

Chapter Ten

The Transportation Industry in Transition —The 1960s

Introduction

Growth in the nation's Gross National Product (GNP), changes in economic trends and shifts in social attitudes resulted in a rearrangement of national transportation markets. Unable to adjust rapidly because of regulatory and structural restraints, railroads suffered percentage losses in their shares of passenger miles and revenue tonnage, relative to other modes, in an expanding national market. Failing to improve their financial condition through rate increases, they turned to mergers as a possible solution. Stimulated by construction of four-lane interstate highways and improved primary roads, motor carriers more than doubled their tonnage and became a dominant factor in agricultural movements. Increased grain exports and heavier bulk traffic supported inland water carriers. Pipelines evolved into the major carrier of energy-related traffic. Intermodalism, in the form of rail-truck combinations, provided a new coordinated system by combining the inherent advantages of each mode. Urban transport programs and airport expansion were assisted by federal programs involving comprehensive planning by states and municipalities for orderly development of private and commercial passenger systems. New transport programs were subjected to impact statements for all federal-aid projects affecting the quality of human environment. The changing nature of modal operations and relationships, under uneven regulatory rules and unbalanced public expenditures, raised serious policy questions as conflicts arose between economic and social goals and objectives for transportation development in the nation and the states.

Changes in the Transportation Markets, Gross National Product and the Modal Shares

The GNP almost doubled during the decade, rising from \$503 billion in 1960 to \$982 billion in 1970, and transportation outlays continued at 20 percent of the total. Measured by tonnage carried, the domestic intercity freight market grew by 63.4 percent between 1950 and 1970. The railroad share dropped from 46.7 percent to 31.3 percent whereas trucks, regulated and unregulated, and liquid pipelines showed the greatest percentage gain. Water carriers showed a rather

consistent trend. Passenger-miles more than doubled. In the private sector, automobiles accounted for 86 to 90 percent of the total. In the public sector, commercial airlines increased their share from 1.8 percent in 1950 to 9.8 percent in 1969; bus travel declined, then remained constant during the 1960s. The railroad passenger share of 6.5 percent in 1950 was 1.1 percent in 1969. By 1970, railroads operated 547 intercity trains, down from approximately 20,000 in 1920. Part of the decline could be traced to the erosion of mail and express movements as the result of curtailment of passenger service; part to the shift of railway mail to highway and air carriers and the influence of jet aviation. From 64.1 million ton-miles reported by domestic air carriers in 1951, mail traffic increased to 670.5 million tons by 1970. The nation was becoming highway and airway oriented as automobiles and trucks dominated intercity and urban transportation, and scheduled airlines moved the bulk of the nation's mail and commercial passengers (Tables 10-1 and 10-2).

Railroads were unable to adjust rapidly to changing markets. The basic network had been built by the turn of the century and was attuned to patterns of economic activity at that time. Much of the freight market growth was in commodities suitable to carriage by other modes. Less-than-carload and medium to short distance traffic shifted to highway carriers, and increased transport of natural gas, oil and petroleum products was handled more cheaply by pipeline and water carriers. The rate of return on railroad average net investment fell from 4.22 percent in 1955 to 1.97 percent in 1961, representing the lowest level of earnings since mid-depression years. The return rose to 3.90 percent in 1966, then dropped again to 1.79 in 1969.

The long series of rate increases in the 1950s continued through 1960-1961, and additional proposals were approved between 1967 and 1972. But the rate advances did not materially improve finances and led to questions as to whether the industry could reverse the decline over the past 40 years. The deterioration and eventual disappearance of city street car systems and electric interurbans began simultaneously with the decline of railroads. This was brought about by the greater flexibility of motor carriers and freedom from the heavy fixed investment of the railroads. Another reason for pessimism concerning the railroads' future was the fact that their depressed condition was reached during periods of relatively uniform national prosperity. Suggestions of increasing reliance on market mechanisms as a means

of slowing or reversing the railroad situation was partially met by regulatory reform measures in the federal legislation of the 1970s.

Table 10-1
Domestic Intercity Tonnage by Modes, 1950, 1960-1969
(In Percentages)

Year	Railroad Class I & II	Trucks ¹	Oil Pipelines	Water ²	Air	Total Tons ³
1950	46.7	26.1	9.3	17.9	.4	3,043
1960	36.1	32.7	13.0	18.2	.6	3,606
1961	34.0	35.7	13.1	17.2	.8	3,699
1962	33.4	36.6	12.9	17.1	.9	3,885
1963	32.4	36.2	12.5	18.9	1.0	4,164
1964	32.5	38.2	12.8	16.4	1.2	4,364
1965	33.3	37.0	13.3	16.4	1.4	4,435
1966	33.1	37.2	13.5	15.9	1.7	4,681
1967	32.3	37.3	14.2	16.5	1.9	4,792
1968	31.3	37.3	15.0	16.4	2.4	4,849
1969	31.2	36.5	15.3	16.9	2.6	4,973

(Source: Transportation Association of America, *Transportation Facts and Trends*, 14th Ed. Washington, D.C., July, 1978: 10.)

¹ Regulated and non-regulated trucks.

² Includes Rivers, Canals, Great Lakes and Deep Sea traffic.

³ In millions of tons. Total percentages may be slightly higher than 100 percent because of rounding of figures.

Table 10-2
Intercity Travel by Modes, 1950, 1960-1970
(In Percentages)

Year	Private Carrier				Public Carrier				
	Auto	Air	Total Miles ¹	%	Air	Bus	Rail	Total Miles	%
1950	87.0	.2	439.1	87.2	1.8	4.5	6.5	64.5	12.8
1960	90.4	.3	708.4	90.7	4.1	2.5	2.8	72.6	9.3
1961	90.4	.3	715.9	90.7	4.1	2.6	2.6	73.1	9.3
1962	90.3	.3	738.6	90.6	4.3	2.7	2.2	76.8	9.4
1963	90.1	.4	769.3	90.5	4.6	2.6	2.2	80.5	9.5
1964	89.8	.4	805.5	90.2	5.1	2.6	2.1	87.2	9.8
1965	89.2	.5	822.1	89.6	5.9	2.6	1.9	95.1	10.4
1966	88.5	.6	862.1	89.1	6.6	2.5	1.8	105.6	10.9
1967	87.5	.7	896.8	88.2	7.9	2.4	1.5	120.4	11.8
1968	87.1	.8	944.6	87.8	8.6	2.3	1.2	130.8	12.2
1969	86.1	.8	985.8	86.9	9.8	2.2	1.1	148.3	13.1

(Source: Transportation Association of America, *Transportation Facts and Trends*, 14th Ed. Washington, D.C., July, 1978: 18.)

