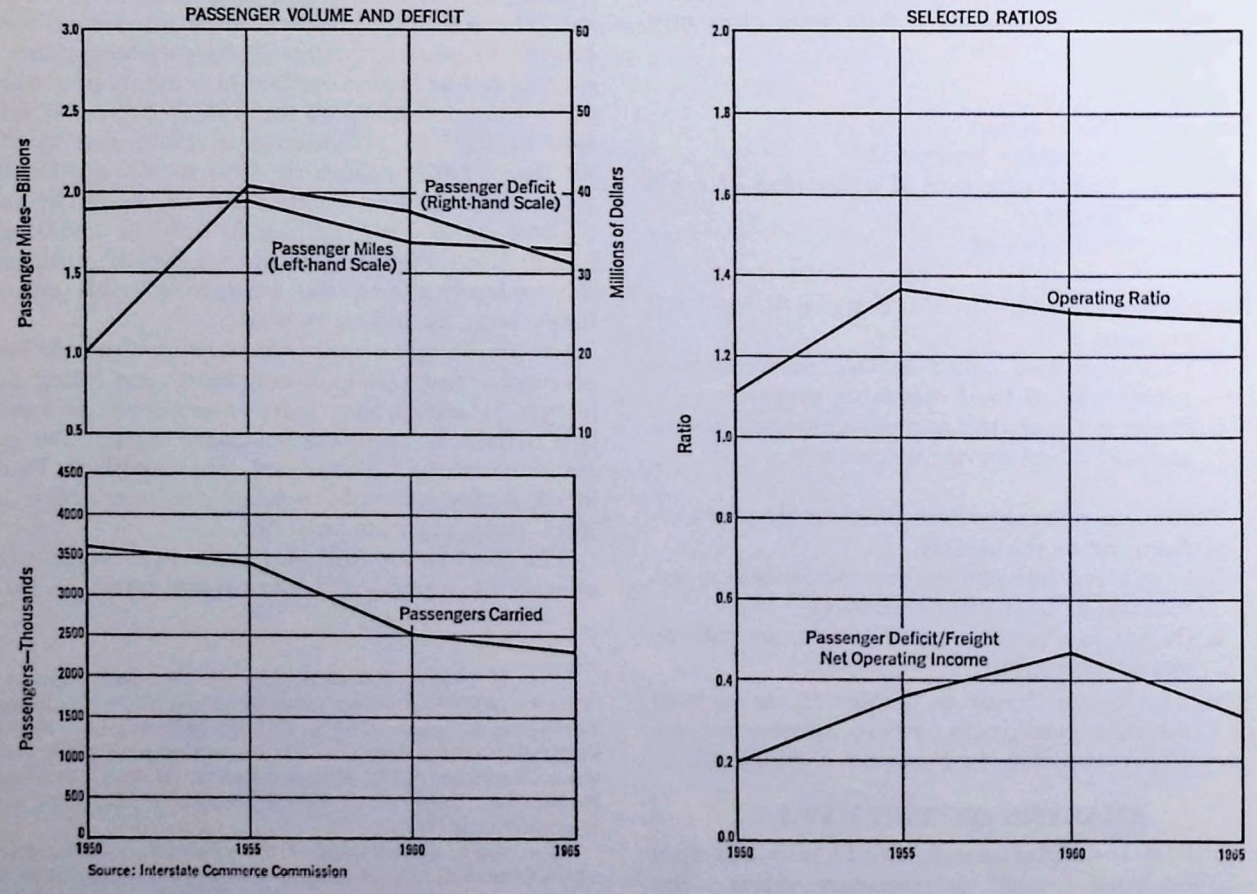
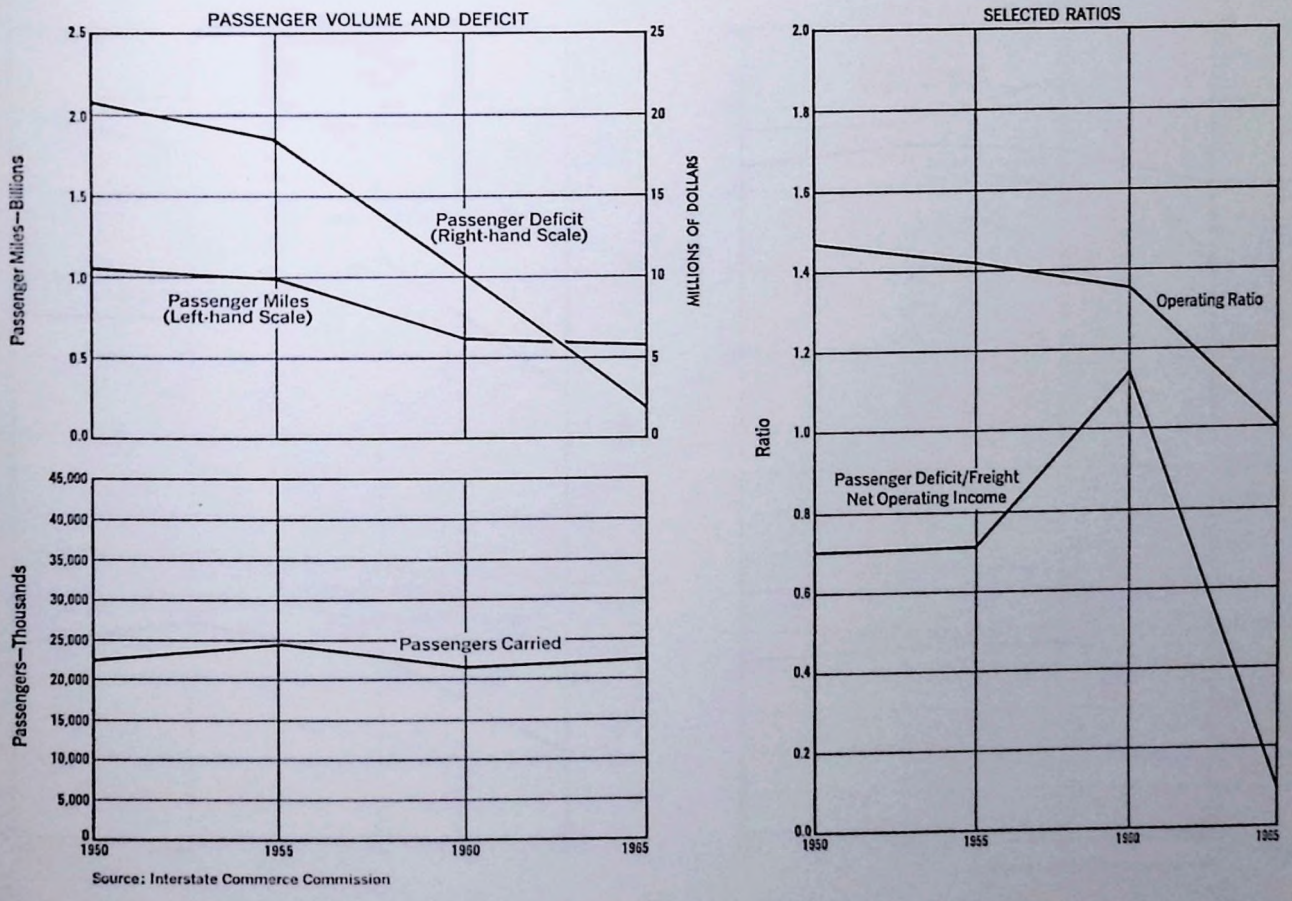


Fig. 6—Operating statistics—Atchison, Topeka & Santa Fe 1950–1965

TABLE 14

OPERATING STATISTICS—CHICAGO & NORTHWESTERN

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	22,558	24,485	21,520	22,236
Passenger-miles (thousands)	1,058,886	979,959	600,700	561,425
Load factor (percent)	26.8%	29.5%	26.3%	30.3%
Average trainload	89	107	110	159
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	18.8%	17.8%	10.9%	8.5%
Passenger revenues only as percentage of passenger and allied service revenues	58.2%	58.9%	77.4%	93.7%
Deficit on passenger and allied services				
Amount (thousands)	$20,762	$18,331	$10,332	$1,618
Operating ratio (operating expenses as percentage of operating revenues)	146.0%	141.1%	134.7%	99.5%
Passenger deficit as percentage of freight net railway operating income	69.5%	70.5%	113.9%	10.7%



Source: Interstate Commerce Commission

Fig. 7—Operating statistics—Chicago & Northwestern 1950–1965

TABLE 15

OPERATING STATISTICS—CHICAGO, BURLINGTON & QUINCY

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	9,687	11,604	11,398	10,583
Passenger-miles (thousands)	748,699	861,327	874,279	815,715
Load factor (percent)	21.0%	23.0%	24.8%	24.1%
Average trainload	62	72	94	103
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	15.8%	14.7%	16.6%	15.3%
Passenger revenues only as percentage of passenger and allied service revenues	45.6%	52.7%	51.3%	50.1%
Deficit on passenger and allied services				
Amount (thousands)	$9,904	$21,695	$18,782	$18,523
Operating ratio (operating expenses as percentage of operating revenues)	111.0%	143.4%	128.4%	129.5%
Passenger deficit as percentage of freight net railway operating income	20.8%	45.0%	53.0%	47.6%

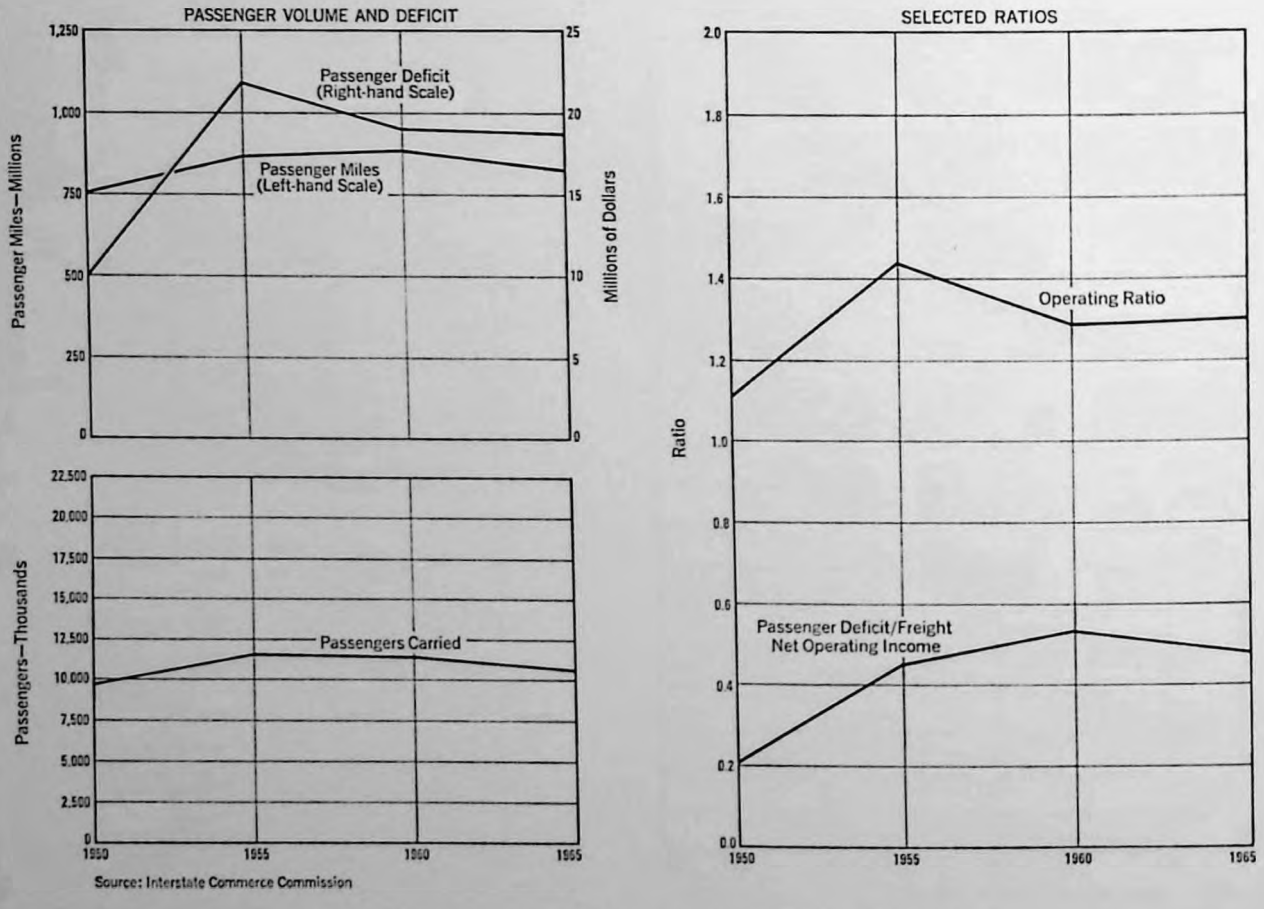


Fig. 8—Operating statistics—Chicago, Burlington & Quincy 1950–1965

TABLE 16

OPERATING STATISTICS—CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	7,326	7,180	6,796	6,470
Passenger-miles (thousands)	788,058	670,030	626,790	450,857
Load factor (percent)	24.6%	26.4%	23.5%	25.0%
Average trainload	70	81	101	101
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	13.8%	11.9%	13.2%	11.1%
Passenger revenues only as percentage of passenger and allied service revenues	49.9%	47.3%	49.9%	45.8%
Deficit on passenger and allied services				
Amount (thousands)	$21,539	$21,274	$17,493	$10,878
Operating ratio (operating expenses as percentage of operating revenues)	145.1%	155.8%	139.0%	124.5%
Passenger deficit as percentage of freight net railway operating income	49.5%	57.4%	64.4%	41.6%

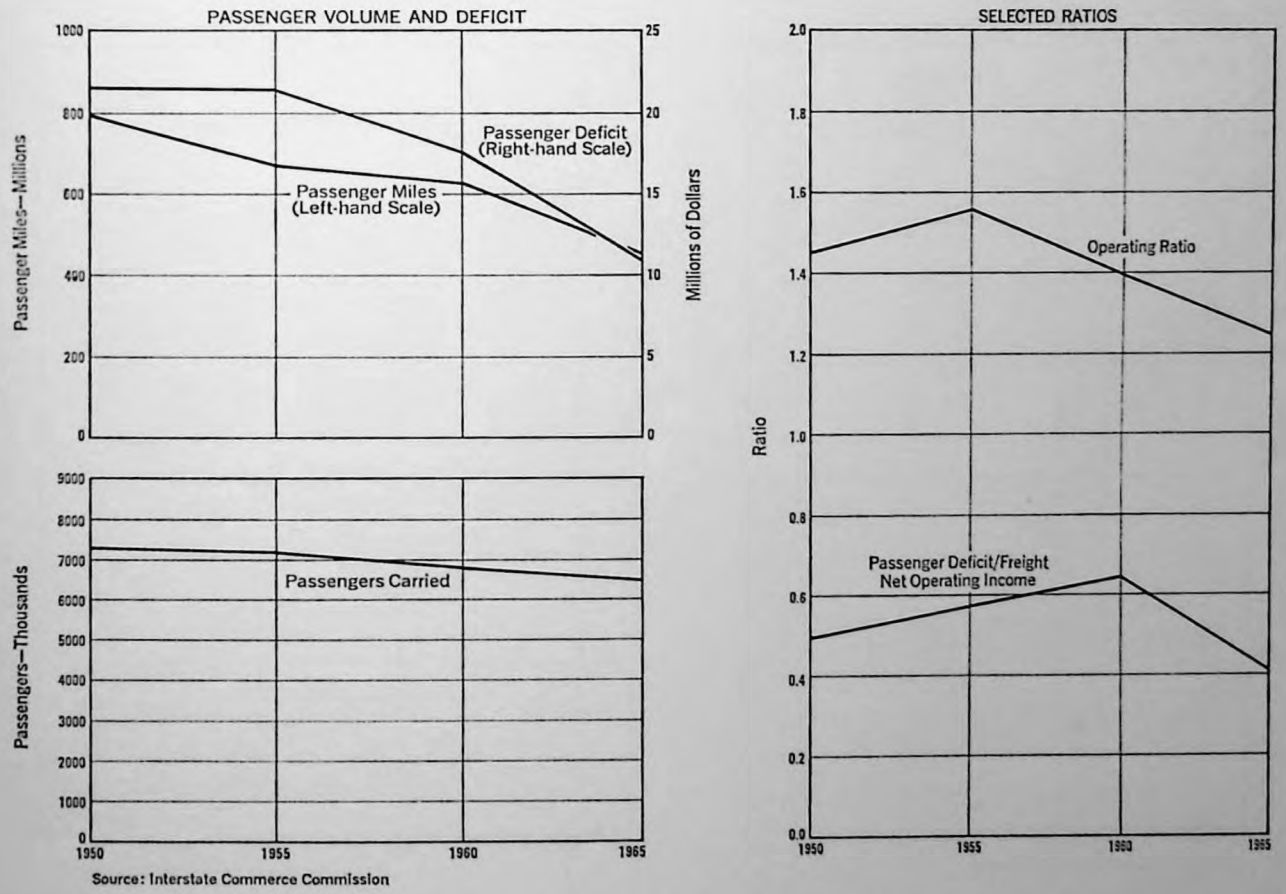


Fig. 9—Operating statistics—Chicago, Milwaukee, St. Paul & Pacific 1950–1965

TABLE 17

OPERATING STATISTICS—DENVER & RIO GRANDE WESTERN

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	460	525	530	559
Passenger-miles (thousands)	138,911	136,447	123,810	110,530
Load factor (percent)	31.0%	29.7%	30.0%	29.8%
Average trainload	68	81	84	87
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	8.1%	6.1%	6.2%	5.1%
Passenger revenues only as percentage of passenger and allied service revenues	57.4%	62.5%	62.5%	67.0%
Deficit on passenger and allied services				
Amount (thousands)	$4,485	$4,615	$4,936	$4,876
Operating ratio (operating expenses as percentage of operating revenues)	166.3%	177.9%	181.8%	185.1%
Passenger deficit as percentage of freight net railway operating income	31.1%	23.6%	31.0%	26.8%

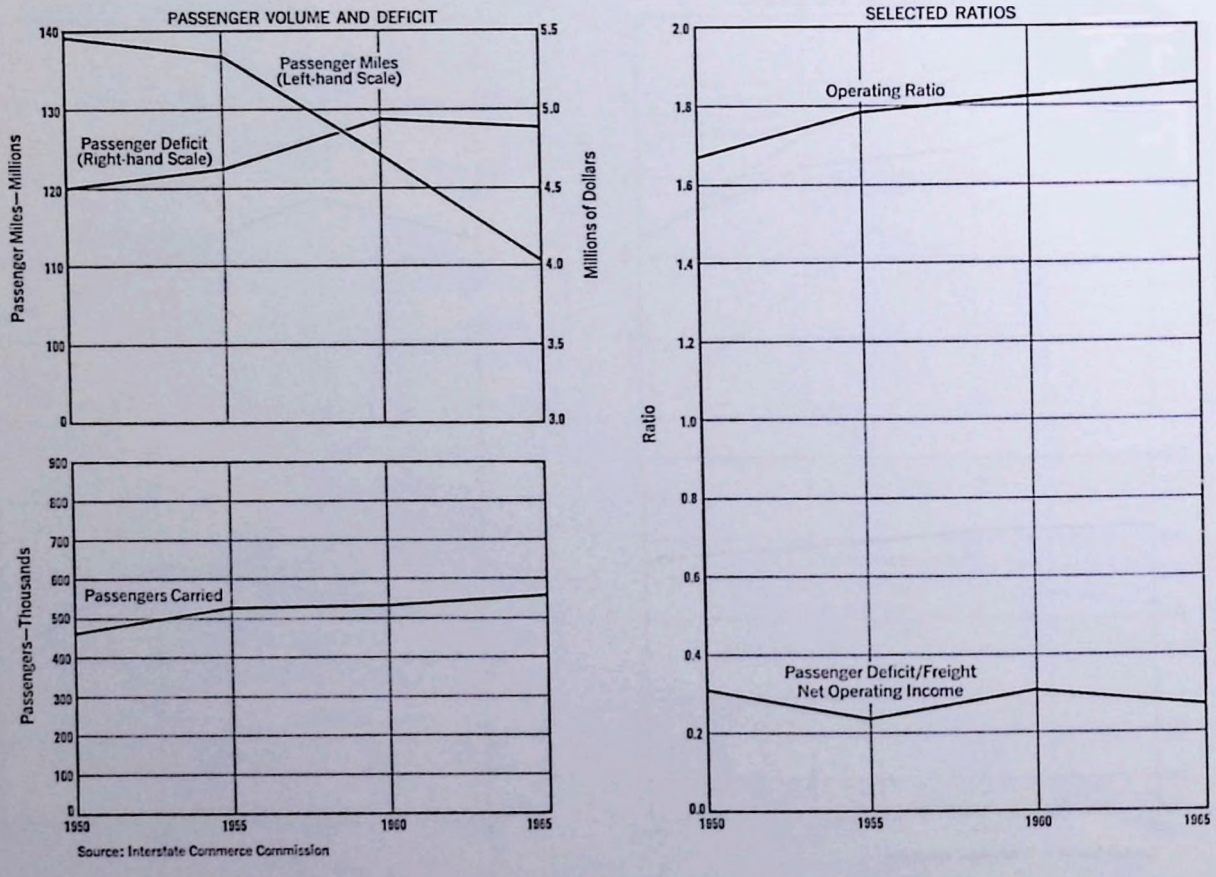


Fig. 10—Operating statistics—Denver & Rio Grande Western 1950–1965

TABLE 18

OPERATING STATISTICS—GREAT NORTHERN

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	1,546	1,475	1,113	1,102
Passenger-miles (thousands)	494,307	507,429	408,025	424,383
Load factor (percent)	20.6%	25.4%	29.9%	31.0%
Average trainload	55	71	83	97
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	11.6%	8.5%	8.5%	8.2%
Passenger revenues only as percentage of passenger and allied service revenues	41.9%	48.0%	44.9%	46.4%
Deficit on passenger and allied services				
Amount (thousands)	$15,296	$22,012	$19,128	$16,802
Operating ratio (operating expenses as percentage of operating revenues)	143.6%	181.3%	174.2%	161.4%
Passenger deficit as percentage of freight net railway operating income	35.8%	42.2%	50.9%	33.7%

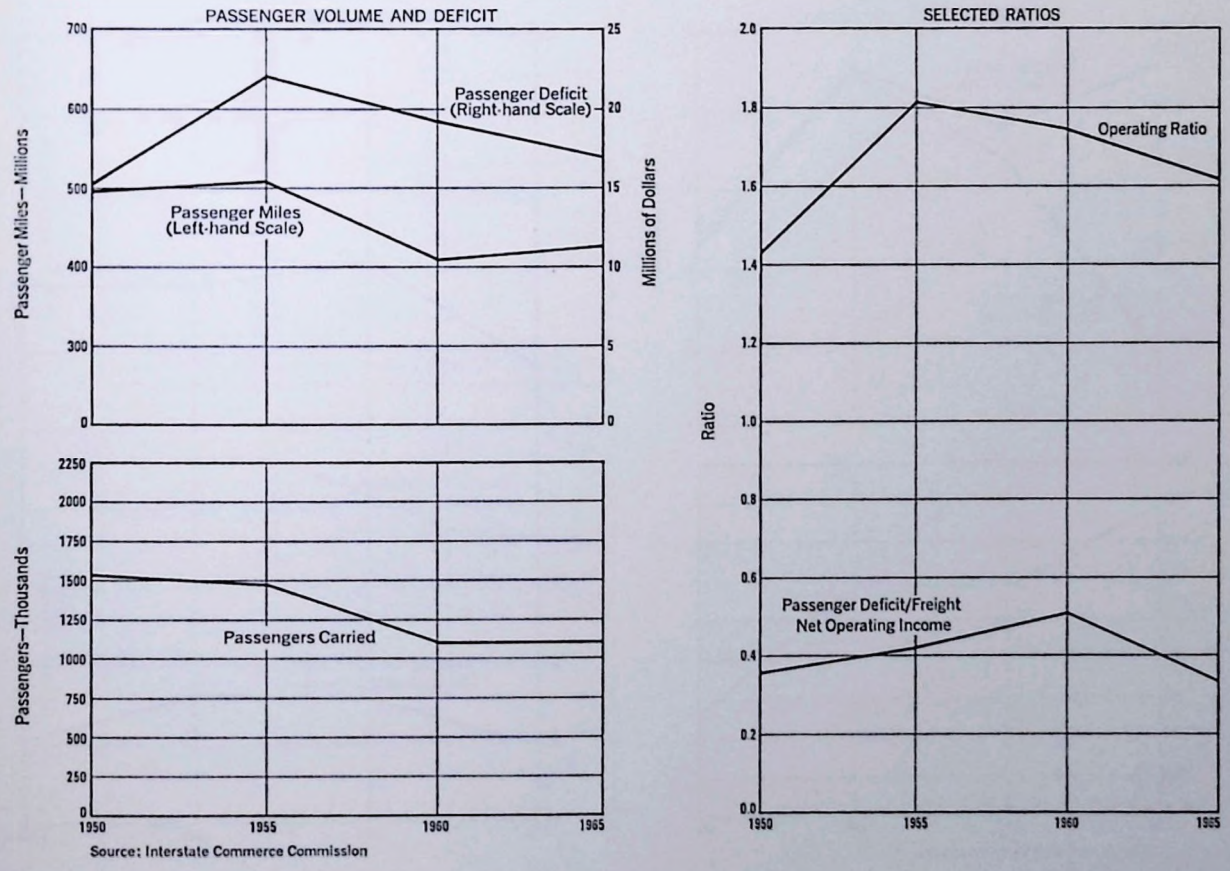


Fig. 11—Operating statistics—Great Northern 1950–1965

TABLE 19

OPERATING STATISTICS—MISSOURI PACIFIC

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	1,990	1,460	1,488	651
Passenger-miles (thousands)	455,459	378,858	452,175	235,970
Load factor (percent)	26.6%	19.9%	27.1%	31.1%
Average trainload	61	65	73	60
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	12.3%	10.0%	9.6%	6.3%
Passenger revenues only as percentage of passenger and allied service revenues	39.7%	41.9%	40.4%	32.2%
Deficit on passenger and allied services				
Amount (thousands)	$7,751	$12,720	$14,965	$10,534
Operating ratio (operating expenses as percentage of operating revenues)	116.3%	142.4%	137.1%	137.0%
Passenger deficit as percentage of freight net railway operating income	19.7%	31.6%	32.6%	21.3%

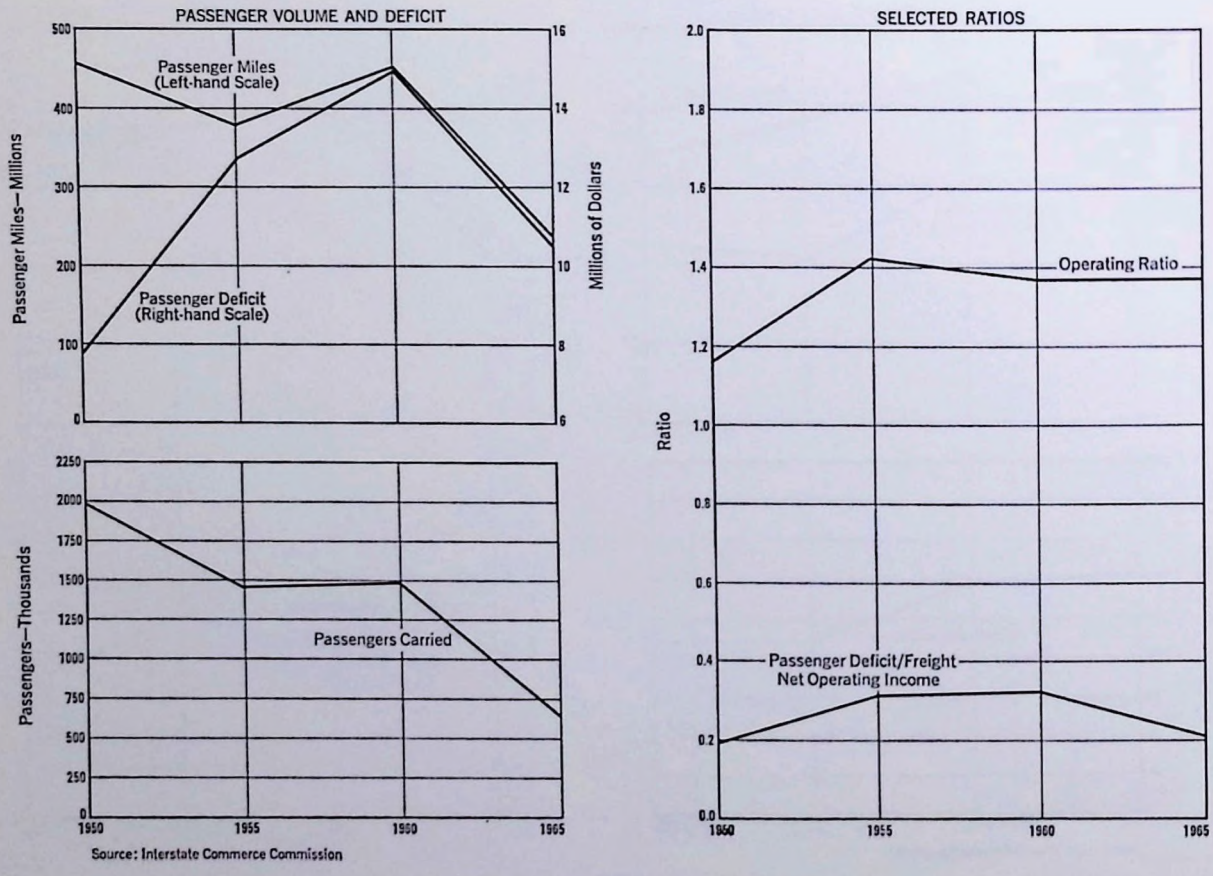
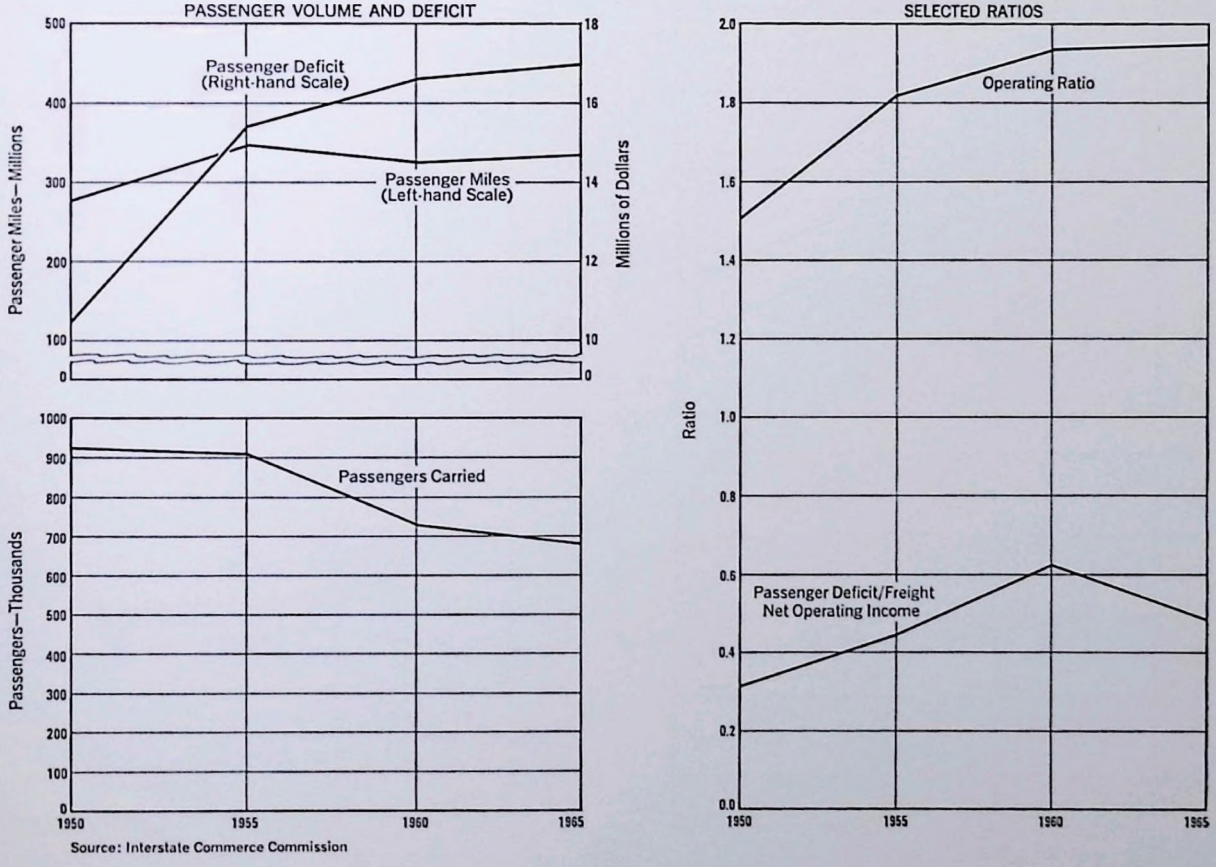


Fig. 12—Operating statistics—Missouri Pacific 1950–1965

TABLE 20

OPERATING STATISTICS—NORTHERN PACIFIC

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	921	908	726	680
Passenger-miles (thousands)	275,008	345,728	323,244	332,064
Load factor (percent)	18.2%	19.3%	22.8%	29.9%
Average trainload	51	61	71	82
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	9.2%	8.6%	8.5%	7.6%
Passenger revenues only as percentage of passenger and allied service revenues	40.6%	47.5%	42.1%	47.8%
Deficit on passenger and allied services				
Amount (thousands)	$10,424	$15,388	$16,540	$16,949
Operating ratio (operating expenses as percentage of operating revenues)	150.1%	181.6%	193.0%	194.3%
Passenger deficit as percentage of freight net railway operating income	31.5%	44.5%	62.1%	48.3%



Source: Interstate Commerce Commission

Fig. 13—Operating statistics—Northern Pacific 1950–1965

TABLE 21

OPERATING STATISTICS—SOUTHERN PACIFIC

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	12,371	11,673	8,819	7,735
Passenger-miles (thousands)	2,220,822	1,684,473	1,197,358	797,358
Load factor (percent)	26.8%	27.7%	33.1%	28.2%
Average trainload	123	128	123	118
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	14.0%	10.3%	8.6%	5.6%
Passenger revenues only as percentage of passenger and allied service revenues	56.2%	55.0%	51.9%	47.9%
Deficit on passenger and allied services				
Amount (thousands)	$35,726	$50,235	$35,970	$16,071
Operating ratio (operating expenses as percentage of operating revenues)	131.0%	160.1%	147.9%	127.3%
Passenger deficit as percentage of freight net railway operating income	37.1%	46.7%	42.1%	19.0%

Note: Data for 1950, 1955, and 1960 include Texas and New Orleans Railroad, which was merged into Southern Pacific in 1961.