¹ Total miles are in billions of passenger-miles.

Determinants of the Total Freight Market

Five factors or trends were generally considered as major determinants of the national freight market. These were: (1) total population which had increased by 52 million between 1950-1970; (2) changing geographic distribution of population, shifting regionally and from rural to urban communities; (3) economic activity as measured by the GNP index, which had almost doubled; (4) location of economic activity, which changed as populations relocated; and (5) exhaustion of natural resources close to historical population centers and the necessary development at more distant domestic and foreign sources. The latter trend was particularly important with regard to petroleum, coal, iron ore and lumber.

The Iowa Transportation Market in the 1960s Market Determinants

Iowa's transportation trends and changing market relationships followed the national pattern. Between 1960 and 1970 the population increased by 67,504 persons (2.4 percent), and a shift of five percent occurred in the rural-to-urban movement. Gross State Product (in current dollars) doubled from approximately \$6.2 billion in 1962 to \$12.4 billion in 1970, and per capita income rose from \$1,983 to \$3,751 during the same period.

Condition of the Railroads

In 1960, 10 Class I railroads (annual operating revenues of \$3 million) operated 8,300 miles of road and reported net earnings of \$13.8 million. At the close of 1968, nine railroads operated 7,864 miles of road, a decline of 436 miles. No comparable estimates can be given for net earnings since the Commerce Commission did not report operating expenses after 1964. Separation of operating revenues by categories of traffic showed "freight" and "other" with little or no change over the period, but substantial losses were noted in passenger, mail and express shipments (Table 10-3). Freight originations and terminations of Class I roads between 1950 and 1970 showed interesting trends. Tonnage originated increased by 73.4 percent, indicating a steady growth with yearly variations, whereas terminations were fairly constant, reaching a peak during 1966 and remaining at or near that level for the remainder of the 1960s (Table 10-4, Fig. 10-1). No analysis of traffic by commodity classifications was possible, as data on these movements was also discontinued after 1964. Revenue passengers carried on Class I railroads and interurbans declined from almost five million in 1950 to 156,000 in 1970.

Table 10-3
Railway Operating Revenues Within Iowa, 1960-1969
(In millions of dollars)

Year	Freight	Passenger	Mail	Express	Other	Total
1960	\$183.0	\$10.3	\$ 9.1	\$ 2.7	\$ 2.7	\$207.8
1961	180.6	10.0	9.6	2.9	2.5	205.6
1962	181.3	10.0	8.6	2.7	2.5	205.1
1963	183.0	9.2	9.9	2.4	2.6	207.1
1964	184.5	8.7	8.5	2.6	2.5	206.8
1965	156.2	5.6	7.6	1.9	2.2	173.5
1966	167.4	5.3	6.9	1.9	2.2	183.7
1967	161.1	3.9	4.4	1.7	2.2	173.3
1968	167.6	2.9	3.7	1.1	2.0	177.3
1969	180.8	2.5	3.4	0.8	2.4	189.9
% change (Base year = 1960)	-01.2	-75.7	-62.6	-70.3	-11.1	-08.6

(Source: Iowa Commerce Commission, *Annual Reports*.)

¹ Figures rounded to the nearest unit.

Table 10-4
Revenue Freight Originated and Terminated on Class I Railroads
in Iowa, 1950, 1960-1970

Year Ending	Tons Originated (In millions)	Tons Terminated (In millions)
1950	15.8	21.4
1960	18.6	19.0
1961	19.2	18.8
1962	20.8	19.6
1963	21.6	20.3
1964	20.9	19.9
1965	22.4	20.6
1966	24.6	22.8
1967	23.0	22.1
1968	22.1	20.7
1969	24.3	22.5
1970	27.4	22.1

(Source: Iowa Commerce Commission, *Annual Reports*.)

¹ Figures rounded to the nearest unit.

Intermodal Relationships

Iowa followed national trends in modal relationships. Between 1960 and 1970, automobile registrations increased by 27 percent and trucks by 54 percent. Revenue freight carried by Class I motor freight operators (annual operating revenues exceeding \$200,000) more than doubled when data of carriers operating within and through the state were combined with those operating only in the state. The number of Class I liquid motor carriers increased from 22 in 1960 to 82 in 1969, and tonnage hauled from 20.8 million to 135.9 million tons in 1967. In 1969 the Ruan Transport Company of Des Moines hauled almost 50 percent of the Iowa tonnage reported. The company was the fourth-ranking liquid carrier in the nation. Agricultural traffic was by far the primary market for trucks in Iowa. Research studies on the transportation of agricultural commodities from Iowa between 1962 and 1967 showed that trucks hauled almost 17 million tons and railroads 12.3 million tons of corn, soybeans, livestock, processed meats and poultry products from origins in the state to domestic destinations and export ports.

Commercial traffic in the Rock Island District of the Upper Mississippi River increased from about 11 million tons in 1960 to 22 million in 1970. The district data included movements through Locks 10 to 22

(Guttenburg, Iowa to Hannibal, Missouri) and was the combined total for the states served by the district. On the Missouri, commercial traffic between Sioux City and the mouth showed a gain of over one million tons. The principal products transported on both rivers were grains and grain products, coal, petroleum and petroleum products, and sand and gravel. Oil pipeline mileages were not available through commission reports, but an analysis of permits approved indicated a continuous expansion of oil and oil product lines. Additional mileages were built for anhydrous ammonia by Mapco, the Santa Fe Pipeline System and the Hydrocarbon Transportation Company.