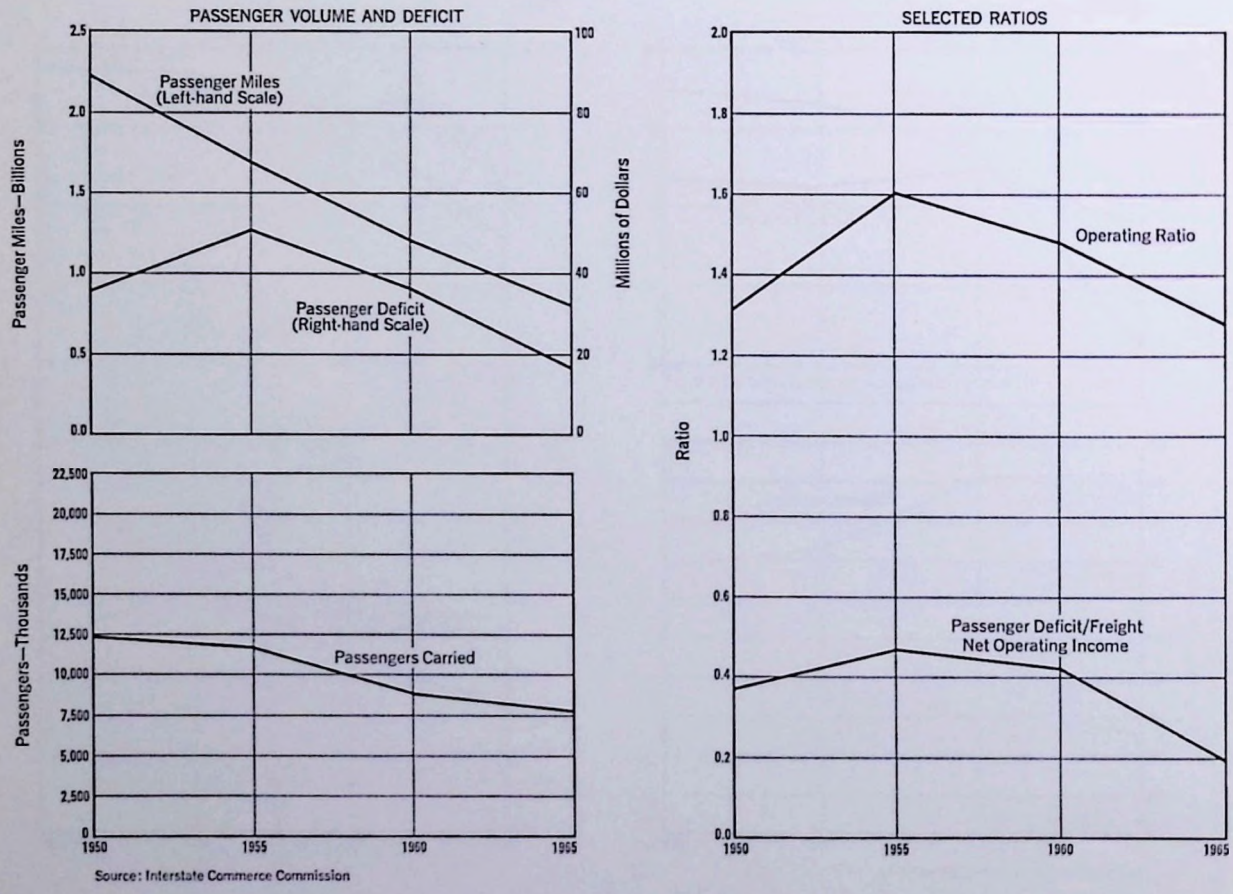


Fig. 14—Operating statistics—Southern Pacific 1950–1965

TABLE 22

OPERATING STATISTICS—UNION PACIFIC

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	2,191	1,951	1,572	1,291
Passenger-miles (thousands)	1,426,402	1,437,009	1,232,604	1,012,699
Load factor (percent)	28.3%	37.6%	40.4%	38.3%
Average trainload	82	100	113	111
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	14.3%	11.5%	11.6%	10.1%
Passenger revenues only as percentage of passenger and allied service revenues	49.7%	51.4%	48.0%	42.3%
Deficit on passenger and allied services				
Amount (thousands)	$30,157	$46,223	$34,781	$27,159
Operating ratio (operating expenses as percentage of operating revenues)	134.2%	166.6%	147.5%	137.7%
Passenger deficit as percentage of freight net railway operating income	40.3%	51.2%	51.1%	28.9%

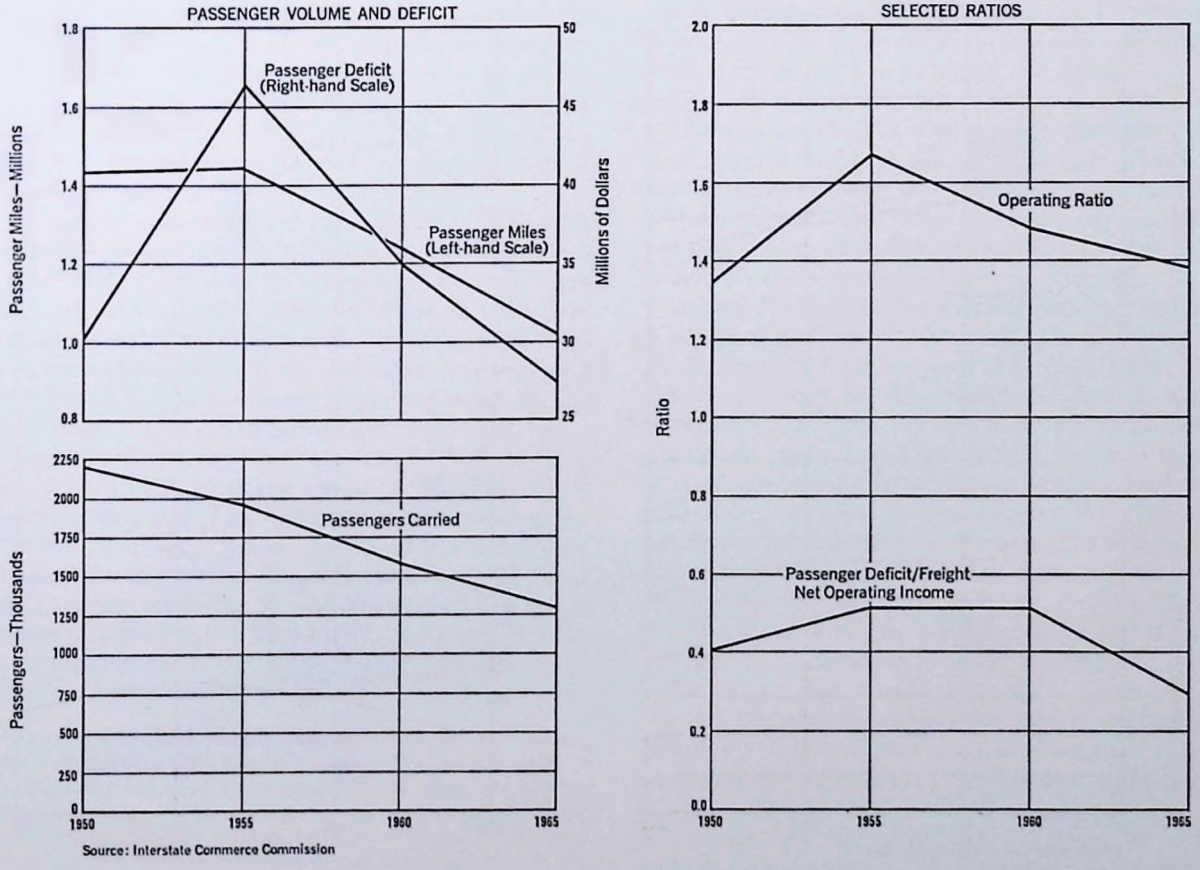


Fig. 15—Operating Statistics—Union Pacific 1950–1965

TABLE 23

OPERATING STATISTICS—WESTERN PACIFIC

Category	1950	1955	1960	1965
Passenger volume				
Passengers carried (thousands)	172	161	161	138
Passenger-miles (thousands)	129,827	118,173	115,168	111,368
Load factor (percent)	26.2%	25.2%	25.6%	29.0%
Average trainload	102	117	125	164
Passenger business in context of total rail operations				
Passenger and allied services as percentage of total operating revenues	6.7%	5.5%	5.7%	5.0%
Passenger revenues only as percentage of passenger and allied service revenues	78.2%	78.4%	78.8%	79.7%
Deficit on passenger and allied services				
Amount (thousands)	$2,070	$3,011	$2,805	$2,773
Operating ratio (operating expenses as percentage of operating revenues)	151.0%	189.7%	178.5%	176.2%
Passenger deficit as percentage of freight net railway operating income	18.1%	29.2%	34.0%	26.2%

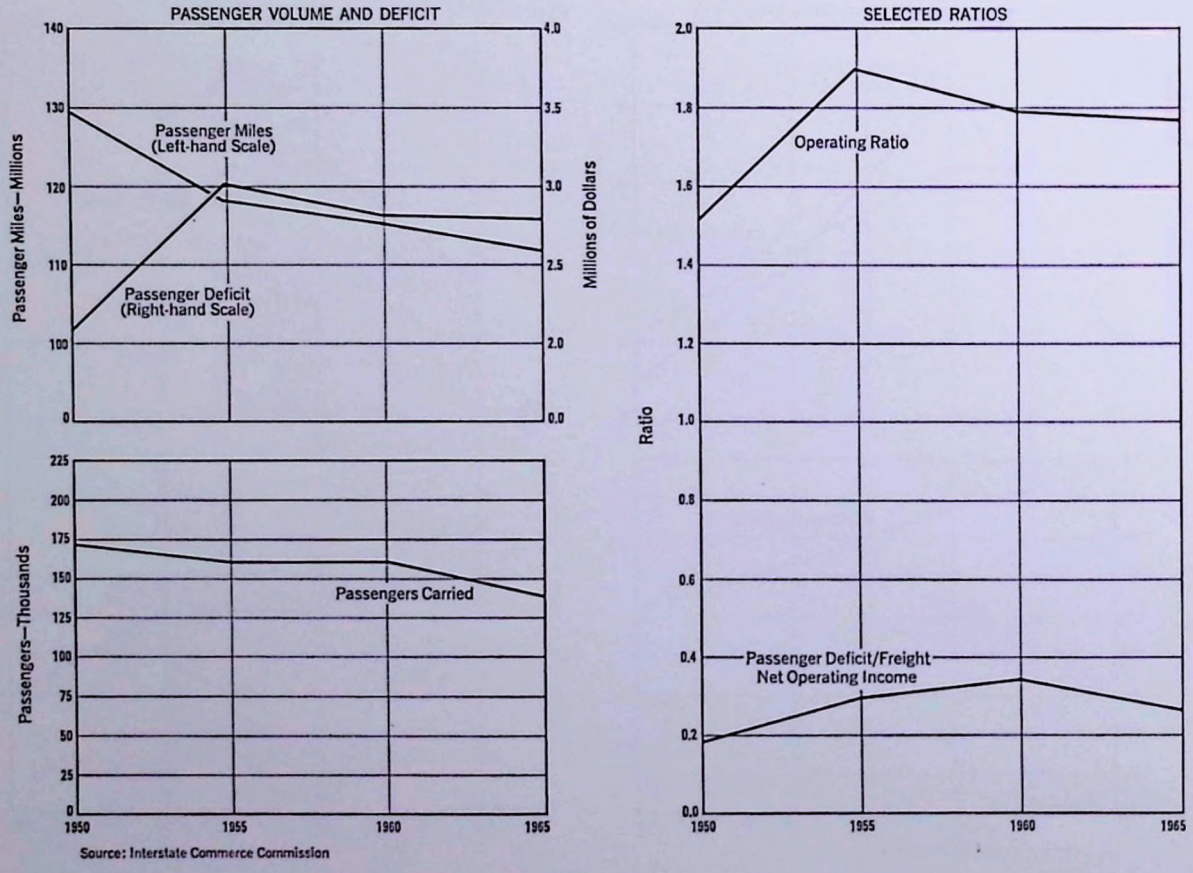


Fig. 16—Operating statistics—Western Pacific 1950–1965

factors ranged from roughly 20 to 30 percent in 1950 and from about 25 to 40 percent in 1965.[4] Most of the roads had a fairly steady or gradually rising load factor during the period, probably reflecting discontinuations of the least frequented trains. Exceptions with relatively large increases were the AT&SF (with a rise from 23.7 to 39.4 percent), the GN (from 20.6 to 31.0 percent), and the UP (from 28.3 to 38.3 percent). These load factors are low in comparison with domestic trunk airline load factors, which currently average about 55 percent, and reflect the difficulty that railroads have in maintaining high passenger loadings for the entire length of intercity trips.

Most western railroads have been able to increase the average number of passengers per train since 1950. For example, the average number of passengers on a train at any one time during a trip ranged from 51 to 123 in 1950 and from 60 to 164 in 1965. Again, these increases can be traced to elimination of the least frequented trains.

Significance of Passenger Operations

The ratio of passenger and allied service revenues to total rail operating revenues ranged from 7 to 19 percent in 1950 and from 5 to 15 percent in 1965. This ratio has declined to some extent since 1950 for all 11 railroads. For some, such as the C&NW and SP, the decline has been steep; for others, such as the CB&Q and NP, it has been minimal. Most of the other roads, however, showed a moderate decline.

Table 24 shows that for eight of the 11 railroads, passenger revenues made up roughly half of all passenger and allied service revenues. Mail revenues on these roads represented the other major component, usually making up about a third of total passenger and allied service revenues. Express, and dining and buffet revenues made up most of the remainder. Table 24 is shown on page 33.

For the other three railroads—the C&NW, MoPac, and WP—Table 24 shows that the distribution of passenger and allied service revenues has been quite different. For the C&NW, passenger revenues now account for more than 90 percent of passenger and allied service revenues, having increased from about 60 percent in 1950. The MoPac, however, has become more dependent on mail revenues (about 50 percent) than passenger revenues (about 30 percent), and express revenues have become significantly more important since 1950 than on other western railroads. The WP has had quite a consistent distribution during the period, with passenger revenues making up about 80 percent, and dining and buffet service making up most of the remainder of the passenger and allied service revenues.

Of the 11 railroads, seven have little or no commuter (suburban) service, so their operating statistics relate almost exclusively to intercity passenger service. Of the other four railroads, only one (the C&NW) has had a large portion of its passenger-miles since 1950 devoted to suburban service. The proportion is now upwards of 80 percent. The other three railroads with a significant amount of commuter service—the CB&Q, CMSP&P, and SP—have had anywhere from 7 to 25 percent of their passenger-miles devoted to commuter service during the period (Table 25).

Passenger Deficit

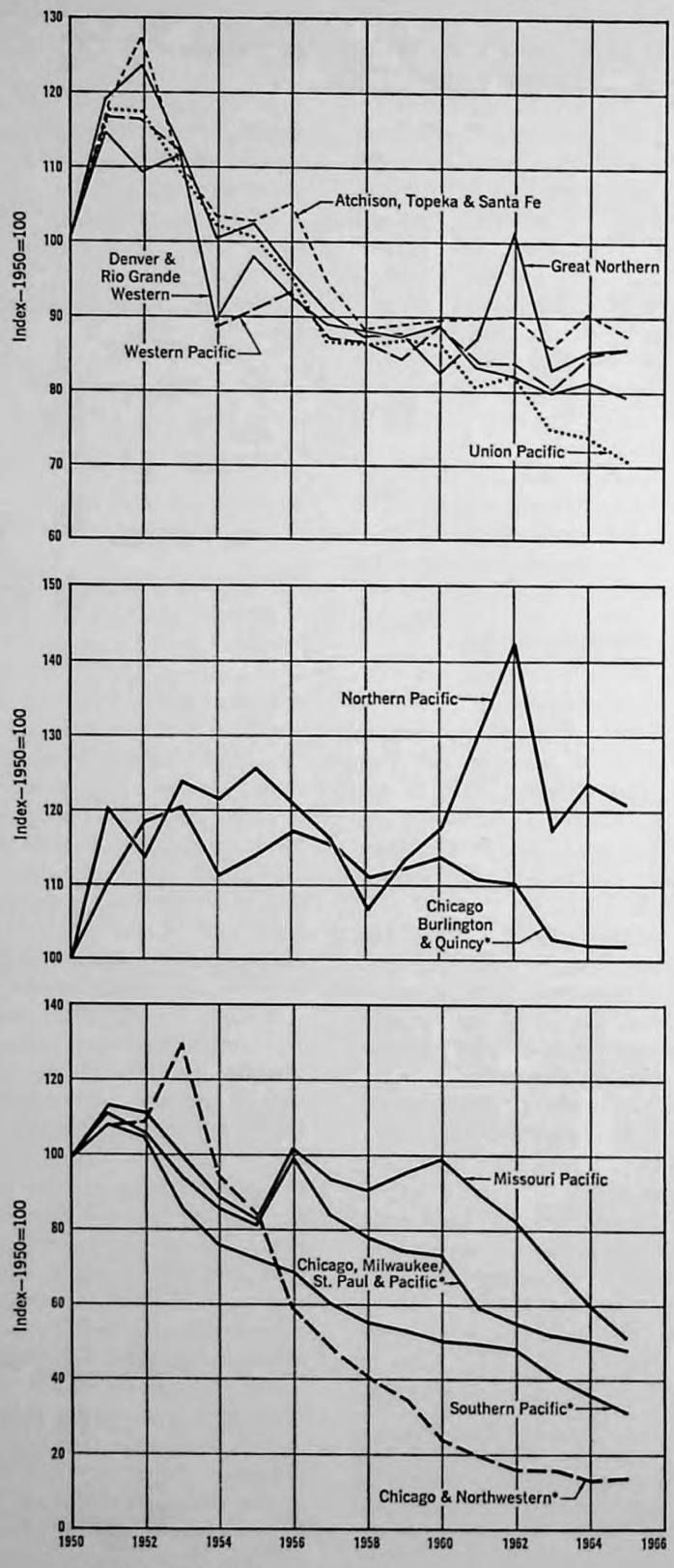
In 1965, the 11 western railroads had a combined "deficit" on their passenger operations of more than $157 million. This deficit is measured in accordance with the ICC's Railroad Annual Report Form A, which estimates a railroad's expenses for passenger operations on a fully distributed basis and includes such items as tax accruals and net rents.

This procedure for measuring passenger deficits has been the subject of dispute for many years. Some have argued, for instance, that a fully distributed cost assigns to passenger operations many cost items that would continue to be incurred, even if passenger operations were discontinued. In other words, many of these costs would be unavoidable.

Others, through such analyses as the Aeronautical Research Foundation's *Avoidable Costs of Passenger Train Service*, have argued that ICC Form A accounts can actually understate the deficit, if costs associated with passenger service are measured on a long run basis. The crux of the argument appears to be that over the short run (a year or two) fewer costs associated with passenger operations would be avoidable in case of abandonment than over the long run (ten years or more). Also, the fact that any method of allocating joint expenses is to some extent arbitrary and not amenable to precise measurement has tended to prolong the debate.

But this debate would only affect the size of the combined passenger deficit for the 11 railroads. It cannot cast any real doubt on the fact that a sizable passenger deficit exists, as can be seen from the size of the deficit of $157 million in comparison with total passenger and allied service revenues of $337 million. The indirect, or allocated, expenses that are in dispute amount to no more than 20 or 25 percent of total expenses. For the 11 railroads in 1965, however, the deficit of $157 million amounts

[4] Since the average load factor for each railroad is not directly available from published data, it was computed in the following manner: (1) passenger-miles were divided by passenger car-miles to obtain the average number of passengers per passenger car; (2) aggregate capacity of passenger cars was divided by the number of car units in service to obtain the average capacity of the cars; and (3) the average number of passengers per car was divided by the average capacity of the cars to obtain the average percentage occupancy, or load factor, for each railroad.



*Excluding commute traffic
Source: Interstate Commerce Commission

Fig. 17—Index of intercity passenger miles—eleven western railroads 1950–1965

TABLE 24

PERCENTAGE DISTRIBUTION OF PASSENGER AND ALLIED SERVICE REVENUES

Revenues	1950	1955	1960	1965
Atchison Topeka & Santa Fe				
Passenger	48.9%	49.5%	46.8%	45.1%
Mail	34.1	27.7	33.8	36.1
Express	7.7	13.1	10.4	9.8
Dining and buffet	6.6	7.3	6.2	6.1
Other	2.7	2.4	2.8	2.9
Total	100.0%	100.0%	100.0%	100.0%
Chicago & Northwestern				
Passenger	58.2%	58.9%	77.4%	93.7%
Mail	23.6	15.9	11.3	1.4
Express	9.0	15.5	4.7	0.1
Dining and buffet	5.2	5.4	3.9	2.2
Other	4.0	4.3	2.7	2.6
Total	100.0%	100.0%	100.0%	100.0%
Chicago, Burlington & Quincy				
Passenger	45.6%	52.7%	51.3%	50.1%
Mail	38.3	27.4	30.7	32.6
Express	7.5	9.3	8.5	8.4
Dining and buffet	4.9	6.2	5.7	5.0
Other	3.7	4.4	3.8	3.9
Total	100.0%	100.0%	100.0%	100.0%
Chicago, Milwaukee, St. Paul & Pacific				
Passenger	49.8%	47.3%	49.9%	45.8%
Mail	30.1	28.4	30.9	37.0
Express	8.4	13.1	10.0	9.2
Dining and buffet	5.5	6.1	5.0	3.9
Other	6.2	5.1	4.2	4.1
Total	100.0%	100.0%	100.0%	100.0%
Denver & Rio Grande Western				
Passenger	57.1%	62.5%	62.5%	67.0%
Mail	21.2	16.0	17.6	15.2
Express	8.7	5.0	6.2	4.8
Dining and buffet	7.8	10.6	8.9	7.9
Other	5.2	5.9	4.8	5.1
Total	100.0%	100.0%	100.0%	100.0%
Great Northern				
Passenger	41.7%	48.0%	44.9%	46.4%
Mail	43.8	34.2	40.5	39.2
Express	6.2	9.0	7.2	6.3
Dining and buffet	5.3	7.1	5.9	5.4
Other	3.0	1.7	1.5	2.7
Total	100.0%	100.0%	100.0%	100.0%

Revenues	1950	1955	1960	1965
Missouri Pacific				
Passenger	39.7%	41.9%	40.4%	32.2%
Mail	44.7	36.5	40.7	47.0
Express	8.2	13.7	11.9	15.3
Dining and buffet	4.1	4.6	3.9	2.3
Other	3.3	3.3	3.1	3.2
Total	100.0%	100.0%	100.0%	100.0%
Northern Pacific				
Passenger	40.5%	47.5%	42.1%	47.8%
Mail	35.9	28.0	35.7	33.0
Express	9.4	10.6	8.6	7.8
Dining and buffet	5.3	7.8	7.9	7.9
Other	8.9	6.1	5.7	3.5
Total	100.0%	100.0%	100.0%	100.0%
Southern Pacific				
Passenger	56.2%	55.0%	51.9%	47.9%
Mail	24.3	22.4	30.2	37.1
Express	7.6	11.6	8.6	6.7
Dining and buffet	8.6	7.9	6.3	5.0
Other	3.3	3.1	3.0	3.3
Total	100.0%	100.0%	100.0%	100.0%
Union Pacific				
Passenger	49.6%	51.4%	48.0%	42.3%
Mail	34.7	27.9	36.2	41.9
Express	6.4	10.1	7.1	7.1
Dining and buffet	6.7	7.8	6.4	5.2
Other	2.6	2.8	2.3	3.5
Total	100.0%	100.0%	100.0%	100.0%
Western Pacific				
Passenger	78.2%	78.4%	78.7%	79.7%
Mail	2.2	0.1	0.0	0.0
Express	4.4	6.5	4.5	3.4
Dining and buffet	10.6	14.0	15.4	15.4
Other	4.6	1.0	1.4	1.5
Total	100.0%	100.0%	100.0%	100.0%

to more than 30 percent of the total expenses charged to passenger operations and must therefore include a considerable amount of direct and avoidable expenses.

TABLE 25

COMMUTER SERVICE AS A PERCENTAGE OF TOTAL MILES FOR WESTERN RAILROADS WITH COMMUTER OPERATIONS

Railroad	1950	1955	1960	1965
Chicago & Northwestern	27.6%	33.6%	68.3%	80.7%
Chicago, Burlington & Quincy	13.0%	13.7%	15.2%	18.5%
Chicago, Milwaukee, St. Paul & Pacific	11.6%	14.8%	17.7%	25.2%
Southern Pacific	7.1%	10.9%	12.3%	18.1%

As shown in Table 26, the calculated passenger deficit grew sharply between 1950 and 1955, and has declined somewhat since. Most of the decline, however, was due to the deficit reductions by the C&NW, CMSP&P, SP, and UP. The other railroads still have deficits amounting to at least 75 percent of their 1955 highs.

The passenger deficit can also be viewed in the context of total rail operations by examining the deficit in relation to earnings on freight traffic.[5] The passenger deficit as a percentage of freight net railway operating income has shown a mixed pattern for the 11 railroads since 1950. A comparison of percentage figures for 1950 and 1965 shows that four roads experienced a sharp increase, three a substantial decrease, and the other four relatively little change. The most noteworthy decrease was registered by the C&NW—from 69.5 percent in 1950 to 10.7 percent in 1965. This decrease was primarily in connection with the de-emphasis of intercity passenger operations and concentrations on commuter service (see Table 25). Among the large increases between 1950 and 1965 were those of the CB&Q (from 20.8 to 47.6 percent), the NP (from 31.5 to 48.3 percent), and the AT&SF (from 19.8 to 30.4 percent). Current percentages range from 10.7 percent for the C&NW to 48.3 percent for the NP.

RAILROAD REACTIONS TO DECLINING PASSENGER TRAFFIC

Passenger traffic policies pursued by the individual western railroads indicate significant variations in response to the general decline in rail passenger travel. Data presented here tend to reflect some of the differences in approach, which vary from an active maintenance of rail passenger volume to an attempt at the reduction of costs and deficits to a minimum consistent with the public convenience and necessity.

The policy of "maintenance of passenger volume" is characterized by a minimal decline in the ratio of passenger revenues to total operating revenues and by a significant rise in the passenger deficit as a percentage of net earnings on freight operations. In terms of volume, there is usually no more than a small decline in the number of passenger-miles generated since 1950. Data indicate that these characteristics best fit the experience of the NP and CB&Q, and to a slightly lesser extent, the AT&SF and GN.

In contrast, the railroads that concentrated more on "reduction of passenger deficit" usually experienced a rather sharp decline in the ratio of passenger revenues to total operating revenues, a substantial decrease in the passenger deficit as a percentage of net freight earnings, and a steep decline in the number of passenger-miles generated since 1950. Belonging to this category—on the basis of the data—are the C&NW[6] and SP, and to a slightly lesser degree, the MoPac and CMSP&P.

It appears from the data that the other western railroads have pursued policies somewhat more to the middleground between these two. Since 1950, the D&RGW, UP, and WP have, for the most part, experienced moderate declines in the ratio of passenger revenues to total operating revenues and in the number of passenger-miles generated, and had relatively small changes in the passenger deficit as a percentage of net earnings on freight operations.

The apparent policies of the western railroads are reflected to some extent in trends in their passenger advertising expenditures since 1950. Railroads with a policy of active pursuit of rail passenger volume maintained or even increased advertising expenditures for passenger traffic. The best examples are again the CB&Q and NP, the CB&Q having more than tripled the annual amount of passenger advertising since 1950 and the NP having more than doubled it.

Railroads emphasizing cost and deficit reduction on passenger operations, on the other hand, substantially decreased their passenger advertising expenditures. Roads in this category include the MoPac and SP, both of which have reduced the annual amount of passenger advertising by more than 90 percent since 1950.

Table 27 groups the railroads by the type of policy pursued according to the various statistical indicators. These groupings, of course, are not precise. They are intended only as a general indication of passenger traffic policies adopted by the 11 railroads since 1950.

[5] Earnings on freight traffic are taken from the ICC's Railroad Annual Report Form A and are also calculated on a fully distributed basis, including tax accruals and net rents.

[6] This evaluation applies to the C&NW's intercity passenger operations, not to the commuter service that has now assumed the dominant role in its overall passenger operations.

TABLE 26

PASSENGER DEFICIT AND PASSENGER OPERATING REVENUES
FOR 11 WESTERN RAILROADS
1950, 1955, 1960, and 1965
(In thousands of dollars)

	1950		1955		1960		1965	
	Passenger Deficit	Passenger Operating Revenues	Passenger Deficit	Passenger Operating Revenues	Passenger Deficit	Passenger Operating Revenues	Passenger Deficit	Passenger Operating Revenues
Atchison, Topeka & Santa Fe	$ 20,087	$ 91,655	$ 40,858	$ 84,328	$ 37,646	$ 85,544	$ 31,243	$ 86,352
Chicago & Northwestern	20,762	35,572	18,331	35,424	10,332	22,554	1,618	19,316
Chicago, Burlington & Quincy	9,904	38,741	21,695	36,513	18,782	41,796	18,523	41,497
Chicago, Milwaukee, St. Paul, & Pacific	21,539	35,134	21,274	29,242	17,493	30,432	10,878	26,827
Denver & Rio Grande Western	4,485	5,329	4,615	4,747	4,936	4,765	4,876	4,408
Great Northern	15,296	26,415	22,012	22,805	19,128	20,818	16,802	21,663
Missouri Pacific	7,751	27,208	12,720	22,448	14,965	28,438	10,534	19,770
Northern Pacific	10,424	15,327	15,388	15,689	16,540	14,813	16,949	15,083
Southern Pacific	35,726	83,673	50,235	68,548	35,970	57,038	16,071	43,835
Union Pacific	30,157	66,741	46,223	58,729	34,781	57,310	27,159	55,644
Western Pacific	2,070	3,312	3,011	2,973	2,805	2,961	2,773	2,986
Totals	$178,201	$429,107	$256,362	$381,446	$213,378	$366,469	$157,426	$337,381

ANALYSIS OF POLICY ALTERNATIVES

These policy alternatives were examined in some detail through a series of interviews with western railroad officials. An attempt was made to measure the validity and economic soundness of the alternatives, both in the light of conditions as viewed by the railroads themselves and by outside observers. This difference in viewpoint is important, since informed people in the field can differ significantly —for instance, in their assessment of the future economic potential of intercity rail passenger transportation, assuming significant technological improvements. A fair assessment of policies must therefore differentiate between (1) a policy that appears inconsistent or illogical only because an outsider's judgment of prospects of the service are different from those of members of the railroad and (2) a policy that appears unsound even on the basis of the views and assumptions held by those that formulated it.

Maintenance of Passenger Volume Policy

The policy of maintaining passenger volume, the most costly policy to the railroads, appears sound only if some, perhaps all, of the following assumptions are correct:

1. There will be an upswing in rail passenger travel in the near or medium term future (10 to 20 years). This revival in rail passenger service might be based on new technology similar to that being studied for the Northeast Corridor between Boston and Washington.
2. Rail passenger service is not profitable only because of its low volume. With a volume of passengers per train high enough, passenger service would be profitable even at today's fares and costs.
3. High passenger deficits are justified, because of the external benefits rail passenger services generate. The benefit most usually cited refers to the "promotional" effect rail passenger service has on freight shipments.
4. The common carrier obligation of the railroads requires this policy of volume maintenance.

Assumption 1, that the trend in volume will eventually turn upward, is perhaps the most important. In any business, a slow decline in volume with high losses is always a poorer alternative than a rapid decline in volume with a sharp reduction in deficit. The only justification for choosing the first alternative is the definite expectation of an upturn in demand so imminent that maintenance of business volume is necessary to ensure a satisfactory share of the future market.

No railroad official contacted, including many that believe strongly in the alternative of maintaining passenger volume, expressed confidence that the downward trend in total rail passenger travel will reverse itself, even with development of new high speed train service. In fact, practically all officials felt that the decline in overall rail passenger travel was irreversible. The most optimistic felt that the decline might level off and that, for their own railroads, there might be a prospect of stabilizing current traffic levels.

While the experiment in high speed ground transportation in the Northeast Corridor is arousing considerable interest, none of the officials felt that such service could really reverse the basic national trend. There was also some scepticism about the operational problems involved in such service—the fact that the service would have to be segregated on a separate, carefully laid track—as well as concern about the capital costs involved. Capital costs were felt to represent investments of greater risk and less return than could be justified by a single railroad operating as a private enterprise.

TABLE 27

GROUPING OF WESTERN RAILROADS BASED ON INTERCITY PASSENGER TRAFFIC POLICY

Active Pursuit of Rail Passenger Traffic	Moderate Pursuit of Rail Passenger Traffic with Some Emphasis on Cost Reduction	Concentration on Cost Reduction
Atchison Topeka & Santa Fe	Denver & Rio Grande Western	Chicago & Northwestern
Chicago Burlington & Quincy	Union Pacific	Chicago Milwaukee St. Paul & Pacific
	Western Pacific*	
Great Northern		Missouri Pacific
Northern Pacific		Southern Pacific

* This classification is based on analysis conducted before the Western Pacific's application to discontinue its one and only passenger train, the California Zephyr, between Oakland and Salt Lake City.

No real support could be found, then, for Assumption 1, either on the basis of beliefs held by railroad officials or knowledgeable outsiders.

Assumption 2, that rail passenger service can still be profitable as long as a high volume of traffic is maintained, is considered valid by many railroad men. They base this belief on the undeniable facts that unit costs per passenger on a train carrying 300 passengers tend to be lower than on a train carrying 100 passengers and that rail transportation, for freight and passengers, has always been considered an extremely efficient carrier for high volume movements.

On the evidence shown in Section III, however, this belief in the capability of rail passenger service to compete with air and bus transportation on a cost basis is simply false. The analysis of comparative costs in the Los Angeles-San Francisco corridor—which has the greatest traffic volume for common carrier transportation in the United States —shows clearly that the bus and jet airplane have considerably lower unit costs than the train. This is especially true for the airplane on flights of 300 miles or more.[7] Also, the fact cannot be ignored that jet airplanes can offer, at a lower unit cost, a far higher quality of service in terms of travel time.

Furthermore, this belief that rail passenger service is potentially profitable with large numbers of train riders is not supported by the experience of railroads that have succeeded in maintaining passenger volume. These railroads tend to show the largest passenger deficits in proportion to their total operations.

Assumption 3, that maintenance of rail passenger volume is justified by benefits accruing to the freight business, is often cited by officials of companies that have tried to maintain passenger volume. It is difficult for an outsider to judge the validity of such an assumption. By its very nature it is almost impossible to prove or disprove. Yet it is curious that businessmen, who as travelers have deserted the railroads as much or more than any other group, should be a factor in persuading the railroads to keep passenger trains running. In fact, there is evidence that a substantial number of businessmen, many of them also rail freight shippers, feel exactly the opposite: that excessive losses on passenger service might induce railroads to raise freight rates, or at least keep them from lowering rates. These sentiments have been brought out in testimony by businessmen at various regulatory hearings.[8]

On this basis, an outsider must conclude that the argument of external benefits attributable to rail passenger service is, partly at least, a rationalization and that some railroad officials have adopted it in support of decisions already made.

Assumption 4, that the common carrier obligation of railroads requires the maintenance of passenger volume, is held by only a few railroad officials. Most of them recognize that only the maintenance of trains with some measure of public support is required by the common carrier obligation. However, because of the reluctance of some railroads to file for discontinuance of trains (a matter discussed in detail below), railroad officials often justify the continuation of trains on the basis of a common carrier obligation.

On the basis of these four assumptions, there is little internal or external support for the economic soundness of a policy that calls for the maintenance of rail passenger volume.

[7] For short distance intercity passenger travel of 100 miles or less, the competitive cost situation may be different; however there are very few significant routes of such distances in the West.

[8] See *Increased Freight Rates 1948*, 276 ICC pages 9, 32–40 (1949) and *Railroad Passenger Train Deficit*, 306 ICC pages 417, 478 (1959).

Deficit Reduction Policy

The policy of trying to reduce rail passenger losses, primarily by curtailment of service as much as possible, can be examined from two points: the validity of the policy itself and the effectiveness of the way the policy is carried out.

Regarding the first point, there seems little doubt that a policy of reducing the passenger deficit as much as possible is economically sound. The current and prospective demand for rail passenger service (low and trending lower) and the current and prospective competitive cost position of the railroads (bad and pointing to worse) both support this policy.

The real controversy concerns the second point, the method of reducing the deficit. There appear to be only two feasible ways: by increasing fares or curtailing service. A third choice, cutting costs and improving efficiency, does not exist in a real sense. Labor inputs, which make up a large part of total costs, are rigidly controlled by pay scales and work rules. Equipment costs are already relatively low, since they are based on existing equipment and extremely long depreciation periods. And there is very little opportunity for significant savings from lower fuel costs.

The alternative of drastically higher fares as a means of reducing deficits is not generally favored by railroads, including those that actively pursue a policy of deficit reduction. The basic reason is the belief among railroad officials that railroads must be price competitive with bus and air travel.[9] It is probably true that on routes where railroads are still significant volume carriers of passengers, such as the Pennsylvania Railroad route between New York and Washington, sharp fare increases would undoubtedly lead to sharp traffic decreases, and so might be self defeating. However, on routes where rail passenger traffic is already small in comparison to bus or air travel, substantial fare increases might result in less reduction in traffic than railroad officials usually assume. Nevertheless, a policy of seeking drastic fare increases is generally not favored by railroads, partly because of the belief that rail fares must be price competitive and partly because of the probable difficulties in securing regulatory permission.

The primary and favored means for reducing the passenger deficit has been to seek approval of regulatory agencies to discontinue particular trains. Under the 1958 amendment to the Interstate Commerce Act, the ICC has authority to permit the discontinuance of individual passenger trains, provided their continued operation is found to constitute a financial burden on interstate commerce.[10] A large number of passenger trains have been discontinued since 1958, including trains in the western states. But the rate of discontinuances has only about kept pace with the decline in passenger traffic, and there are some indications that in very recent years, the ICC has become increasingly reluctant to approve further discontinuances.

In intercity passenger train discontinuance cases before the ICC, the number of requests denied or dismissed expressed as a percentage of requests granted has increased from 28 percent in fiscal year 1964 to 32 percent in fiscal 1965 and 37 percent in fiscal 1966. Expressed another way, between fiscal years 1964 and 1966, while the number of requests granted increased only a fourth, the number denied or dismissed almost doubled.

It would be difficult to name all the factors that have accounted for this slowdown in passenger train discontinuances. But one important factor has undoubtedly been the emergence of very vocal popular protests against discontinuances. The hearing procedure followed by the ICC in such cases tends to highlight the segment of the public opposing discontinuance, and since opponents are more likely than proponents to appear at hearings, it is undoubtedly true that the ICC gives considerable weight to popular protests.

One result of these protests has been to taint the public image of some railroads, in the sense that they have become the focal point of popular opposition to passenger train discontinuances. With an automatic predisposition against a railroad, the merit of its case is not fully considered amid the noise of emotional protest.