Equipment Shortages

Historically, Iowa shippers have had difficulty in obtaining transportation equipment at harvest time. During the late 1960s the shortage changed from a seasonal to a chronic situation which reached serious proportions in 1969. Grain was piled on the ground because elevators were full, and emergency equipment such as open coal cars or boarded cattle cars were pressed into service. One major reason for the reduced availability was the rapid increase in commercial grain sales at the same time that the number of railroad-owned or leased box cars was

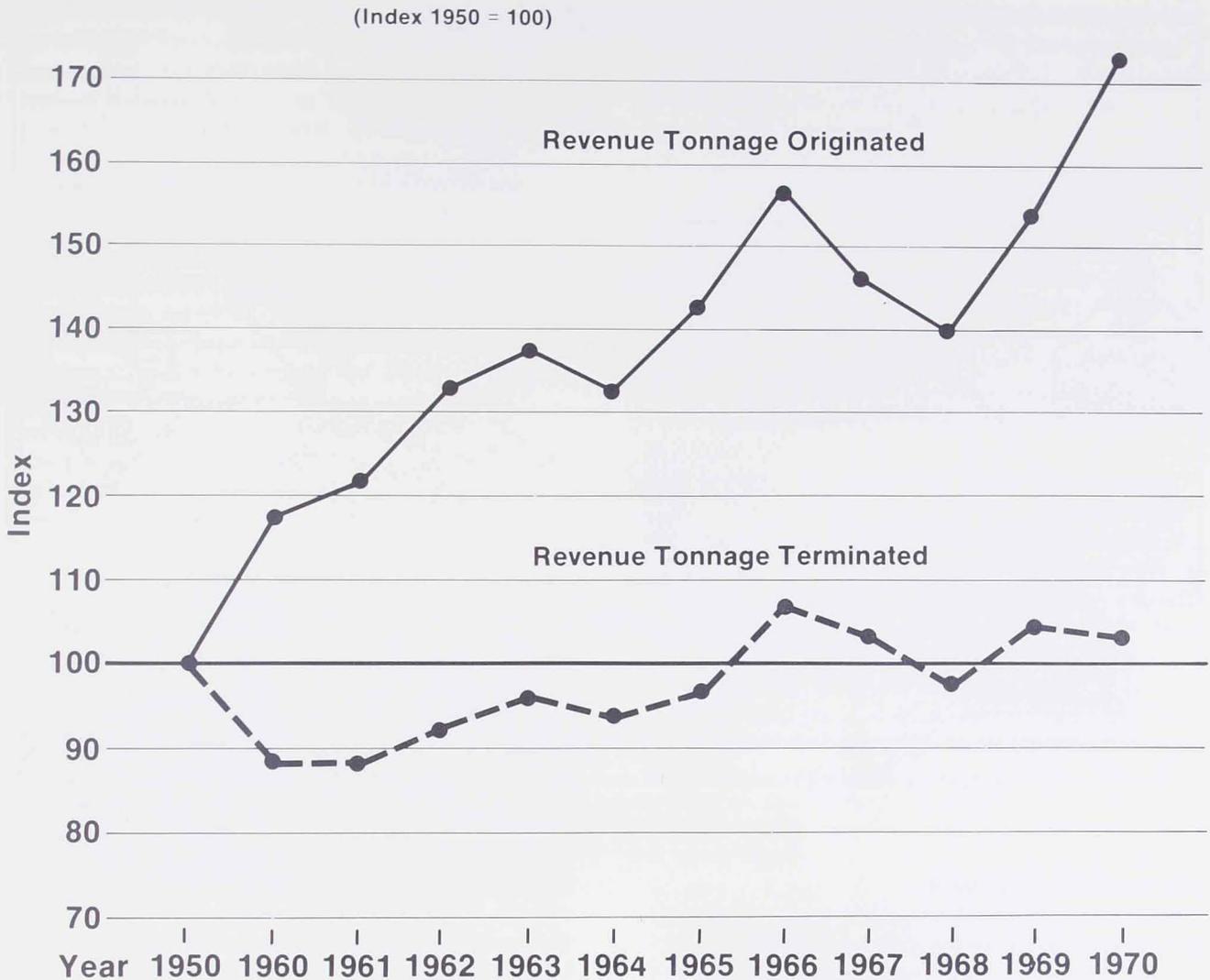


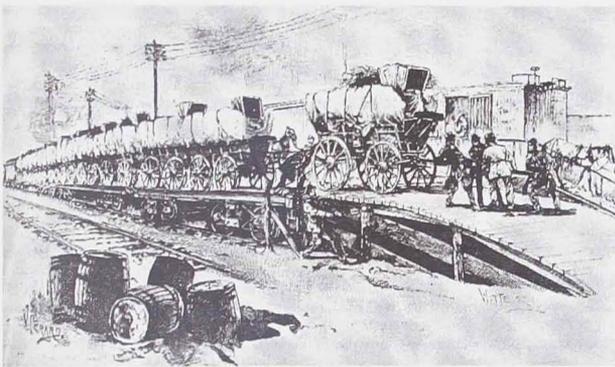
Figure 10-1
Graphic presentation of the revenue freight figures
shown in Table 10-4.

declining. Although the number of owned and leased hopper cars doubled during the decade, the total carrying capacity of all equipment fell from 36.4 million tons in 1960 to 31.2 million tons in 1969. It was difficult to distribute fewer cars to individual elevators in response to the increased demand resulting from new harvest methods which shortened the harvest season. Also, the reduction in railroad grain rates during 1965-1969, after the "Big John" rates were established, made long-haul truck transportation less competitive and led to a decline in the supply of trucks.

Changes in equipment availability had serious implications for the grain industry. Sales contracts specified dollar penalties for delayed shipments, and grain inventories had to be financed for the additional time required to obtain equipment. Once elevators reached capacity, the choices were storage elsewhere, the use of substandard equipment, purchase of private trucks, or sale to itinerant truckers. It was estimated that in 1969, excluding lost business, total costs due to lack of equipment and substandard services were \$3.6 million in Iowa.

TOFC service by January 1, 1955, originating 168,000 carloadings. Ten years later carloadings were up to one million (by 63 railroads) and reached the two million mark by 1978. In the annual reports of the Iowa Commerce Commission, TOFC and less-than-carload traffic were combined, preventing a trend analysis. TOFC ramp facilities in Iowa are found in Fig. 10-2.

Less visual forms of intermodal coordination in Iowa included combinations of truck, rail and water which developed in the 1970s. In 1979, over 10 million tons of Iowa waterborne commodities were distributed to or from the rivers by truck or rail. These combinations provided an opportunity to extend service and lower transportation charges by combining the flexibility and low cost pickup and delivery of the motor carrier with the low cost rail or barge haul.



Early Piggybacking.
Farm wagons carried into New York City
in the late 1800s on flat cars
belonging to the Long Island Railroad.
(Source: Ingersal-Rand "Compressed Air", July, 1957.)

The Movement Toward Railroad Mergers

The Issues

It was to mergers and/or acquisition of control that the carriers turned as a possible solution to their financial troubles. Mergers were not new in the railroad industry. Historically, they were end-to-end combinations to broaden the network, increase profits through economies of scale and acquire personal fortunes for the "Empire Builders." Between 1884 and 1888, some 425 consolidations occurred, and it was reported that 6,000 separate railroad companies were operating in the United States; reduced substantially

to about 480 in the 1950s which accounted for 50 percent of the nation's mileage. The Burlington was said to have been a combination of 200 separate roads and the Pennsylvania System one of over 600 individual organizations.

The purpose of mergers was to reduce operating expenses and eliminate excess capacity, provide greater control of car supply and distribution, and under specialized management make possible economies in purchasing and credit arrangements. Achieving these objectives was expected to benefit the public by improved service and lower rates. The AAR reported that between 1955 and 1972 there were 55 mergers proposed of which 38 had been approved, nine were withdrawn or denied, and four were pending.

The greatest difficulties faced by the ICC in merger cases were the issues of competition and monopoly. Neither the commission nor Congress had developed criteria for determining the extent of competition, the types and numbers of systems to create, and whether the individual merger was in the public interest. It was the omission of these guidelines that led to the introduction of a bill in 1962 which would have declared a moratorium on railroad mergers until the end of 1963, and it would have made Section 7 of the Clayton Act applicable to future mergers. The bill never reached the floor of Congress for a vote. The initiative of a railroad in proposing unification meant that each case was decided on its own merits without positive guidance. This was a possible violation of the principle laid down in the Northern Securities case: "that the interests of private persons and corporations cannot be made paramount to the interests of the general public."² The merger movement was a readjustment in the organizational and operational structures of the railroads. "What is involved here is a major adjustment of an indispensable industry which is necessary because of the development of other modes of transportation . . . Furthermore, it is an adjustment which the industry alone in all likelihood cannot accomplish soon enough to avoid penalizing the economy and the defense of the Nation."³

² 193 U.S. 197 (1904).

³ United States Senate Committee on Commerce, Special Study Group on Transportation Policies in the United States, 86th Congress, *National Transportation Policy*, (Doyle Report), Washington, D.C.: U. S. Government Printing Office, 1961, pp. 266-267.

The issues were debated far and wide by carrier executives, ICC staff personnel, shippers, academicians and politicians. Professor Kent T. Healy contended that diseconomies were encountered when railroad size increased to more than 10,000 employees, rebutted by John Barriger, a railroad executive. The failure of the ICC to deal with consolidation proposals through determination of economic principles by which the mergers could be evaluated led the ICC's Bureau of Economics and Statistics to note that "no voice speaks before the Commission for the public as a whole in consolidation cases."⁴ The question related to how much rail competition was necessary to protect the public interest. Should the ICC, in the exercise of policy leadership, decide on a single national system, balanced regional systems, regional rail monopolies or maintain competition with relatively numerous railroad systems? The consensus appeared to favor balanced regional systems.

While the debates continued, strong opposition came from those concerned with elimination of railroad competition, the future of competing lines and those interchanging roads not included, loss of service to communities affected and reduction in railroad employment. Decisions in the merger cases seemed to indicate that the ICC was not unduly concerned with intramodal competition but rather was intent upon developing regional systems to strengthen intermodal competition. This was supported by the report of the examiner in the CNW-CMStP&P proposal: "Our conclusions on this road must be that intramodal competition pales into insignificance. All the railroads do today is conditioned by intermodal competition. Railroads are not engaged in a struggle for primacy among each other; they have been engaged in a fight for survival with other modes of transportation, principally trucks and barges."⁵

In the opinion of Ben W. Heineman, chairman of the CNW, the merger proposals of the 1960s would have more widespread and lasting economic effects than any other business trends of the decade. Nationally, the two most important mergers approved were the Penn-Central in the East in 1968 and the Burlington-Northern in the West in 1970. The first proposed a route structure of 20,000 miles with anticipated annual operating revenues of \$2 billion; the second, a structure of 27,000 miles and \$1 billion in annual operating revenues. But merger proposals were not confined to railroads. The American Trucking Association (ATA) reported in 1968 that 115 mergers

had occurred in the motor carrier industry between 1957 and 1967.

Merger Activity of Railroads Serving Iowa

All major railroads serving Iowa were involved in mergers or acquisition of control in one way or another, beginning with the proposal to consolidate the CB&Q with the NP and GN railroads in 1961. The Iowa Commerce Commission initially opposed but later approved it subject to certain protective traffic conditions suggested by the CNW and CRI&P. Endorsement was also given by firms, shipper associations, Chambers of Commerce and Governor Erbe. In 1963, the Norfolk and Western (NW) proposed merger with the Nickle Plate (New York, Chicago & St. Louis) and a lease of the Wabash lines which operated 192 miles of road in Iowa. In 1964, the CNW and CGW filed for merger, approved in 1968. That same year the UP filed for authority to acquire control of the CRI&P and its subsidiaries and to merge the properties and franchises into its firm. A Plan and Agreement had been drawn on June 27, 1963, contemplating this merger. On July 5, the CNW filed for authority to acquire the CRI&P through stock ownership as a first step in the complete unification of the two lines.

Now the situation really became complicated. In 1965 the AT&SF entered into an agreement with the CNW providing that upon approval of control of CRI&P, the lines south of Kansas City would be purchased except for those from Kansas City to Tucumcari, New Mexico, and trackage rights would be granted between Kansas City and St. Louis. Earlier that year the SP had applied for authority to purchase part of the CRI&P properties upon merger with the UP (Fig. 10-3). On June 19, 1966, the CNW and CMStP&P filed a joint application for authority to consolidate properties and franchises into the Chicago,

⁴ Interstate Commerce Commission, Bureau of Economics and Statistics, *Railroad Consolidations and the Public Interest*, Washington, D.C.: U. S. Government Printing Office, March, 1962, p. 1.

⁵ Finance Document No. 24182, Brief of Applicants North Western and Milwaukee to Examiner Henry C. Darmstadter, Washington, D.C.: April 26, 1968, p. 181.

Milwaukee and Northwestern Transportation Company, denied in 1970. Stock ratios agreed upon by the parties were considered inequitable by the ICC, and the merger was not approved.