In view of this situation, it is hard to avoid the conclusion that a tough-minded and, in economic terms, realistic policy of deficit reduction by all available means is to some extent self defeating. The available evidence clearly indicates that a railroad's chances of success in obtaining approval of an application to discontinue a passenger train is inversely related to the railroad's dedication to a policy of deficit reduction. In other words, the harder a railroad drives to eliminate unprofitable operations, the greater will be the public opposition to its actions and the slimmer its chances of success.

While a policy of deficit reduction appears eminently sound from an economic point of view, it is doubtful whether any western railroad has been able to develop an effective method of implementing it.

Middle-Road Policy

A number of western railroads characterized in Table 27 as following a middle-of-the-road policy

[9] Price competitive here means that the railroads should maintain the traditional spread between their fares and fares charged by airlines and bus companies.

[10] State public utility commissions usually have similar authority for intrastate trains, but their criteria tend to be more rigid.

in rail passenger service generally seek some reduction in deficit while still trying to maintain a fairly substantial level of rail passenger service. The authors believe that in most cases this middle-of-the-road policy really reflects a situation in which a definite policy regarding rail passenger service has yet to be formulated. Such a situation is not at all surprising, considering the strong sentimental attachment many railroad leaders evidently have for passenger trains and the practical difficulties in carrying out an effective policy of cost reduction.

In some cases, railroad officials admitted that the timing of applications for train discontinuances was determined less by considerations of profit and loss than by considerations of whether the application might be approved. This attitude is understandable in view of the time and cost involved in filing such applications. Yet a situation of this kind—where one policy (increasing passenger volume) cannot be carried out and another (eliminating an unprofitable operation) cannot be adopted—contributes to an atmosphere of indecision.

A middle-of-the-road policy with respect to rail passenger service probably indicates a situation where a consistent, feasible course of action has not yet been found.

ROLE OF THE POST OFFICE DEPARTMENT

Mail revenues constitute at least a third of the total passenger and allied service revenues for most western railroads. While there has been little change in mail revenues in recent years, important changes are being made in the role of rail delivered mail. And these changes could have significant implications for the future.

The Post Office Department was almost entirely dependent on railroads until after World War II, the system of mail transportation having been centered around the rail mail car. Since the war, however, the picture has changed radically: a rapidly growing volume of mail was accompanied by a steep decline in available rail service. The volume of domestic mail more than doubled between 1940 and 1960, but the number of mail carrying trains declined from an estimated 10,000 in 1930 to 923 as of July 1, 1966, a decrease of more than 90 percent.

Out of this change came the need for a new distribution system. This new system is based on sectional centers located at key regional traffic points to serve as concentration and dispersal points for mail of the surrounding area. Introduction of this system has tended to restrict the railroad's role to picking up and delivering bulk mail at key points, local distribution being made by motor transport. In other words, the sectional center system, created largely in response to the decline in rail service, has itself tended further to limit the participation of railroads in carrying the mails.

Until recently, the Post Office Department appears to have taken a passive role in reducing the volume of mail sent by rail. During most of the postwar period, mail was reassigned from the railroads to other transportation modes principally because trains were discontinued on railroad management initiative. In the last several years, however, the department has become more exacting in its criteria for assignment of mail to the different common carriers, with the railroads being regarded as just another part of an integrated distribution system, instead of as the indispensable mainstay. For example, the proportion of the net reduction in mail carrying trains resulting from the initiative of the Post Office Department rose from less than 25 percent for the combined fiscal years 1963–1964 to almost 70 percent for fiscal years 1965–1966.

Thus, competition between the common carriers has become increasingly important as regards cost and quality of service.

On the other hand, it appears that the annual number of discontinuances of mail carrying passenger trains may tend to decrease in the future. The Assistant Postmaster General for the Bureau of Transportation and International Services testified before the House Committee on Appropriations in 1964 that "most of the uneconomical runs that trains had been making for the past 10 years have now been eliminated" and that "discontinuances now are getting down where they become more difficult to get by the public." Of course, it is entirely possible that a sort of "hard core" of mail carrying passenger trains is being approached, though there is little evidence from data on the postwar trend of rail passenger traffic to suggest the existence of such a hard core.

Apparently, there is an important place for railroads in the mail system, especially for distributing bulk loadings between sectional centers, but it is not at all clear whether passenger trains are well suited for this service. The schedule requirements for such movements, often involving late evening departures and predawn arrivals, are suitable for mail carrying but inconvenient for passenger movements. In fact, some railroadmen believe that bulk mail movements can be carried best on fast piggyback "merchandise" trains with schedules generally better than those of passenger trains and unit costs considerably less.

It is difficult to be optimistic about the amount of assistance that the Post Office Department will provide in extending the service life of passenger trains in the West, or any other region of the country.

APPENDICES

APPENDIX A

SOURCES AND DEFINITIONS FOR DATA ON COMMON CARRIER PASSENGERS

AIRLINE PASSENGERS

Direct passengers have origins and destinations between the cities listed. Source: Civil Aeronautics Board, *Domestic Origin-Destination Survey of Airline Passenger Traffic*

Connecting passengers have origins and/or destinations beyond the cities listed. Source: Civil Aeronautics Board, *Competition Among Domestic Air Carriers*

Direct passengers between San Francisco-Chicago

San Francisco	Sacramento
	Reno
	Salt Lake City
	Omaha
	Denver
	Chicago
Sacramento	Reno
	Salt Lake City
	Omaha
	Denver
	Chicago
Reno	Salt Lake City
	Omaha
	Denver
	Chicago

Connecting passengers between San Francisco-Chicago

Direct passengers Los Angeles-Chicago

Los Angeles	Phoenix
	Tucson
	El Paso
	Kansas City
	St. Louis
	Chicago
Phoenix	Tucson
	El Paso
	Kansas City
	St. Louis
	Chicago
Tucson	El Paso
	Kansas City
	St. Louis
	Chicago
El Paso	Kansas City
	St. Louis
	Chicago

Connecting passengers between Los Angeles-Chicago

Direct passengers Los Angeles-New Orleans

Los Angeles	Phoenix
	Tucson
	El Paso
	San Antonio
	Houston
	New Orleans
Phoenix	Tucson
	El Paso
	San Antonio
	Houston
	New Orleans
Tucson	El Paso
	San Antonio
	Houston
	New Orleans
El Paso	San Antonio
	Houston
	New Orleans
San Antonio	Houston
	New Orleans
Houston	New Orleans

Connecting passengers between Los Angeles-New Orleans

Direct passengers San Francisco-Los Angeles*

San Francisco-Oakland-Los Angeles- Burbank
San Francisco-Long Beach
San Francisco-Ontario
San Jose-Los Angeles

Connecting passengers between San Francisco-Los Angeles

* Includes data on Pacific Southwest Airlines, an intrastate carrier, from California Public Utilities Commission

BUS PASSENGERS†

Passenger loadings indicate the number of passengers traveling some or all of distance between the cities listed. Source: Western Greyhound Lines

Passenger loadings, San Francisco-Chicago

San Francisco	Rock Springs-Chicago
	Winnemucca
	Reno
	Sacramento

Passenger loadings, Los Angeles-Chicago

Los Angeles	Albuquerque-St. Louis
	Tucson-Phoenix
	Salt Lake City-Rock Springs-Chicago‡

Passenger loadings, Los Angeles-New Orleans

Los Angeles	El Paso-New Orleans
	El Paso-New Orleans-Miami
	El Paso-Memphis
	El Paso-Memphis-Atlanta

Passenger loadings, San Francisco-Los Angeles

(expresses only)

San Francisco-Fresno-Bakersfield-Los Angeles
San Francisco-San Luis Obispo-Santa Barbara-Los Angeles

RAIL PASSENGERS

Passenger loadings indicate the number of passengers traveling some or all the distance between the cities listed. Source: individual railroads, unless otherwise noted

Passenger loadings, Southern Pacific

San Francisco-Chicago
Los Angeles-Chicago
Los Angeles-New Orleans
San Francisco-Los Angeles

Data compilation:

Passenger loadings from random seven-day sample of all tickets every month for each train; samples expanded to monthly totals and aggregated to obtain annual totals

† Data from Continental Trailways not available
‡ Data available only for 1958–1965; estimate for 1953–57 made on basis of Los Angeles-Albuquerque-St. Louis data with which there was approximate equality for 1958–1965

Passenger loadings, Western Pacific

San Francisco-Salt Lake City

Data compilation:

Since Western Pacific operates only one train, passenger loadings obtained from published ICC statistics

Passenger loadings, Union Pacific

Los Angeles-Chicago

Data compilation:

Passenger loadings available only for 1959–1965, but total Union Pacific passenger loadings were available from published ICC statistics for 1953–1965; estimates for 1953–1958 based on assumption that Los Angeles-Chicago share of total Union Pacific passenger loadings was same for 1953–1958 as for 1959–1965

Passenger loadings, Atchison, Topeka & Santa Fe*

San Francisco-Chicago

Los Angeles-Chicago

San Francisco-Los Angeles

Data compilation:

Passenger loadings for San Francisco-Chicago and Los Angeles-Chicago were not directly available and were estimated in following manner:

1. The number of cars used on each of the two routes was determined for every other year during period 1953–1965 from information in *Railway Guide* and probable turnaround requirements for maintaining a daily schedule in both directions on each route.
2. The number of cars in service and total Santa Fe passenger loadings were obtained from published ICC statistics.
3. The estimated passenger loadings were allocated to each route from total Santa Fe passenger loadings in the same proportion as cars employed on each route relative to the total number of cars in service.

Assumptions:

(1) total cars in service were all in use,
(2) load factors were same on all routes,
(3) average capacity of cars was same on all routes.

Note:

It is probable that estimates are conservative because:

(1) higher load factors and the use of larger cars are more likely on mainline than on local routes and
(2) total cars in service obtained from published ICC statistics may include cars that were not in use at the time.

Missouri Pacific

The Missouri Pacific maintains passenger service between Houston and New Orleans, but no data on passenger loadings were available.

* No data on train "consists" were available along the Santa Fe's portion of the Los Angeles-New Orleans route, so it was not possible to estimate Santa Fe loadings on this route.

APPENDIX B

DETAILED COMPILATION OF SOURCE DATA

TABLE B-1

TOTAL PASSENGER AND ALLIED SERVICE DEFICIT 1950–1965
(Thousands of Dollars)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Atchison, Topeka & Santa Fe	$20,087	$36,472	$30,913	$42,074	$46,327	$40,858	$52,479	$53,258	$40,150	$36,562	$37,646	$30,273	$26,591	$32,927	$33,185	$31,243
Chicago & Northwestern	20,762	23,346	22,521	23,420	20,521	18,331	19,888	19,591	15,992	13,476	10,332	8,870	7,742	4,507	2,522	1,618
Chicago, Burlington & Quincy	9,904	15,988	16,378	21,033	21,032	21,695	24,090	24,738	23,691	21,627	18,782	15,717	15,072	15,553	15,666	18,523
Chicago, Milwaukee, St. Paul & Pacific	21,539	23,901	21,566	21,904	22,825	21,274	23,335	24,195	23,540	20,145	17,493	13,895	12,648	12,726	11,827	10,878
Denver & Rio Grande Western	4,485	4,215	4,315	4,582	4,422	4,615	4,951	5,451	5,098	5,109	4,936	4,934	5,008	5,143	4,854	4,876
Great Northern	15,296	18,527	20,109	21,019	21,997	22,012	23,966	26,151	23,809	20,845	19,128	15,373	12,764	14,107	14,737	16,802
Missouri Pacific	7,751	11,406	10,984	16,168	13,470	12,720	18,412	17,726	17,839	16,561	14,965	9,112	11,931	10,005	9,177	10,534
Northern Pacific	10,424	12,355	12,786	15,395	16,358	15,388	15,639	17,549	16,822	16,735	16,540	14,405	16,147	13,952	15,102	16,949
Southern Pacific*	35,726	44,733	43,694	51,128	58,007	50,235	55,239	51,278	42,468	38,473	35,970	24,185	16,323	17,087	15,963	16,071
Union Pacific	30,157	42,062	41,717	52,218	52,957	46,223	42,956	43,585	43,954	42,779	34,781	26,634	25,810	26,774	28,815	27,159
Western Pacific	2,070	1,838	2,186	2,571	3,013	3,011	3,024	3,088	2,733	2,791	2,805	2,322	2,377	2,213	2,269	2,773

* Data for 1950–61 include Texas and New Orleans Railroad, which was merged into Southern Pacific, November 1, 1961.

Sources: U.S. ICC, Transport Statistics in the United States . . . Part I Railroads, Washington, D.C., 1955–1963.
U.S. ICC, Annual Report of the . . . to the Interstate Commerce Commission for the Year Ended December 31, ... 1950–1954, 1964, 1965

TABLE B-2

SELECTED OPERATING STATISTICS AND RATIOS 1950-1965
(Dollars in Thousands)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Atchison, Topeka & Santa Fe																
Passenger operating revenues	$ 91,655	$ 94,605	$102,687	$ 92,386	$ 84,795	$ 84,328	$ 87,606	$ 83,553	$ 81,502	$ 85,616	$ 85,544	$ 87,332	$ 89,893	$ 87,442	$ 88,350	$ 86,352
Total operating revenues	522,676	570,582	604,512	613,531	532,292	578,034	590,183	670,714	595,289	633,836	614,017	604,524	612,320	616,080	637,772	654,704
Freight net railway operating income	101,300	108,085	100,287	117,183	110,317	114,631	117,811	109,568	103,432	96,119	81,390	79,389	87,763	92,593	98,364	102,891
Passenger operating revenues/ total operating revenues	0.175	0.166	0.170	0.151	0.159	0.146	0.148	0.137	0.137	0.135	0.139	0.144	0.147	0.142	0.139	0.132
Passenger operating ratio	1.109	1.280	1.208	1.346	1.425	1.363	1.465	1.497	1.363	1.295	1.302	1.218	1.189	1.262	1.260	1.278
Passenger deficit/freight net railway operating income	0.198	0.296	0.308	0.359	0.420	0.356	0.445	0.486	0.388	0.380	0.463	0.381	0.303	0.356	0.337	0.304
Chicago & Northwestern																
Passenger operating revenues	$ 35,572	$ 37,137	$ 38,166	$ 36,940	$ 35,965	$ 35,424	$ 29,532	$ 31,634	$ 29,169	$ 28,316	$ 22,554	$ 19,307	$ 17,129	$ 20,186	$ 19,223	$ 19,316
Total operating revenues	188,901	203,477	46,482	48,319	38,175	45,040	38,956	47,268	48,727	39,946	36,529	47,657	33,661	43,355	39,829	47,315
Freight net railway operating income	29,895	30,570	30,649	32,377	21,173	25,998	20,820	25,047	24,853	16,600	9,069	19,617	7,450	15,857	13,180	15,152
Passenger operating revenues/ total operating revenues	0.188	0.183	0.185	0.181	0.191	0.178	0.153	0.145	0.136	0.133	0.109	0.089	0.087	0.092	0.087	0.085
Passenger operating ratio	1.460	1.516	1.481	1.528	1.465	1.411	1.561	1.489	1.406	1.335	1.347	1.331	1.323	1.127	1.052	0.995
Passenger deficit/freight net railway operating income	0.695	0.764	0.735	0.723	0.969	0.705	0.955	0.782	0.643	0.812	1.139	0.452	1.039	0.284	0.191	0.107
Chicago, Burlington & Quincy																
Passenger operating revenues	$ 38,741	$ 38,679	$ 38,965	$ 39,216	$ 37,986	$ 36,513	$ 38,397	$ 39,218	$ 38,548	$ 40,996	$ 41,796	$ 42,286	$ 43,054	$ 41,165	$ 41,835	$ 41,497
Total operating revenues	245,248	266,594	270,348	278,414	252,353	249,226	257,032	258,308	258,028	263,073	251,136	254,161	263,435	261,714	267,380	270,453
Freight net railway operating income	47,705	46,099	48,116	50,907	48,776	48,181	49,626	45,735	47,356	41,059	35,407	34,627	39,402	40,625	39,658	38,939
Passenger operating revenues/ total operating revenues	0.158	0.145	0.144	0.141	0.151	0.147	0.149	0.152	0.149	0.156	0.166	0.166	0.163	0.157	0.156	0.153
Passenger operating ratio	1.110	1.270	1.276	1.393	1.407	1.434	1.454	1.464	1.442	1.356	1.284	1.212	1.209	1.244	1.247	1.295
Passenger deficit/freight net railway operating income	0.208	0.347	0.340	0.413	0.431	0.450	0.485	0.185	0.500	0.527	0.530	0.454	0.383	0.383	0.395	0.476
Chicago, Milwaukee, St. Paul & Pacific																
Passenger operating revenues	$ 35,134	$ 36,362	$ 36,968	$ 33,874	$ 30,824	$ 29,242	$ 33,317	$ 30,692	$ 28,706	$ 30,133	$ 30,432	$ 28,581	$ 28,159	$ 27,452	$ 27,219	$ 26,827
Total operating revenues	255,422	265,401	269,466	259,860	237,745	245,498	253,861	254,027	244,263	242,042	230,363	221,832	227,664	223,148	228,239	241,361
Freight net railway operating income	43,479	39,227	38,996	36,568	37,393	37,054	40,680	40,614	40,411	33,796	27,147	28,008	24,088	27,028	24,932	26,166
Passenger operating revenues/ total operating revenues	0.138	0.137	0.137	0.130	0.130	0.119	0.131	0.121	0.118	0.124	0.132	0.129	0.124	0.123	0.119	0.111
Passenger operating ratio	1.451	1.502	1.447	1.503	1.575	1.558	1.532	1.616	1.637	1.487	1.390	1.305	1.272	1.286	1.264	1.245
Passenger deficit/freight net railway operating income	0.495	0.609	0.553	0.599	0.610	0.574	0.574	0.596	0.583	0.596	0.644	0.496	0.525	0.471	0.474	0.416
Denver & Rio Grande Western																
Passenger operating revenues	$ 5,329	$ 5,608	$ 5,705	$ 5,516	$ 4,867	$ 4,747	$ 4,813	$ 4,804	$ 4,737	$ 4,839	$ 4,765	$ 4,675	$ 4,695	$ 4,768	$ 4,740	$ 4,408
Total operating revenues	66,123	77,790	82,135	84,701	73,139	78,393	81,355	85,236	76,936	75,397	76,316	77,223	75,828	75,848	79,138	86,401
Freight net railway operating income	14,430	15,927	15,936	17,678	18,492	19,569	20,445	21,425	18,364	16,305	15,915	16,061	16,234	17,501	16,971	18,193
Passenger operating revenues/ total operating revenues	0.081	0.072	0.069	0.065	0.067	0.061	0.059	0.056	0.062	0.064	0.064	0.061	0.062	0.063	0.060	0.051
Passenger operating ratio	1.663	1.609	1.620	1.675	1.736	1.779	1.827	1.930	1.869	1.838	1.818	1.837	1.824	1.842	1.798	1.851
Passenger deficit/freight net railway operating income	0.311	0.265	0.271	0.259	0.239	0.236	0.242	0.254	0.278	0.313	0.310	0.307	0.308	0.294	0.286	0.268
Great Northern																
Passenger operating revenues	$ 26,415	$ 25,886	$ 27,218	$ 24,389	$ 23,298	$ 22,805	$ 21,784	$ 21,788	$ 21,723	$ 22,336	$ 20,818	$ 21,393	$ 23,498	$ 20,949	$ 21,275	$ 21,663
Total operating revenues	227,516	248,039	260,247	268,035	250,254	267,095	280,543	275,377	251,672	254,560	246,025	232,952	238,940	242,810	250,388	265,630
Freight net railway operating income	42,729	41,741	46,023	48,550	46,224	52,167	54,373	51,005	49,632	45,056	37,564	32,135	35,937	41,106	40,204	49,842
Passenger operating revenues/ total operating revenues	0.116	0.104	0.105	0.091	0.093	0.085	0.078	0.079	0.086	0.088	0.085	0.092	0.098	0.086	0.085	0.082
Passenger operating ratio	1.436	1.583	1.620	1.751	1.798	1.813	1.939	2.020	1.913	1.773	1.742	1.535	1.388	1.520	1.545	1.614
Passenger deficit/freight net railway operating income	0.358	0.444	0.437	0.433	0.648	0.422	0.441	0.513	0.480	0.463	0.509	0.478	0.355	0.343	0.367	0.337