The CNW and UP proposals for takeover of the CRI&P, as well as requests for purchase of certain of their properties, were consolidated into one docket and decided in 1974. Almost 11 years had passed since the case was filed, and it had become the lengthiest and most complex case ever considered by the ICC. Included were 16 separate proceedings affecting virtually every state and major railroad west of the Mississippi River, thousands of shippers, communities and public bodies. The administrative law judge who conducted the hearings concluded that the merger could be approved only if the entire railroad system in the western half of the nation would be restructured. The ICC's decision did not go that far, but it was necessary to impose numerous protective conditions for carriers who would be adversely affected. However, subsequent to the report and order of the commission, the CRI&P filed for reorganization under Section 77 of the Bankruptcy Act and the UP withdrew from the case. Other railroads continued to be interested in acquiring portions of the CRI&P properties.

Michael Conant viewed railroad consolidation as a movement in which the underlying issues were excess capacity and overinvestment. In his interesting discussion, he used six roughly parallel lines operating in the 1960s between Chicago and Omaha as an example of excess capacity on main railroad lines

with parallel routes between major population centers (Table 10-5).

Des Moines was considered as the center of Iowa, and distances were measured north and south from the CRI&P, the most direct line across the state. Less than 100 scheduled freight and passenger trains were running on the Iowa segment of these lines. In a state so well supplied with paved highways, it seemed logical to conclude that investment in six mainline carriers represented substantial excess capacity. This was the thrust of CNW's parallel line merger proposals involving the CGW, CRI&P and CMStP&P railroads. If approved, the number of carriers would have been reduced from six to three, a number considered able to handle the east-west traffic of the larger cities and, with north-south connections, provide efficient services for the smaller communities.

Changing transportation technology and regulatory policies have been primary reasons for overinvestment in railroads. Parallel lines, even over short distances, were profitable before highway, water and air competition became intense. Disinvestment for reasons of rate competition and diversion of traffic were made partially through branch line abandonment, but rationalization of mainlines was difficult under economic and regulatory restraints. Technological developments, including dieselization of power, central traffic control and electronic yards tended to reduce operating expenses but also served to increase investment and excess capacity of the properties in the face of a stable or declining market.

Table 10-5
Parallel Railroad Lines Between Chicago and Omaha

Carrier	Length of Line Chicago to Omaha (miles)	Distance from Rock Island Line at Des Moines (miles)
CB&Q Railroad Company	496	42, south
CRI&P Railroad Company	493	---
CNW Railroad Company	488	23, north
CMStP&P Railroad Company	488	33, north
IC Railroad Company	515	67, north
CGW Railway Company	508	84, north

(Source: Michael Conant, *Railroad Mergers and Abandonments*, Table 5: 17.)

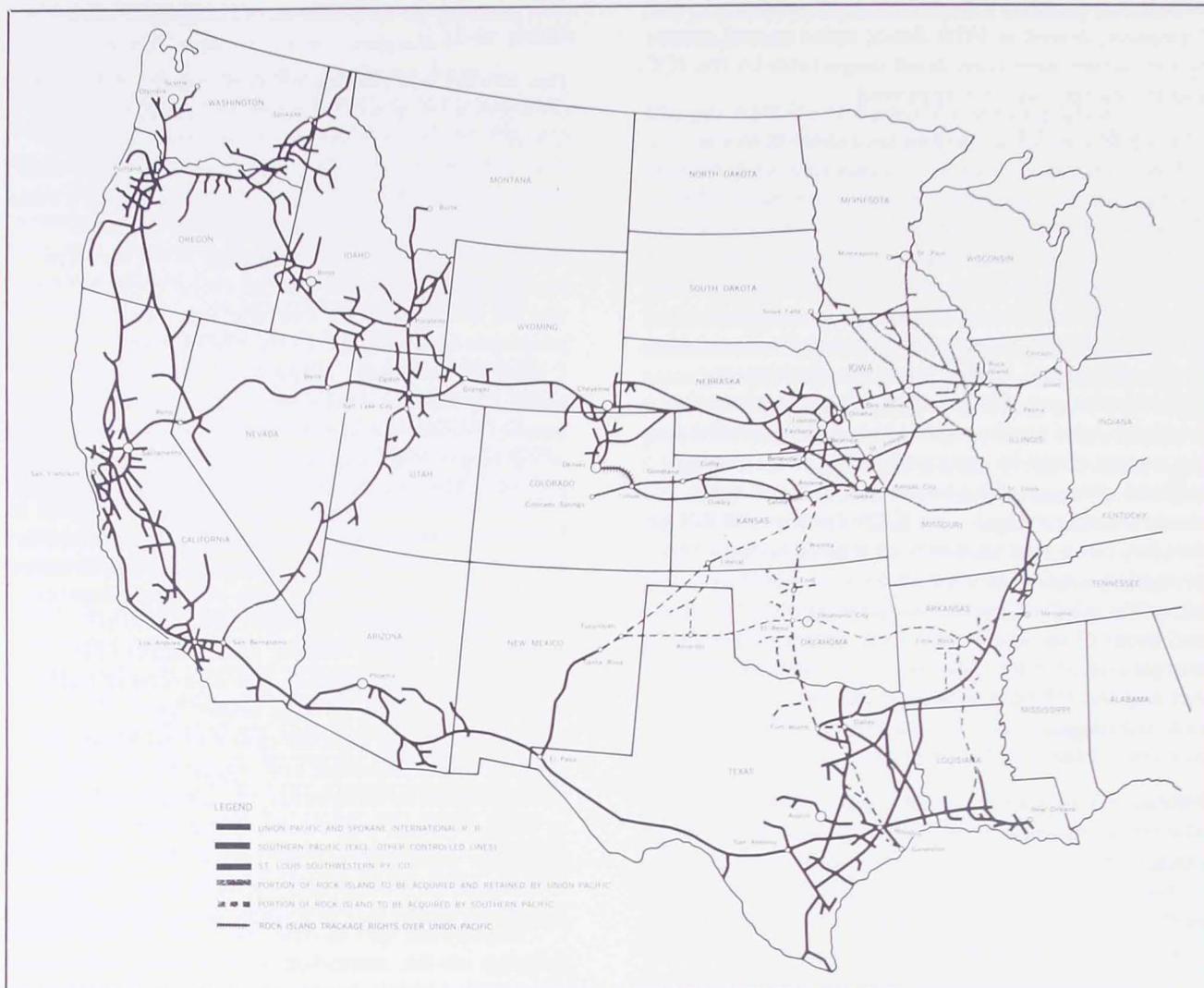


Figure 10-3
 Railroads involved in the Union Pacific/ Chicago, Rock Island & Pacific merger proposal.
 (Courtesy: Chicago & North Western Railroad)

Public Transit

In 1968, legislation provided for federal matching grants for projects affecting capacity and safety for urban areas (TOPICS). Included in the funding were improvements in traffic control and fringe parking outside the central business district but adjacent to federal-aid highways and coordinated with planned transportation facilities. Also, 1,500 miles were added to the interstate system and the deadline for completion extended to 1974, later to 1977. The increase in statewide planning in the immediate

postwar years included planning for urban areas, and the rate of road construction greatly accelerated after the 1956 federal legislation. From 1960 to 1970, municipal highway mileage had increased by 28 percent, marking a significant development in urban transportation. Despite the trend of people moving to the suburbs, the central cities of large metropolitan areas were still considered the focal point of the local transportation network, consisting of privately owned and operated transit systems and automobiles. But motor and trolley buses, railway commuter trains and

rapid transit lines could not keep pace with the heavier automobile traffic on the newly built freeways through the cities, and declining patronage and high fares contributed to transit insolvencies. Before 1960, there was little or no federal or state promotion of urban transit systems. Urban and traffic congestion, pollution, energy matters, deficient mass transit and reduced ridership were familiar problems to most urban residents.

Although experimental projects were authorized in 1961, the major legislative effort was made in 1964 through passage of the Urban Mass Transportation Act. The purpose was to assist in the development of improved transit facilities, equipment, techniques and methods and to encourage planning and establishment of private and public companies. An appropriation of \$375 million was authorized for state and local communities to finance up to two-thirds of the net project costs—that part of total costs unable to be covered by local revenues. Fare revenues could not be used as local matching funds, only for reduction of gross project costs. Federal funds could be used for a variety of capital expenditures such as right-of-way, structures and equipment but not for operating expenses. Eligibility required the design of an urban transit system coordinated with highway development and embracing an overall plan for the urban region or area. The objective was to plan mass transit programs to complement rather than compete one with the other. Under certain critical emergency conditions where communities faced a loss of service, federal aid would be supplied on a 50-50 matching basis. Low interest loans were also available. Administration of the program was placed in the Federal Housing and Home Finance Agency, later in the new Department of Housing and Urban Development, and finally in the the Urban Mass Transit Administration of the Department of Transportation.

An Urban Department was established by the Iowa Highway Commission in 1959, and during its first year 22 projects totaling 17 miles of improvements on primary extensions in cities and towns were completed. Between 1961 and 1969, approximately \$135.2 million was spent on urban improvements and urban interstate highways. Under the Federal Aid Act of 1962, the state had to prepare a comprehensive plan for metropolitan cities of more than 50,000 population. Plans and supplemental studies were made for Des Moines, Cedar Rapids, Sioux City, Waterloo, Davenport, Council Bluffs and Dubuque.

The Federal Department of Transportation

In 1966, the Department of Transportation was created by Congress to be headed by a Secretary of Transportation with Cabinet rank. It exercised no regulatory authority over the various modes except for matters of safety, where it had extensive powers. Rather, the legislation brought under one administrative unit the many governmental activities relating to transportation, formerly the responsibility of other agencies and departments. Exceptions were the Federal Maritime Administration, which under strong opposition from maritime interests, remained in the Department of Commerce, and the Army Corps of Engineers. The department was expected to function in areas of transportation policy, encouragement of transportation coordination, and development of criteria for investment of public funds in transport facilities, although in the latter instance their responsibilities were limited under provisions of the act. In the Airport and Airway Act of 1970, the Secretary was given a specific mandate in the field of planning and coordination. He was required to formulate and present to Congress for approval “a national transportation policy.” Two statements on policy issues and recommendations were submitted in 1971 and 1975. Intervention by the Secretary in cases before regulatory commissions was authorized when questions of policy were involved. When the Secretary did so he had the same standing as any other parties to the proceeding.

Social and Environmental Concerns

Although sociological and environmental issues concerned all phases of our national existence, this discussion pertains primarily to highway progress but recognizes that any policies directed toward highway transportation would also have an impact on other transportation and non-transportation developments. The early environmental problem for the traveler was mud in rainy weather and dust in dry periods, especially in the rural areas. Urban transportation was geared to horse-drawn vehicles, and city streets were the depository of manure and dead animals which were blamed as the chief offenders for the outbreak and spread of epidemics of cholera, smallpox, yellow fever and typhoid. The motor vehicle gradually reduced the sanitation problems but did not solve dust pollution in the late 19th and early 20th centuries. “The dust raised by an automobile, when running at a rate of less than twenty miles an hour, is not worse than that raised by many wagons,

but when this limit is exceeded, the automobile becomes a dust nuisance.”⁶

Crude oil or absorbent salts were used to control dust, and when these methods were considered too expensive, water was recommended. As new types of road surfaces became available, health factors were minimally included in the criteria for selection. Roadside beautification or scenic betterment was periodically suggested by 1915, and tree planting and billboard control were advocated in 1930. In 1938, the Federal Aid Act included approval for the use of construction funds to cover costs of roadside and landscape development, but it was not until the Highway Beautification Act of 1965 that states really took advantage of this permissive legislation. An awareness of hazards caused by vehicular emissions and poor air quality developed in the 1960s. Smog in large numbers of urban areas warned of future dangers and brought about a heightened environmental consciousness to people who increased demands for corrective action. Public hearings on environmental issues relating to bypass, freeway construction and interstate projects were required in the Acts of 1950 and 1958. Legislation in 1968 specified that social and environmental effects of such projects be considered and be consistent with the goals and objectives of urban planning.

The Federal Environmental Act of 1969 required impact statements to be prepared for all federal-aid projects affecting the quality of human life. In 1970, the Department of Transportation was requested to prepare and issue guidelines to assure that possible social, economic and environmental effects of proposed highway projects were fully considered and that the final decisions were made in the public interest. Results known as “Process Guidelines” aimed at influencing the methods by which highway projects were developed were issued in 1972. Each state highway agency was to prepare an Action Plan detailing the organizational arrangement, assignment of responsibilities and procedures followed in developing projects to conform to Congressional intent. By 1975, 52 of a possible 53 Action Plans were completed and approved for 50 states, Puerto Rico and the District of Columbia. Noise abatement and Air Quality Guidelines were also issued in the early 1970s. Public concern of social values in highway development occurred in 1962 through federal assistance to states and business firms for reimbursement of those displaced by highway construction. This federal assistance was broadened and extended in 1968. Another Act provided that

federal aid would not be approved for urban area projects unless they were based upon a continuing comprehensive planning process carried on cooperatively by states and local communities. In 1966, a national safety program was initiated by which matching funds were authorized for establishment of safety standards for motor vehicles. Thus, an awareness of environmental and sociological factors in road building was a gradual evolutionary process, for the original motivating force was in building highways to enable rapid movement from point to point. In earlier years these factors were either ignored or treated only when they became hazardous.