TABLE B-2 (Continued)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Missouri Pacific																
Passenger operating revenues	$ 27,208	$ 28,479	$ 28,085	$ 23,664	$ 22,980	$ 22,448	$ 28,373	$ 27,600	$ 26,900	$ 28,675	$ 28,438	$ 28,297	$ 27,206	$ 24,718	$ 23,169	$ 19,770
Total operating revenues	220,366	239,346	248,491	238,262	213,362	223,677	304,507	299,507	291,808	303,399	297,261	288,981	297,903	299,733	306,999	313,732
Freight net railway operating income	39,411	35,368	39,036	39,582	38,879	40,223	57,736	53,482	52,067	49,760	45,907	40,077	48,149	49,042	46,637	49,462
Passenger operating revenues/ total operating revenues	0.123	0.119	0.113	0.099	0.108	0.100	0.093	0.092	0.092	0.095	0.096	0.098	0.091	0.082	0.075	0.063
Passenger operating ratio	1.163	1.281	1.273	1.544	1.442	1.424	1.495	1.497	1.509	1.424	1.371	1.186	1.293	1.268	1.257	1.370
Passenger deficit/freight net railway operating income	0.197	0.322	0.281	0.408	0.346	0.316	0.319	0.331	0.343	0.333	0.326	0.227	0.248	0.204	0.197	0.213
Northern Pacific																
Passenger operating revenues	$ 15,327	$ 16,059	$ 16,710	$ 17,269	$ 16,298	$ 15,689	$ 15,352	$ 15,061	$ 14,227	$ 14,760	$ 14,813	$ 15,565	$ 16,514	$ 14,485	$ 15,056	$ 15,083
Total operating revenues	167,228	173,748	177,869	181,175	171,602	183,033	188,170	184,403	179,108	183,609	174,915	165,412	174,263	179,605	184,301	197,913
Freight net railway operating income	33,113	28,686	28,210	30,262	31,818	34,612	33,514	34,950	35,047	31,303	26,655	22,990	29,967	28,106	27,981	35,102
Passenger operating revenues/ total operating revenues	0.092	0.092	0.094	0.095	0.095	0.086	0.082	0.082	0.079	0.080	0.085	0.094	0.095	0.081	0.082	0.076
Passenger operating ratio	1.501	1.621	1.624	1.735	1.822	1.816	1.861	1.992	2.001	1.943	1.930	1.758	1.802	1.808	1.835	1.943
Passenger deficit/freight net railway operating income	0.315	0.431	0.453	0.509	0.514	0.445	0.467	0.502	0.480	0.535	0.621	0.627	0.539	0.496	0.540	0.483
Southern Pacific*																
Passenger operating revenues	$ 83,673	$ 88,953	$ 92,656	$ 83,283	$ 72,940	$ 68,548	$ 66,160	$ 61,423	$ 58,922	$ 59,440	$ 57,038	$ 56,997	$ 58,353	$ 53,571	$ 50,181	$ 43,835
Total operating revenues	598,263	647,671	700,359	692,085	626,215	666,920	678,325	663,493	648,814	690,316	666,632	674,813	701,879	704,488	728,578	786,296
Freight net railway operating income	96,250	106,300	115,385	110,455	106,186	107,525	104,013	105,113	93,392	91,634	85,345	77,288	76,708	88,370	76,268	84,718
Passenger operating revenues/ total operating revenues	0.140	0.137	0.132	0.120	0.116	0.103	0.098	0.093	0.091	0.086	0.086	0.084	0.083	0.076	0.069	0.056
Passenger operating ratio	1.310	1.398	1.370	1.493	1.650	1.601	1.682	1.679	1.572	1.497	1.479	1.304	1.196	1.233	1.223	1.273
Passenger deficit/freight net railway operating income	0.371	0.421	0.379	0.463	0.546	0.467	0.531	0.488	0.455	0.420	0.421	0.313	0.213	0.193	0.209	0.190
Union Pacific																
Passenger operating revenues	$ 66,741	$ 67,373	$ 72,023	$ 66,617	$ 60,279	$ 58,729	$ 56,790	$ 54,862	$ 55,450	$ 56,942	$ 57,310	$ 58,042	$ 60,187	$ 57,378	$ 57,009	$ 55,644
Total operating revenues	465,284	505,198	520,221	530,024	481,786	509,362	514,317	517,060	505,215	515,767	494,184	499,324	512,125	519,104	529,079	549,190
Freight net railway operating income	74,848	78,389	74,999	81,613	82,911	90,334	85,504	82,881	87,854	80,181	68,080	58,447	72,585	77,885	82,283	94,103
Passenger operating revenues/ total operating revenues	0.143	0.133	0.138	0.126	0.125	0.115	0.110	0.106	0.110	0.110	0.116	0.116	0.118	0.111	0.108	0.101
Passenger operating ratio	1.342	1.525	1.484	1.667	1.749	1.666	1.635	1.667	1.660	1.611	1.475	1.352	1.321	1.361	1.393	1.377
Passenger deficit/freight net railway operating income	0.403	0.537	0.556	0.640	0.639	0.512	0.502	0.526	0.500	0.534	0.511	0.456	0.356	0.344	0.350	0.289
Western Pacific																
Passenger operating revenues	$ 3,312	$ 3,756	$ 3,879	$ 3,773	$ 2,939	$ 2,973	$ 3,028	$ 2,901	$ 2,811	$ 2,885	$ 2,961	$ 2,906	$ 2,964	$ 2,875	$ 2,994	$ 2,986
Total operating revenues	49,348	55,747	56,245	59,245	48,119	53,750	53,590	54,533	52,090	52,904	52,237	53,829	54,299	55,412	53,160	59,666
Freight net railway operating income	11,460	9,569	9,294	11,103	8,684	10,298	9,783	10,230	10,113	8,659	8,249	8,254	9,996	9,440	7,666	10,599
Passenger operating revenues/ total operating revenues	0.067	0.067	0.069	0.064	0.061	0.055	0.057	0.053	0.054	0.055	0.057	0.054	0.055	0.052	0.056	0.050
Passenger operating ratio	1.510	1.396	1.461	1.566	1.874	1.897	1.855	1.908	1.838	1.815	1.785	1.649	1.645	1.622	1.635	1.762
Passenger deficit/freight net railway operating income	0.181	0.192	0.235	0.232	0.347	0.292	0.309	0.302	0.270	0.322	0.340	0.281	0.238	0.234	0.296	0.262

* Data for 1950-61 include Texas & New Orleans Railroad, which was merged into Southern Pacific, November 1, 1961.

Sources: U.S. ICC, Transport Statistics in the United States . . . Part I Railroads, Washington, D.C., 1955-1963.
U.S. ICC, Annual Report of the . . . to the Interstate Commerce Commission for the Year Ended December 31, ... 1950-1954, 1964, 1965.

TABLE B-3

PASSENGERS CARRIED, PASSENGER-MILES, TRAIN-MILES, CAR-MILES,* AND AVERAGE TRAINLOADS† 1950–1965

(Passengers and Miles in Thousands)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Atchison, Topeka & Santa Fe																
Passengers carried	$ 3,617	$ 3,931	$ 4,248	$ 3,693	$ 3,445	$ 3,405	$ 3,192	$ 2,822	$ 2,678	$ 2,621	$ 2,526	$ 2,445	$ 2,433	$ 2,370	$ 2,496	$ 2,317
Passenger miles	1,881,349	2,209,856	2,401,679	2,085,109	1,948,404	1,943,349	1,980,871	1,775,088	1,665,183	1,675,120	1,689,324	1,695,803	1,698,834	1,617,038	1,704,758	1,653,006
Passenger train-miles	23,632	24,161	24,029	23,666	22,017	21,346	21,107	19,958	17,022	16,103	15,534	14,791	14,863	14,856	14,951	14,206
Passenger car-miles	138,003	142,476	143,923	138,427	126,222	123,770	123,793	113,374	94,845	94,664	91,720	90,255	90,995	90,909	90,879	85,319
Average trainload	79.610	91.464	99.949	88.106	88.495	91.040	93.849	88.941	97.825	104.025	108.750	114.651	114.299	108.848	114.023	116.360
Chicago & North Western																
Passengers carried	22,558	22,529	22,714	22,225	23,305	24,485	25,096	26,796	26,375	23,058	21,520	19,798	17,511	20,528	21,360	22,236
Passenger miles	1,058,886	1,117,755	1,121,546	1,074,282	1,039,763	979,959	813,967	829,240	778,579	695,940	600,700	539,288	466,027	544,917	542,705	561,425
Passenger train-miles	11,845	11,429	10,832	10,543	10,321	9,144	7,959	8,115	7,377	6,529	5,450	4,622	4,019	4,231	3,731	3,522
Passenger car-miles	56,507	56,789	54,750	51,416	50,696	45,653	34,530	36,021	31,124	27,858	22,822	17,086	14,135	14,703	13,130	12,395
Average trainload	89.396	97.800	103.540	101.895	100.742	107.170	102.270	102.186	105.542	106.592	110.220	116.679	115.957	128.792	145.457	159.404
Chicago, Burlington & Quincy																
Passengers carried	9,687	10,421	10,756	11,154	11,036	11,604	11,972	12,142	11,901	12,191	11,398	11,210	11,305	10,843	11,107	10,583
Passenger miles	748,699	826,128	883,205	902,036	837,706	861,327	886,357	889,103	862,595	872,351	874,279	855,285	853,933	800,725	820,331	815,715
Passenger train-miles	12,098	11,823	11,755	12,445	12,102	11,912	11,969	11,432	10,502	10,166	9,332	8,567	8,464	8,207	8,177	7,924
Passenger car-miles	47,607	49,048	49,719	53,039	50,446	51,047	51,568	49,204	46,656	45,211	44,003	41,714	41,653	38,489	37,734	37,042
Average trainload	61.886	69.875	75.134	72.482	69.221	72.308	74.055	77.773	82.137	85.811	93.686	99.835	100.890	97.565	100.322	102.943
Chicago, Milwaukee, St. Paul & Pacific																
Passengers carried	7,326	7,535	7,252	6,991	6,986	7,180	7,417	7,018	7,229	7,361	6,796	5,821	6,170	6,453	6,343	6,470
Passenger miles	788,058	872,869	830,156	749,398	694,247	670,030	797,042	686,578	652,314	647,209	626,790	512,101	492,943	475,806	463,308	450,857
Passenger train-miles	11,223	10,345	9,740	9,387	9,181	8,268	8,925	7,954	7,276	6,807	6,202	5,462	5,253	5,228	4,670	4,467
Passenger car-miles	51,116	51,301	48,786	45,197	42,788	38,469	47,435	43,061	40,566	39,311	37,741	29,977	24,790	24,469	22,198	20,093
Average trainload	70.218	84.376	85.232	79.834	75.618	81.039	89.304	86.319	89.652	95.080	101.062	93,757	93.840	91.012	99.210	100.931
Denver & Rio Grande Western																
Passengers carried	460	523	513	513	469	525	500	495	499	519	530	516	501	531	556	559
Passenger miles	138,911	159,623	152,101	155,203	124,809	136,447	129,349	123,989	122,747	121,587	123,810	116,027	114,309	111,292	113,145	110,530
Passenger train-miles	2,031	1,872	1,788	1,735	1,606	1,677	1,686	1,665	1,656	1,628	1,472	1,455	1,451	1,460	1,444	1,277
Passenger car-miles	8,786	9,479	9,089	9,914	8,818	8,771	8,858	8,609	8,098	7,600	7,433	6,844	6,922	6,690	6,585	6,211
Average trainload	68.395	85.267	85.067	89.452	77.715	81.366	76.720	74.468	74.124	74.687	84.110	79.746	78.780	76.226	78.352	86.554
Great Northern																
Passengers carried	1,546	1,707	1,741	1,580	1,463	1,475	1,375	1,279	1,242	1,239	1,113	1,069	1,115	1,004	1,072	1,102
Passenger miles	494,307	589,519	612,030	558,784	497,173	507,429	475,281	448,979	432,189	433,902	408,025	430,634	501,483	410,668	422,553	424,383
Passenger train-miles	9,011	8,812	8,316	7,911	7,378	7,118	6,609	6,469	6,235	5,596	4,907	4,801	4,652	4,365	4,394	4,357
Passenger car-miles	39,532	39,288	40,745	38,860	37,011	35,634	32,720	31,950	29,162	27,951	26,116	27,245	28,436	25,616	23,961	23,653
Average trainload	54.856	66.900	73.597	70.633	67.385	71.288	71.914	69.405	69.317	77.538	83.151	89.696	107.799	94.082	96.165	97.402

TABLE B-3 (Continued)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Missouri Pacific																
Passengers carried	1,990	2,129	2,011	1,785	1,575	1,460	1,656	1,494	1,446	1,498	1,488	1,341	1,082	958	782	651
Passenger miles	455,459	517,130	507,359	455,283	405,789	378,858	465,158	428,288	415,182	435,961	452,175	411,027	377,494	326,692	275,978	235,970
Passenger train-miles	7,462	7,253	6,929	6,737	6,419	5,842	7,608	7,421	7,174	7,048	6,225	5,670	5,032	4,430	4,333	3,964
Passenger car-miles	30,450	31,874	29,855	29,322	26,928	32,035	30,662	29,812	29,287	30,369	29,105	25,360	21,845	19,119	15,143	12,406
Average trainload	61.037	71.299	73.223	67.579	63.217	64.851	61.141	57.713	57.873	61.856	72.639	72.492	75.018	73.745	63.692	59.528
Northern Pacific																
Passengers carried	921	1,037	989	937	907	908	846	793	713	735	726	709	702	661	702	680
Passenger miles	275,008	331,160	313,364	340,780	334,122	345,728	332,062	319,585	293,801	311,351	323,244	356,201	391,385	322,269	339,601	332,064
Passenger train-miles	5,372	5,551	5,440	6,154	5,958	5,649	5,400	5,363	5,109	4,884	4,558	4,138	4,093	4,051	4,076	4,051
Passenger car-miles	23,688	26,445	25,727	27,699	28,150	27,875	26,896	26,685	23,818	24,154	24,761	24,879	26,198	22,939	20,797	20,281
Average trainload	51.193	59.658	57.603	55.375	56.079	61.202	61.492	59.590	57.506	63.749	70.917	86.080	95.622	79.553	83.317	81.970
Southern Pacific‡																
Passengers carried	12,371	12,689	13,752	12,740	12,230	11,673	11,077	10,361	9,659	9,068	8,819	8,385	7,878	7,619	7,800	7,735
Passenger miles	2,220,822	2,407,190	2,345,278	1,973,845	1,771,056	1,684,473	1,604,918	1,419,905	1,305,197	1,254,298	1,197,358	1,170,320	1,132,743	1,001,589	901,947	797,358
Passenger train-miles	18,052	17,841	16,880	15,971	15,327	13,164	12,601	12,074	10,727	9,974	9,772	9,345	9,070	8,703	8,003	6,736
Passenger car-miles	129,050	126,654	120,410	110,326	104,013	96,405	85,224	72,888	65,370	61,168	58,235	62,095	54,883	49,185	42,990	37,924
Average trainload	123.024	134.925	138.938	123.589	115.551	127.961	127.364	117.600	121.674	125.757	122.529	125.235	124.889	115.086	112.701	118.373
Union Pacific																
Passengers carried	2,191	2,358	2,254	2,128	1,968	1,951	1,812	1,646	1,599	1,590	1,572	1,446	1,470	1,345	1,335	1,291
Passenger miles	1,426,402	1,682,086	1,679,295	1,562,489	1,459,288	1,437,009	1,363,680	1,236,427	1,234,134	1,242,182	1,232,604	1,149,737	1,173,616	1,068,517	1,055,943	1,012,699
Passenger train-miles	17,372	17,687	17,451	17,298	16,283	14,349	13,215	12,407	11,848	11,421	10,908	9,956	10,010	9,789	9,511	9,092
Passenger car-miles	104,630	109,914	109,839	104,497	99,303	82,143	78,317	73,723	73,500	70,812	66,631	63,082	64,292	61,522	60,156	57,761
Average trainload	82.109	95.103	96.229	90.328	89.620	100.147	103.192	99.656	104.164	108.763	113.000	115.482	117.245	109.155	111.023	111.384
Western Pacific																
Passengers carried	172	199	202	192	156	161	173	170	149	150	161	143	139	133	139	138
Passenger miles	129,827	151,519	151,285	145,938	115,120	118,173	121,268	113,315	112,603	109,649	115,168	109,155	109,109	104,332	110,133	111,368
Passenger train-miles	1,272	1,071	1,067	1,063	994	1,006	999	996	985	987	919	687	684	677	677	681
Passenger car-miles	6,861	6,996	7,044	7,445	6,447	6,608	6,631	6,481	6,551	6,088	6,033	5,714	5,818	5,522	5,847	5,844
Average trainload	102.068	141.475	141.790	137.291	115.814	117.465	121.391	113.775	114.315	111.094	125.321	158.894	159.518	154.106	162.674	163.539

* Passenger carrying car-miles.
† Passenger miles/passenger train-miles.
‡ Data for 1950-1961 include Texas & New Orleans Railroad, which was merged with Southern Pacific, November 1, 1961.

Sources: U.S. ICC, Transport Statistics in the United States . . . Part I Railroads, Washington, D.C., 1955-1963.
U.S. ICC, Annual Report of the . . . to the Interstate Commerce Commission for the Year Ended December 31, ... 1950-1954, 1964, 1965.
U.S. ICC, Revenue Traffic, Form OS-B, 1964, 1965.
U.S. ICC, Revenue Traffic, Form OS-D, 1950-1963.

TABLE B-4

COMMUTATION TRAFFIC AS PERCENT OF TOTAL PASSENGER TRAFFIC 1950–1965

(Passengers and Passenger Miles in Thousands)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Chicago & North Western																
Commutation passenger miles/total passenger miles	27.6%	25.5%	25.4%	26.4%	29.6%	33.6%	43.6%	53.8%	59.1%	61.0%	68.3%	71.4%	72.8%	77.0%	80.5%	80.7%
Commutation passengers/total revenue passengers	74.1	70.7	70.5	69.9	71.0	71.0	71.2	89.0	90.2	90.7	93.4	94.2	94.6	95.5	96.0	96.1
Commuter passenger miles	292,268	285,380	284,667	283,133	307,495	329,140	354,859	446,379	460,402	424,196	410,122	385,058	339,412	419,538	436,914	452,989
Total passenger miles	1,058,886	1,117,755	1,121,546	1,074,282	1,039,763	979,959	813,967	829,240	778,579	695,940	600,700	539,288	466,027	544,917	542,705	561,425
Commutation passengers	16,724	15,939	16,003	15,530	16,544	17,388	17,862	23,837	23,797	20,910	20,107	18,654	16,571	19,598	20,507	21,361
Total revenue passengers	22,558	22,529	22,714	22,225	23,305	24,485	25,096	26,796	26,375	23,058	21,520	19,798	17,511	20,528	21,360	22,236
Chicago, Burlington & Quincy																
Commutation passenger miles/total passenger miles	13.0%	13.0%	12.6%	13.1%	13.3%	13.7%	13.4%	15.3%	16.0%	16.2%	15.2%	15.4%	15.8%	16.3%	19.1%	18.5%
Commutation passengers/total revenue passengers	58.3	58.4	59.0	59.6	57.8	56.7	55.4	64.9	67.3	68.1	67.7	68.7	69.2	69.4	83.1	82.9
Commutation passenger miles	96,996	107,432	111,498	117,831	111,761	118,201	119,154	135,600	138,237	141,393	133,207	131,836	135,053	130,189	156,456	150,693
Total passenger miles	748,699	826,128	883,205	902,036	837,706	861,327	886,357	889,103	862,595	872,351	874,279	855,285	853,933	800,725	820,331	815,715
Commutation passengers	5,648	6,086	6,345	6,650	6,377	6,575	6,629	7,883	8,009	8,304	7,712	7,705	7,823	7,521	9,225	8,774
Total revenue passengers	9,687	10,421	10,756	11,154	11,036	11,604	11,972	12,142	11,901	12,191	11,398	11,210	11,305	10,843	11,107	10,583
Chicago, Milwaukee, St. Paul & Pacific																
Commutation passenger miles/total passenger miles	11.6%	10.9%	10.8%	11.9%	13.5%	14.8%	12.6%	14.4%	15.8%	19.1%	17.7%	18.2%	20.5%	23.3%	23.5%	25.2%
Commutation passengers/total revenue passengers	54.9	55.6	53.8	54.7	56.1	58.2	56.0	58.1	60.0	75.0	74.1	72.4	74.6	76.4	75.7	76.8
Commutation passenger miles	91,075	94,960	89,299	88,929	93,544	98,902	100,135	98,631	103,056	123,694	111,139	93,092	101,002	110,819	108,727	113,595
Total passenger miles	788,058	872,869	830,156	749,398	694,247	670,030	797,042	686,578	652,314	647,209	626,790	512,101	492,943	475,806	463,308	450,857
Commutation passengers	4,020	4,187	3,899	3,823	3,921	4,177	4,151	4,074	4,339	5,521	5,037	4,215	4,601	4,933	4,801	4,969
Total revenue passengers	7,326	7,535	7,252	6,991	6,986	7,180	7,417	7,018	7,229	7,361	6,796	5,821	6,170	6,453	6,343	6,470
Southern Pacific*																
Commutation passenger miles/total revenue miles	7.1%	6.8%	7.5%	9.1%	10.6%	10.9%	11.0%	11.7%	12.0%	12.0%	12.3%	12.2%	12.2%	13.6%	15.9%	18.1%
Commutation passengers/total revenue passengers	55.7	55.7	56.2	60.0	65.8	64.2	64.4	65.9	67.8	69.2	69.7	70.7	72.8	74.0	75.6	76.5
Commutation passenger miles	156,640	162,857	175,982	179,273	187,332	183,472	175,860	166,787	156,991	150,064	146,705	142,276	138,597	135,986	143,644	144,663
Total passenger miles	2,220,822	2,407,190	2,345,278	1,973,785	1,771,056	1,684,473	1,604,918	1,419,905	1,305,197	1,254,298	1,197,358	1,170,320	1,132,743	1,001,589	901,947	797,358
Commutation passengers	6,893	7,066	7,723	7,650	7,855	7,497	7,139	6,829	6,552	6,279	6,144	5,925	5,733	5,640	5,894	5,921
Total revenue passengers	12,371	12,689	13,752	12,740	11,930	11,673	11,077	10,361	9,659	9,068	8,819	8,385	7,878	7,619	7,800	7,735

* Data for 1950-61 include Texas & New Orleans Railroad, which was merged into Southern Pacific, November 1, 1961.

Sources: U.S. ICC, Revenue Traffic, Form OS-B, 1964, 1965.
U.S. ICC, Revenue Traffic, Form OS-D, 1950-63.

TABLE B-5

MAIN REVENUE CATEGORIES OF PASSENGER AND ALLIED SERVICES
1950, 1955, 1960, and 1965
(Dollars in Thousands)

	Total Passenger and Allied Services		Passenger Only		Mail		Express		Dining and Buffet		Other	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Atchison, Topeka & Santa Fe												
1950	$91,655	100.0%	$44,807	48.9%	$31,213	34.1%	$ 7,058	7.7%	$6,090	6.6%	$2,487	2.7%
1955	84,328	100.0	41,776	49.5	23,341	27.7	11,054	13.1	6,143	7.3	2,014	2.4
1960	85,544	100.0	40,063	46.8	28,896	33.8	8,868	10.4	5,278	6.2	2,439	2.8
1965	86,352	100.0	38,904	45.1	31,195	36.1	8,479	9.8	5,288	6.1	2,486	2.9
Chicago & North Western												
1950	35,572	100.0	20,710	58.2	8,382	23.6	3,206	9.0	1,858	5.2	1,416	4.0
1955	35,424	100.0	20,872	58.9	5,620	15.9	5,480	15.5	1,913	5.4	1,539	4.3
1960	22,554	100.0	17,454	77.4	2,557	11.3	1,056	4.7	869	3.9	618	2.7
1965	19,316	100.0	18,099	93.7	270	1.4	17	0.1	436	2.2	494	2.6
Chicago, Burlington & Quincy												
1950	38,741	100.0	17,667	45.6	14,846	38.3	2,893	7.5	1,905	4.9	1,430	3.7
1955	36,513	100.0	19,250	52.7	10,016	27.4	3,382	9.3	2,251	6.2	1,614	4.4
1960	41,796	100.0	21,431	51.3	12,814	30.7	3,550	8.5	2,400	5.7	1,601	3.8
1965	41,497	100.0	20,780	50.1	13,547	32.6	3,474	8.4	2,092	5.0	1,604	3.9
Chicago, Milwaukee, St. Paul & Pacific												
1950	35,134	100.0	17,499	49.8	10,555	30.1	2,951	8.4	1,948	5.5	2,181	6.2
1955	29,242	100.0	13,838	47.3	8,290	28.4	3,822	13.1	1,793	6.1	1,499	5.1
1960	30,432	100.0	15,175	49.9	9,418	30.9	3,031	10.0	1,521	5.0	1,287	4.2
1965	26,827	100.0	12,301	45.8	9,914	37.0	2,469	9.2	1,053	3.9	1,090	4.1
Denver & Rio Grande Western												
1950	5,329	100.0	3,043	57.1	1,131	21.2	461	8.7	418	7.8	276	5.2
1955	4,747	100.0	2,965	62.5	760	16.0	237	5.0	504	10.6	281	5.9
1960	4,765	100.0	2,976	62.5	841	17.6	294	6.2	424	8.9	230	4.8
1965	4,408	100.0	2,952	67.0	672	15.2	211	4.8	347	7.9	226	5.1
Great Northern												
1950	26,415	100.0	11,026	41.7	11,576	43.8	1,632	6.2	1,403	5.3	778	3.0
1955	22,805	100.0	10,943	48.0	7,795	34.2	2,054	9.0	1,615	7.1	398	1.7
1960	20,818	100.0	9,355	44.9	8,439	40.5	1,502	7.2	1,217	5.9	305	1.5
1965	21,663	100.0	10,061	46.4	8,500	39.2	1,362	6.3	1,165	5.4	575	2.7
Missouri Pacific												
1950	27,208	100.0	10,790	39.7	12,155	44.7	2,237	8.2	1,123	4.1	903	3.3
1955	22,448	100.0	9,403	41.9	8,203	36.5	3,079	13.7	1,031	4.6	732	3.3
1960	28,438	100.0	11,492	40.4	11,557	40.7	3,384	11.9	1,118	3.9	887	3.1
1965	19,770	100.0	6,364	32.2	9,287	47.0	3,024	15.3	451	2.3	644	3.2
Northern Pacific												
1950	15,327	100.0	6,206	40.5	5,506	35.9	1,441	9.4	808	5.3	1,366	8.9
1955	15,689	100.0	7,453	47.5	4,394	28.0	1,656	10.6	1,226	7.8	960	6.1
1960	14,813	100.0	6,243	42.1	5,294	35.7	1,268	8.6	1,168	7.9	840	5.7
1965	15,083	100.0	7,214	47.8	4,978	33.0	1,178	7.8	1,195	7.9	518	3.5
Southern Pacific*												
1950	83,673	100.0	47,039	56.2	20,314	24.3	6,319	7.6	7,185	8.6	2,816	3.3
1955	68,548	100.0	37,713	55.0	15,359	22.4	7,976	11.6	5,399	7.9	2,109	3.1
1960	57,039	100.0	29,593	51.9	17,252	30.2	4,877	8.6	3,567	6.3	1,750	3.0
1965	43,835	100.0	21,014	47.9	16,242	37.1	2,951	6.7	2,172	5.0	1,456	3.3
Union Pacific												
1950	66,741	100.0	33,139	49.6	23,146	34.7	4,265	6.4	4,476	6.7	1,715	2.6
1955	58,729	100.0	30,209	51.4	16,358	27.9	5,952	10.1	4,583	7.8	1,627	2.8
1960	57,310	100.0	27,519	48.0	20,743	36.2	4,064	7.1	3,639	6.4	1,345	2.3
1965	55,644	100.0	23,561	42.3	23,312	41.9	3,937	7.1	2,880	5.2	1,954	3.5
Western Pacific												
1950	3,312	100.0	2,589	78.2	72	2.2	145	4.4	352	10.6	154	4.6
1955	2,973	100.0	2,330	78.4	3	0.1	193	6.5	416	14.0	31	1.0
1960	2,961	100.0	2,332	78.7	0	0.0	134	4.5	455	15.4	40	1.4
1965	2,986	100.0	2,379	79.7	0	0.0	102	3.4	459	15.4	46	1.5

* Data for 1950, 1955, and 1960 include Texas & New Orleans Railroad, which was merged into Southern Pacific, November 1, 1961.

Sources: U.S. ICC, Transport Statistics in the United States . . . Part I Railroads, Washington D.C., 1955, 1960.
U.S. ICC, Annual Report of the . . . to the Interstate Commerce Commission for the Year Ended, December 31 . . . , 1950, 1965.

TABLE B-6

FREIGHT AND PASSENGER ADVERTISING EXPENDITURES 1950–1965
(Dollars in Thousands)

	1950		1951		1952		1953		1954		1955		1956		1957	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Atchison, Topeka & Santa Fe																
Advertising	$2,355	100.0%	$3,095	100.0%	$3,083	100.0%	$3,423	100.0%	$3,011	100.0%	$3,076	100.0%	$2,773	100.0%	$2,651	100.0%
Freight	404	17.2	433	14.0	454	14.7	1,265	37.0	504	16.7	786	25.6	608	21.9	717	27.0
Passenger	1,951	82.8	2,663	86.0	2,629	85.3	2,158	63.0	2,507	83.3	2,290	74.4	2,166	78.1	1,934	73.0
Chicago & North Western																
Advertising	418	100.0	452	100.0	451	100.0	458	100.0	414	100.0	392	100.0	191	100.0	243	100.0
Freight	47	11.2	55	12.2	47	10.4	44	9.6	38	9.2	44	11.2	19	9.9	64	26.3
Passenger	372	88.8	396	87.8	404	89.6	415	90.4	376	90.8	348	88.8	172	90.1	179	73.7
Chicago, Burlington & Quincy																
Advertising	554	100.0	567	100.0	614	100.0	798	100.0	723	100.0	712	100.0	895	100.0	730	100.0
Freight	400	72.3	192	33.9	217	35.3	218	27.3	281	38.9	206	28.9	207	23.1	222	30.4
Passenger	153	27.7	374	66.1	398	64.7	580	72.7	442	61.1	506	71.1	688	76.9	508	69.6
Chicago, Milwaukee, St. Paul & Pacific																
Advertising	804	100.0	996	100.0	985	100.0	997	100.0	906	100.0	930	100.0	728	100.0	753	100.0
Freight	4	0.5	23	2.3	186	18.9	345	34.6	325	35.9	297	31.9	131	18.0	215	28.6
Passenger	800	99.5	973	97.7	799	81.1	652	65.4	581	64.1	633	68.1	597	82.0	538	71.4
Denver & Rio Grande Western																
Advertising	230	100.0	305	100.0	317	100.0	325	100.0	365	100.0	364	100.0	363	100.0	363	100.0
Freight	107	46.5	155	50.8	168	52.8	164	50.3	189	51.8	199	54.7	204	56.2	228	58.0
Passenger	123	53.5	150	49.2	150	47.2	162	49.7	176	48.2	165	45.3	159	43.8	165	42.0
Great Northern																
Advertising	603	100.0	803	100.0	804	100.0	783	100.0	777	100.0	1,206	100.0	1,348	100.0	1,530	100.0
Freight	147	24.4	181	22.6	202	25.1	177	22.6	200	25.7	166	13.8	291	21.6	217	14.2
Passenger	456	75.6	621	77.4	602	74.9	606	77.4	577	74.3	1,040	86.2	1,057	78.4	1,313	85.8
Missouri Pacific																
Advertising	494	100.0	553	100.0	486	100.0	512	100.0	442	100.0	476	100.0	593	100.0	596	100.0
Freight	104	21.1	167	30.2	243	50.0	237	46.3	181	41.0	221	46.4	296	49.9	301	50.6
Passenger	389	78.9	386	69.8	243	50.0	275	53.7	260	59.0	255	53.6	297	50.1	294	49.4
Northern Pacific																
Advertising	337	100.0	409	100.0	584	100.0	749	100.0	875	100.0	872	100.0	851	100.0	881	100.0
Freight	101	30.0	123	30.1	175	30.0	225	30.0	263	30.0	262	30.0	268	31.5	264	30.0
Passenger	236	70.0	286	69.9	409	70.0	524	70.0	613	70.0	611	70.0	583	68.5	617	70.0
Southern Pacific*																
Advertising	1,221	100.0	1,263	100.0	1,537	100.0	1,575	100.0	1,334	100.0	1,520	100.0	1,548	100.0	914	100.0
Freight	90	7.4	103	8.2	374	24.3	396	25.1	245	18.4	625	41.1	767	49.5	458	50.1
Passenger	1,131	92.6	1,160	91.8	1,163	75.7	1,179	74.9	1,089	81.6	895	58.9	781	50.5	456	49.9
Union Pacific																
Advertising	2,573	100.0	2,662	100.0	2,888	100.0	3,255	100.0	3,308	100.0	3,530	100.0	3,733	100.0	3,647	100.0
Freight	464	18.0	562	21.1	646	22.4	174	5.3	189	5.7	153	4.3	128	3.4	1,094	30.0
Passenger	2,109	82.0	2,100	78.9	2,243	77.6	3,081	94.7	3,119	94.3	3,377	95.7	3,605	96.6	2,553	70.0
Western Pacific																
Advertising	170	100.0	327	100.0	334	100.0	378	100.0	349	100.0	362	100.0	346	100.0	324	100.0
Freight	28	16.5	60	18.3	108	32.3	141	37.2	97	27.8	105	29.0	104	30.1	137	42.3
Passenger	142	83.5	267	81.7	226	67.7	238	62.8	252	72.2	257	71.0	242	69.9	187	57.7

TABLE B-6 (Continued)