Highway Progress and Interstate Programs in Iowa

Transitional Trends

The 1960s were a period of transition in both State and Highway Commission Administration. Four Democratic and Republican Governors alternated in the Executive Office, beginning with Herschel C. Loveless and followed by Norman A. Erbe, Harold E. Hughes and Robert D. Ray. Governor Hughes had been a member of the Iowa Commerce Commission, and he and the others were vitally concerned and supportive of highway progress. At the Highway Commission, John Butter retired in 1960 and was replaced by L. M. Clauson as Chief Engineer. Under a staff reorganization, 21 departments and sections operated under three Divisions and six Operating Districts in 1960—a move designed to coordinate the activities of the departments into functional working groups. A steadily accelerating highway program prompted an addition to the main headquarters building in 1961, adding 60,000 square feet of working space to the original building. In the interim period of 37 years, the headquarters staff had increased from 100 to 800 employees and the Primary Road Fund had increased from under \$13 million in 1924 to \$95 million in 1961.

⁶ Quoted in *America's Highways* from “What New York State is Doing,” *Good Roads Magazine* (February 1908): p. 50.

Further administrative changes came on December 1, 1966, when Joseph R. Coupal Jr. was appointed the first Director of Highways. Among his responsibilities was the coordination of the work of the professional engineering staff with the Support Divisions and the six Operating Districts. Howard Gunnerson, the Chief Engineer and Deputy Director, was responsible for all professional engineering functions in development and operations. Staff reorganizations in 1968 increased the number of departments from 21 to 24, and further reorganization in 1969 increased the number to 26 (Fig. 10-4, 10-5).

These changes were considered necessary to meet the rapidly expanding traffic requirements of the state. Total annual daily traffic per mile of rural primary roads rose from 1,587 vehicles in 1960 to 2,113 in 1969, representing a gain of 33 percent, or 76 percent

when compared to the year 1950. Legislation passed by the General Assembly in 1958 required the commission to plan and publish a series of five-year primary road construction programs, the first of which covered the years 1960-1964. The commission was also given the privilege of reviewing the progress each year and adding one year's work annually to the programs. Four additional plans projected estimated funds available and expenditures through 1970. Sufficiency ratings were used as guides in programming road projects, providing a means of numerically evaluating tangible items affecting the adequacy of an existing section of highway or bridge. Points were assigned to existing features on a highway system and related to standards desired. An example is given in Table 10-6 for 1960-1961.



Anson Marston
Iowa State Highway Commission,
1904-1927



Thomas H. MacDonald
Chief Engineer, 1913-1919



Fred R. White
Chief Engineer, 1919-1952



Edward F. Koch
Chief Engineer, 1952-1954



John G. Butter
Chief Engineer, 1954-1960



L. M. Clauson
Chief Engineer, 1960-1966



Joseph R. Coupal Jr.
Director of Highway Division,
1966-1974



Howard E. Gunnerson
Director of Highway Division,
1975-1977

Table 10-6
Sufficiency Ratings for Primary Roads and Bridges, 1960-1961

Classification	Sufficiency Rating	Rural Primary (miles)	Municipal Primary Extensions (miles)	Bridges (No.)
Critical	0 - 49	3,322	258	394
Poor to Fair	50 - 79	2,168	478	1,716
Good	80 - 89	830	205	537
Excellent	90 - 100	2,267	113	725
Totals		8,587	1,054	3,372

(Source: Iowa Highway Commission, *Annual Report*, 1961.)

¹ Figures rounded to the nearest unit.