	1958		1959		1960		1961		1962		1963		1964		1965	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Atchison, Topeka & Santa Fe																
Advertising	$2,411	100.0%	$3,027	100.0%	$2,981	100.0%	$2,956	100.0%	$3,159	100.0%	$2,891	100.0%	$3,020	100.0%	$2,596	100.0%
Freight	837	34.7	1,030	34.0	1,031	34.6	1,113	37.7	1,107	35.0	913	31.6	937	31.0	1,111	42.8
Passenger	1,574	65.3	1,997	66.0	1,950	65.4	1,843	62.3	2,052	65.0	1,978	68.4	2,083	69.0	1,485	57.2
Chicago & North Western																
Advertising	333	100.0	279	100.0	302	100.0	330	100.0	403	100.0	320	100.0	303	100.0	403	100.0
Freight	188	56.5	227	81.4	177	58.6	137	41.5	216	53.6	114	35.6	111	36.6	127	31.5
Passenger	145	43.5	52	18.6	125	41.4	193	58.5	187	46.4	206	64.4	192	63.4	276	68.5
Chicago, Burlington & Quincy																
Advertising	704	100.0	793	100.0	821	100.0	619	100.0	731	100.0	790	100.0	792	100.0	751	100.0
Freight	191	27.1	268	33.8	294	35.8	169	27.3	200	27.4	246	31.1	208	26.3	225	30.0
Passenger	513	72.9	524	66.2	527	64.2	450	72.7	531	72.6	545	68.9	584	73.7	526	70.0
Chicago, Milwaukee, St. Paul & Pacific																
Advertising	398	100.0	670	100.0	642	100.0	554	100.0	559	100.0	394	100.0	533	100.0	571	100.0
Freight	72	18.1	347	51.9	369	57.5	342	61.7	352	63.0	174	44.2	371	69.6	433	75.8
Passenger	326	81.9	322	48.1	273	42.5	212	38.3	207	37.0	220	55.8	162	30.4	138	24.2
Denver & Rio Grande Western																
Advertising	310	100.0	312	100.0	297	100.0	274	100.0	274	100.0	277	200.0	264	100.0	275	100.0
Freight	171	55.2	170	54.5	164	55.2	153	55.8	153	55.8	190	68.6	211	79.9	222	80.7
Passenger	139	44.8	142	45.5	133	44.8	121	44.2	121	44.2	87	31.4	53	20.1	53	19.3
Great Northern																
Advertising	1,458	100.0	1,539	100.0	1,404	100.0	1,071	100.0	946	100.0	1,158	100.0	1,350	100.0	1,370	100.0
Freight	299	20.5	425	27.6	360	25.6	298	27.9	323	34.1	551	47.6	522	38.6	621	45.3
Passenger	1,159	79.5	1,114	72.4	1,044	74.4	772	72.1	623	65.9	607	52.4	829	61.4	749	54.7
Missouri Pacific																
Advertising	359	100.0	454	100.0	490	100.0	165	100.0	206	100.0	202	100.0	272	100.0	288	100.0
Freight	97	27.0	146	32.2	152	31.1	85	51.5	120	58.3	178	88.1	238	87.5	267	92.7
Passenger	262	73.0	307	67.8	337	68.9	80	48.5	86	41.7	24	11.9	34	12.5	21	7.3
Northern Pacific																
Advertising	883	100.0	917	100.0	971	100.0	778	100.0	825	100.0	782	100.0	932	100.0	982	100.0
Freight	265	30.0	275	30.0	291	30.0	233	29.9	248	30.0	234	30.0	280	30.0	295	30.0
Passenger	618	70.0	642	70.0	680	70.0	545	70.1	578	70.0	547	70.0	652	70.0	687	70.0
Southern Pacific																
Advertising	870	100.0	804	100.0	767	100.0	533	100.0	540	100.0%	520	100.0	521	100.0	504	100.0
Freight	469	53.9	334	41.5	428	55.8	302	56.7	352	65.2	419	80.7	441	84.6	453	89.9
Passenger	401	46.1	470	58.5	339	44.2	231	43.3	188	34.8	100	19.3	80	15.4	51	10.1
Union Pacific																
Advertising	3,320	100.0	3,428	100.0	2,791	100.0	2,342	100.0	2,508	100.0	2,677	100.0	2,666	100.0	2,913	100.0
Freight	282	8.5	694	20.2	879	31.5	977	41.7	1,529	60.9	1,628	60.8	1,622	60.8	1,904	65.4
Passenger	3,038	91.5	2,734	79.8	1,912	68.5	1,364	58.3	980	19.1	1,050	39.2	1,044	39.2	1,009	34.6
Western Pacific																
Advertising	259	100.0	357	100.0	239	100.0	144	100.0	143	100.0	133	100.0	141	100.0	152	100.0
Freight	107	41.3	181	50.6	79	33.1	3	2.1	35	24.5	47	35.3	51	36.2	73	48.0
Passenger	152	58.7	177	49.4	160	66.9	141	97.9	108	75.5	86	64.7	90	63.8	79	52.0

* Data for 1950–1961 include Texas & New Orleans Railroad, which was merged into Southern Pacific, November 1, 1961.

Source: U.S. ICC, Annual Report of the . . . to the Interstate Commerce Commission for the Year Ended, Dec. 31 . . ., 1950–65.

TABLE B-7

AVERAGE LOAD FACTORS 1950–1965
(Miles in Thousands)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Atchison, Topeka & Santa Fe																
Average load factor	23.7%	27.8%	30.6%	28.7%	30.3%	30.2%	30.9%	31.6%	35.5%	35.8%	36.5%	37.8%	37.7%	35.8%	37.4%	39.4%
Passenger miles/passenger carrying car-miles	13.6	15.5	16.7	15.1	15.4	15.7	16.0	15.7	17.6	17.7	18.4	18.8	18.7	17.8	18.8	19.4
Passenger miles	1,881,349	2,209,856	2,401,679	2,085,109	1,948,404	1,943,349	1,980,871	1,775,088	1,665,183	1,675,120	1,689,324	1,695,803	1,698,834	1,617,038	1,704,758	1,653,006
Passenger carrying car-miles	138,003	142,476	143,923	138,427	126,222	123,770	123,793	113,374	94,845	94,664	91,720	90,255	90,995	90,909	90,879	85,319
Average capacity of passenger car	57.4	55.7	54.6	52.6	50.9	52.0	51.8	49.7	49.6	49.4	50.4	49.8	49.6	49.7	50.2	49.3
Aggregate capacity of passenger cars	33,386	28,673	26,916	27,966	27,036	27,155	26,031	25,313	24,971	25,088	23,753	22,849	22,337	22,057	22,905	21,475
Passenger car units in service	582	515	493	532	531	522	503	509	503	508	471	459	450	444	456	436
Chicago & North Western																
Average load factor	26.8%	28.2%	29.2%	29.8%	29.2%	29.5%	30.4%	29.8%	31.2%	29.2%	26.3%	24.9%	25.4%	27.2%	28.4%	30.3%
Passenger miles/passenger carrying car-miles	18.7	19.7	20.5	20.9	20.5	21.5	23.6	23.0	25.0	25.0	26.3	31.6	33.0	37.1	41.3	45.3
Passenger miles	1,058,886	1,117,755	1,121,546	1,074,282	1,039,763	979,959	813,967	829,240	778,579	695,940	600,700	539,288	466,027	544,917	542,705	561,425
Passenger carrying car-miles	56,507	56,789	54,750	51,416	50,696	45,653	34,530	36,021	31,124	27,858	22,822	17,086	14,135	14,703	13,130	12,395
Average capacity of passenger car	69.7	69.8	70.1	70.2	70.3	72.9	77.6	77.2	80.1	85.7	100.1	127.0	129.9	136.4	145.2	149.5
Aggregate capacity of passenger cars	49,173	48,542	47,440	46,525	45,932	47,972	50,271	48,176	45,281	46,961	45,645	39,486	38,826	39,020	36,593	37,981
Passenger car units in service	705	695	677	663	653	658	648	624	565	548	456	411	299	286	252	254
Chicago, Burlington & Quincy																
Average load factor	21.0%	22.7%	24.6%	22.5%	22.6%	23.0%	23.8%	23.4%	24.0%	25.0%	24.8%	25.4%	25.7%	25.5%	25.5%	24.1%
Passenger miles/passenger carrying car-miles	15.7	16.8	17.8	17.0	16.6	16.9	17.2	18.1	18.5	19.3	19.9	20.5	20.5	20.8	21.7	22.0
Passenger miles	748,699	826,128	883,205	902,036	837,706	861,327	886,357	889,103	862,595	872,351	874,279	855,285	853,933	800,725	820,331	815,715
Passenger carrying car-miles	47,607	49,048	49,719	53,039	50,446	51,047	51,568	49,204	46,656	45,211	44,003	41,714	41,653	38,489	37,734	37,042
Average capacity of passenger car	74.6	73.9	72.4	75.4	73.5	73.4	72.4	77.4	77.1	77.3	80.4	80.7	79.9	81.5	85.2	91.4
Aggregate capacity of passenger cars	29,822	26,960	24,889	26,240	26,813	27,816	26,281	28,625	28,688	28,617	27,982	27,843	27,952	28,025	27,261	25,137
Passenger car units in service	400	365	344	348	365	379	363	370	372	370	348	345	350	344	320	275
Chicago, Milwaukee, St. Paul & Pacific																
Average load factor	24.6%	26.9%	27.6%	25.6%	24.7%	26.4%	25.0%	23.5%	23.8%	24.2%	23.5%	22.2%	25.2%	24.2%	25.7%	25.0%
Passenger miles/passenger carrying car-miles	15.4	17.0	17.0	16.6	16.2	17.4	16.8	15.9	16.1	16.5	16.6	17.1	19.9	19.4	20.9	22.4
Passenger miles	788,058	872,869	830,156	749,398	694,247	670,030	797,042	686,578	652,314	647,209	626,790	512,101	492,943	475,806	463,308	450,857
Passenger carrying car-miles	51,116	51,301	48,786	45,197	42,788	38,469	47,435	43,061	40,566	39,311	37,741	29,977	24,790	24,469	22,198	20,093
Average capacity of passenger car	62.7	63.3	61.7	64.8	65.6	65.9	67.3	67.8	67.6	68.3	70.7	76.9	78.9	80.2	81.3	89.6
Aggregate capacity of passenger cars	35,116	34,957	28,978	28,961	28,424	28,191	26,181	25,167	24,929	24,450	23,953	22,530	22,566	21,810	19,767	18,373
Passenger car units in service	560	552	470	447	433	428	389	371	369	358	339	293	286	272	243	205
Denver & Rio Grande Western																
Average load factor	31.0%	31.4%	30.9%	29.7%	27.0%	29.7%	28.2%	28.6%	30.0%	31.6%	30.0%	29.6%	28.7%	29.3%	31.5%	29.8%
Passenger miles/passenger carrying car-miles	15.8	16.8	16.7	15.7	14.2	15.6	14.6	14.4	15.2	16.0	16.7	17.0	16.5	16.6	17.2	17.8
Passenger miles	138,911	159,623	152,101	155,203	124,809	136,447	129,349	123,989	122,747	121,587	123,810	116,027	114,309	111,292	113,145	110,530
Passenger carrying car miles	8,786	9,479	9,089	9,914	8,818	8,771	8,858	8,609	8,098	7,600	7,433	6,844	6,922	6,690	6,585	6,211
Average capacity of passenger car	51.0	53.5	54.0	52.8	52.6	52.5	51.7	50.3	50.7	50.7	55.7	57.5	57.5	56.6	54.6	59.8
Aggregate capacity of passenger cars	3,364	3,103	2,972	2,480	2,368	2,466	2,431	2,363	2,383	2,383	2,840	2,358	2,358	2,489	2,841	3,174
Passenger car units in service	66	58	55	47	45	47	47	47	47	47	51	41	41	44	52	53
Great Northern																
Average load factor	20.6%	25.3%	25.6%	24.8%	23.2%	25.4%	26.7%	27.0%	28.2%	29.4%	29.9%	29.9%	33.3%	30.1%	32.2%	31.0%
Passenger miles/passenger carrying car-miles	12.5	15.0	15.0	14.4	13.4	14.2	14.5	14.1	14.8	15.5	15.6	15.8	17.6	16.0	17.6	17.9
Passenger miles	494,307	589,519	612,030	558,784	497,173	507,429	475,281	448,979	432,189	433,902	408,025	430,634	501,483	410,668	422,553	424,383
Passenger carrying car-miles	39,532	39,288	40,745	38,860	37,011	35,634	32,720	31,950	29,162	27,951	26,116	27,245	28,436	25,616	23,961	23,653
Average capacity of passenger car	60.8	59.2	58.6	58.0	57.7	55.8	54.4	52.2	52.5	52.7	52.1	52.8	52.9	53.1	54.6	57.8
Aggregate capacity of passenger cars	12,589	11,610	11,248	10,848	10,782	11,263	10,724	9,338	9,076	8,430	7,757	7,926	7,722	8,078	7,759	7,452
Passenger car units in service	207	196	192	187	187	202	197	179	173	160	149	150	146	152	142	129

TABLE B-7 (Continued)

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
Missouri Pacific																
Average load factor	26.6%	27.8%	29.0%	26.4%	26.0%	19.9%	25.2%	23.8%	24.9%	25.3%	27.1%	29.2%	30.7%	29.8%	30.7%	31.1%
Passenger miles/passenger carrying car-miles	15.0	16.2	17.0	15.5	15.1	11.8	15.2	14.4	14.2	14.4	15.5	16.2	17.3	17.1	18.2	19.0
Passenger miles	455,459	517,130	507,359	455,283	405,789	378,858	465,158	428,288	415,182	435,961	452,175	411,027	377,494	326,692	275,978	235,970
Passenger carrying car-miles	30,450	31,874	29,855	29,322	26,928	32,035	30,662	29,812	29,287	30,369	29,105	25,360	21,845	19,119	15,143	12,406
Average capacity of passenger car	56.3	58.2	58.7	58.8	58.0	59.3	60.2	60.4	57.0	56.9	57.3	55.4	56.3	57.3	59.2	61.0
Aggregate capacity of passenger cars	10,639	10,476	10,677	10,645	10,148	9,907	11,324	10,212	9,352	9,390	8,762	6,872	6,810	6,248	5,502	4,450
Passenger car units in service	189	180	182	181	175	167	188	169	164	165	153	124	121	109	93	73
Northern Pacific																
Average load factor	18.2%	19.7%	19.3%	20.4%	19.3%	19.3%	20.0%	19.6%	20.4%	22.4%	22.8%	25.1%	26.4%	24.6%	29.3%	29.9%
Passenger miles/passenger carrying car-miles	11.6	12.5	12.2	12.3	11.9	12.4	12.3	12.0	12.3	12.9	13.1	14.3	14.9	14.0	16.3	16.4
Passenger miles	275,008	331,160	313,364	340,780	334,122	345,728	332,062	319,585	293,801	311,351	323,244	356,201	391,385	322,269	339,601	332,064
Passenger carrying car-miles	23,688	26,445	25,727	27,699	28,150	27,875	26,896	26,685	23,818	24,154	24,761	24,879	26,198	22,939	20,797	20,281
Average capacity of passenger car	63.7	63.5	63.3	60.4	61.8	64.3	61.5	61.1	60.3	57.5	57.5	57.0	56.5	56.9	55.7	54.9
Aggregate capacity of passenger cars	12,934	12,820	12,652	13,163	12,729	11,128	9,710	9,661	9,227	9,317	8,279	7,753	7,518	7,334	5,845	5,383
Passenger car units in service	203	202	200	218	206	173	158	158	153	162	144	136	133	129	105	98
Southern Pacific																
Average load factor	26.8%	29.2%	30.7%	28.2%	27.1%	27.7%	30.5%	29.1%	30.3%	32.9%	33.1%	31.3%	29.9%	29.8%	30.2%	28.2%
Passenger miles/passenger carrying car-miles	17.2	19.0	19.5	17.9	17.0	17.5	18.8	19.5	20.0	20.5	20.6	18.8	20.6	20.4	21.0	31.0
Passenger miles	2,220,822	2,407,190	2,345,278	1,973,785	1,771,056	1,684,473	1,604,918	1,419,905	1,305,197	1,254,298	1,197,358	1,170,320	1,132,743	1,001,589	901,947	797,358
Passenger carrying car-miles	129,050	126,654	120,410	110,326	104,013	96,405	85,224	72,888	65,370	61,168	58,235	62,095	54,883	49,185	42,990	37,924
Average capacity of passenger car	64.1	65.1	63.6	63.4	62.7	63.2	61.7	67.0	66.0	62.3	62.3	60.1	69.0	68.5	69.6	74.6
Aggregate capacity of passenger cars	48,520	48,330	46,790	44,138	42,300	40,852	35,128	34,699	32,450	32,159	26,924	28,121	23,882	23,662	24,167	22,995
Passenger car units in service	757	742	736	696	675	646	569	518	492	516	432	468	346	345	347	308
Union Pacific																
Average load factor	28.3%	32.5%	33.7%	32.5%	31.8%	37.6%	37.3%	37.0%	36.9%	38.4%	40.4%	39.7%	41.6%	39.0%	39.5%	38.3%
Passenger miles/passenger carrying car-miles	13.6	15.3	15.3	15.0	14.7	17.5	17.4	16.8	16.8	17.5	18.5	18.2	18.3	17.4	17.6	17.5
Passenger miles	1,426,402	1,682,086	1,679,295	1,562,489	1,459,288	1,437,009	1,363,680	1,236,427	1,234,134	1,242,182	1,232,604	1,149,737	1,173,616	1,068,517	1,055,943	1,012,699
Passenger carrying car-miles	104,630	109,914	109,839	104,497	99,303	82,143	78,317	73,723	73,500	70,812	66,631	63,082	64,292	61,522	60,156	57,761
Average capacity of passenger car	48.0	47.1	45.4	46.1	46.2	46.6	46.7	45.4	45.5	45.6	45.8	45.8	44.0	44.6	44.6	45.7
Aggregate capacity of passenger cars	18,739	16,454	13,835	14,093	15,557	15,931	15,828	13,428	12,146	11,479	11,946	12,636	13,374	13,105	12,232	11,742
Passenger car units in service	390	349	305	306	337	342	339	296	267	252	261	276	304	294	274	257
Western Pacific																
Average load factor	26.2%	31.1%	30.8%	28.7%	26.2%	25.2%	25.8%	24.7%	24.3%	24.5%	25.6%	29.9%	29.2%	29.8%	29.6%	29.0%
Passenger miles/passenger carrying car-miles	18.9	21.7	21.5	19.6	17.9	17.9	18.3	17.5	17.2	18.0	19.1	19.1	18.8	18.9	18.8	19.0
Passenger miles	129,827	151,519	151,285	145,938	115,120	118,173	121,268	113,315	112,603	109,649	115,168	109,155	109,109	104,332	110,133	111,368
Passenger carrying car-miles	6,861	6,996	7,044	7,445	6,447	6,608	6,631	6,481	6,551	6,088	6,033	5,714	5,818	5,522	5,847	5,844
Average capacity of passenger car	72.0	69.7	69.7	68.2	68.2	70.9	70.9	70.9	70.9	73.4	74.5	63.8	64.4	63.4	63.4	65.6
Aggregate capacity of passenger cars	2,376	1,464	1,464	1,296	1,296	1,064	1,064	1,064	1,064	1,028	894	510	644	634	634	586
Passenger car units in service	33	21	21	19	19	15	15	15	15	14	12	8	10	10	10	9

* Data for 1950-61 include Texas & New Orleans Railroad, which was merged into Southern Pacific, November 1, 1961.

Sources: U.S. ICC, Annual Report of the . . . to the Interstate Commerce Commission for the Year Ended December 31, . . ., 1950-65.
U.S. ICC, "Revenue Traffic," Form OS-B, 1964, 1965.
U.S. ICC, "Revenue Traffic," Form OS-D, 1950-63.