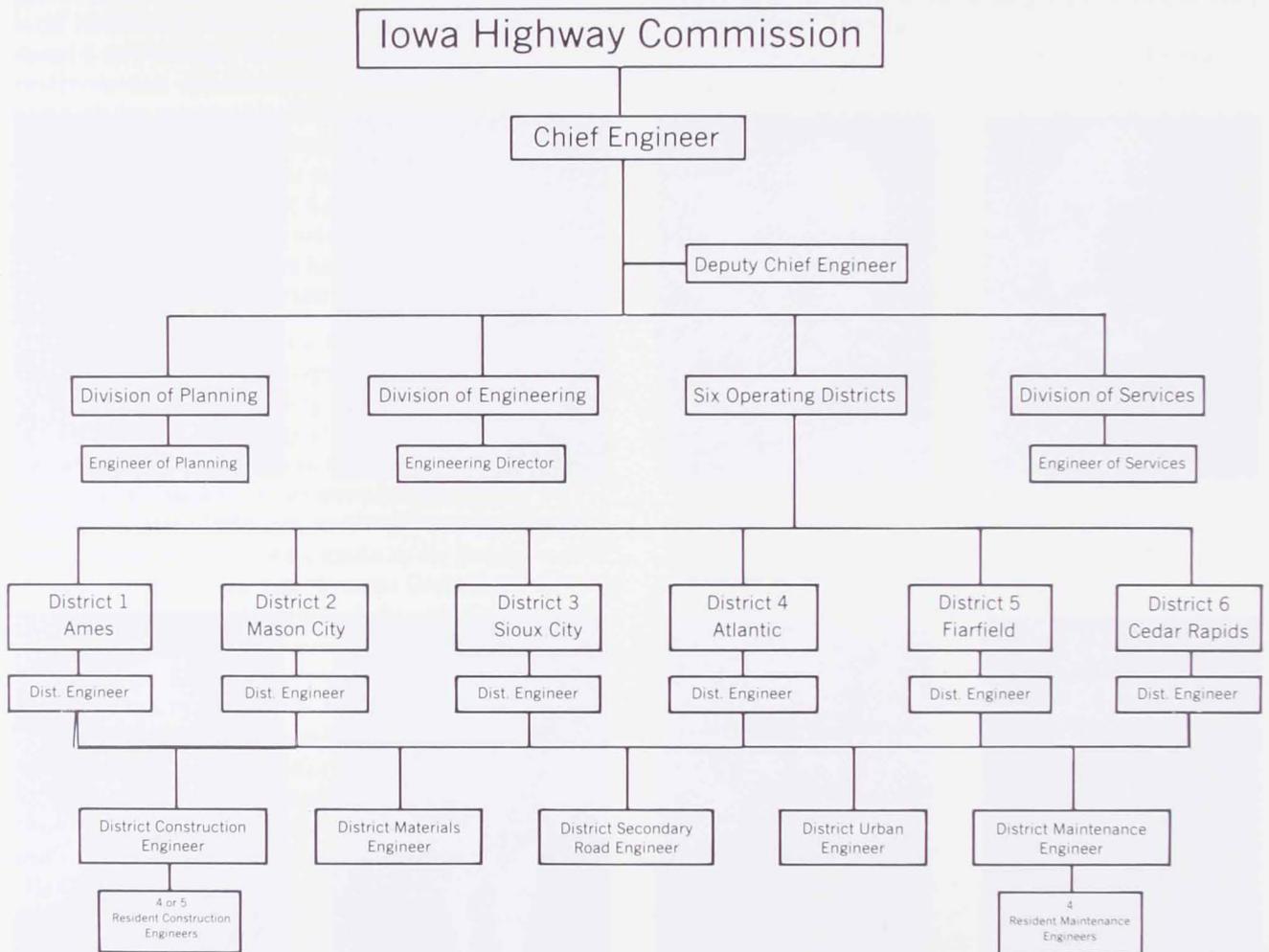


Figure 10-4
 Highway Commission organizational chart prior to 1966.
 (Courtesy: Iowa State Highway Commission)

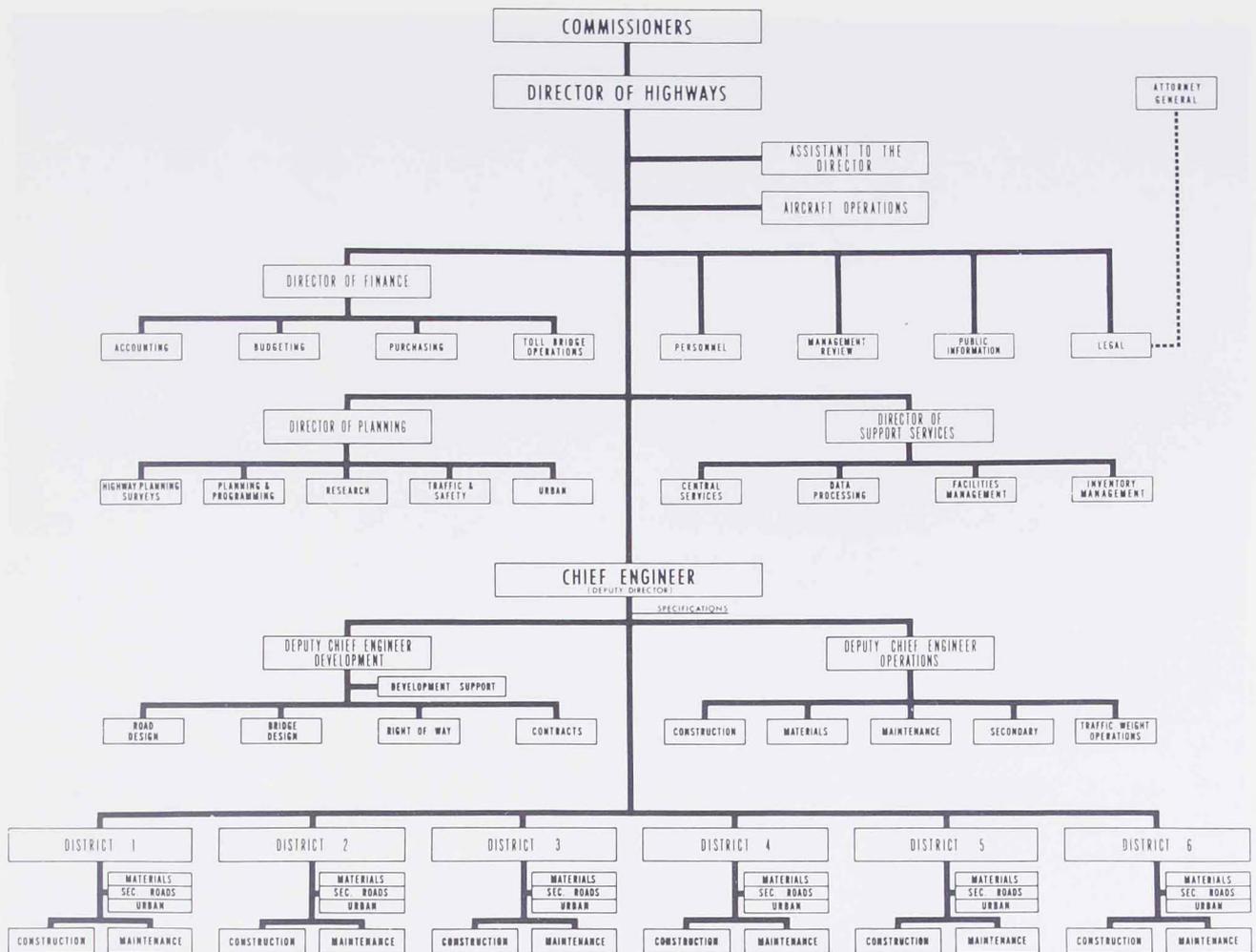


Figure 10-5
Highway Commission organization chart, 1969.
(Courtesy: Iowa State Highway Commission)

Interstate Highway Construction

From 1956, the commission allotted a major share of resources to the construction of the interstate roads in Iowa. With no four-lane highways or toll roads that could be incorporated, the state started from zero to design, acquire right-of-way and build a 710-mile ultra-safe highway system. Closing the gap between Grinnell and Iowa City in 1964 was probably the most spectacular effort that Iowa has seen in 50 years of road building, and it completed the work on Interstate 80 between Des Moines and Davenport. The 158-mile four-lane divided highway reduced driving time by one and one-fourth hours.

At Des Moines, Interstate 80 connected with Interstate 35, and fifty-four miles were built to Osceola, making 212 miles of continuous interstate open to traffic in 1964. To the north, 25 miles of Interstate 35 was under construction to Ames; in the west, 61 miles had been completed between Dexter and Atlantic. On Interstate 29, the road had been built between Onawa and Sioux City, and between Missouri Valley and State 480 (Fig. 10-6). Also under construction was the Des Moines Freeway (Interstate 235), a city connector and important link in the national system. Traffic needs in metropolitan areas required new highways to serve the central city as well



Interstate 235 in Des Moines.
(Courtesy: Iowa State Highway Commission)

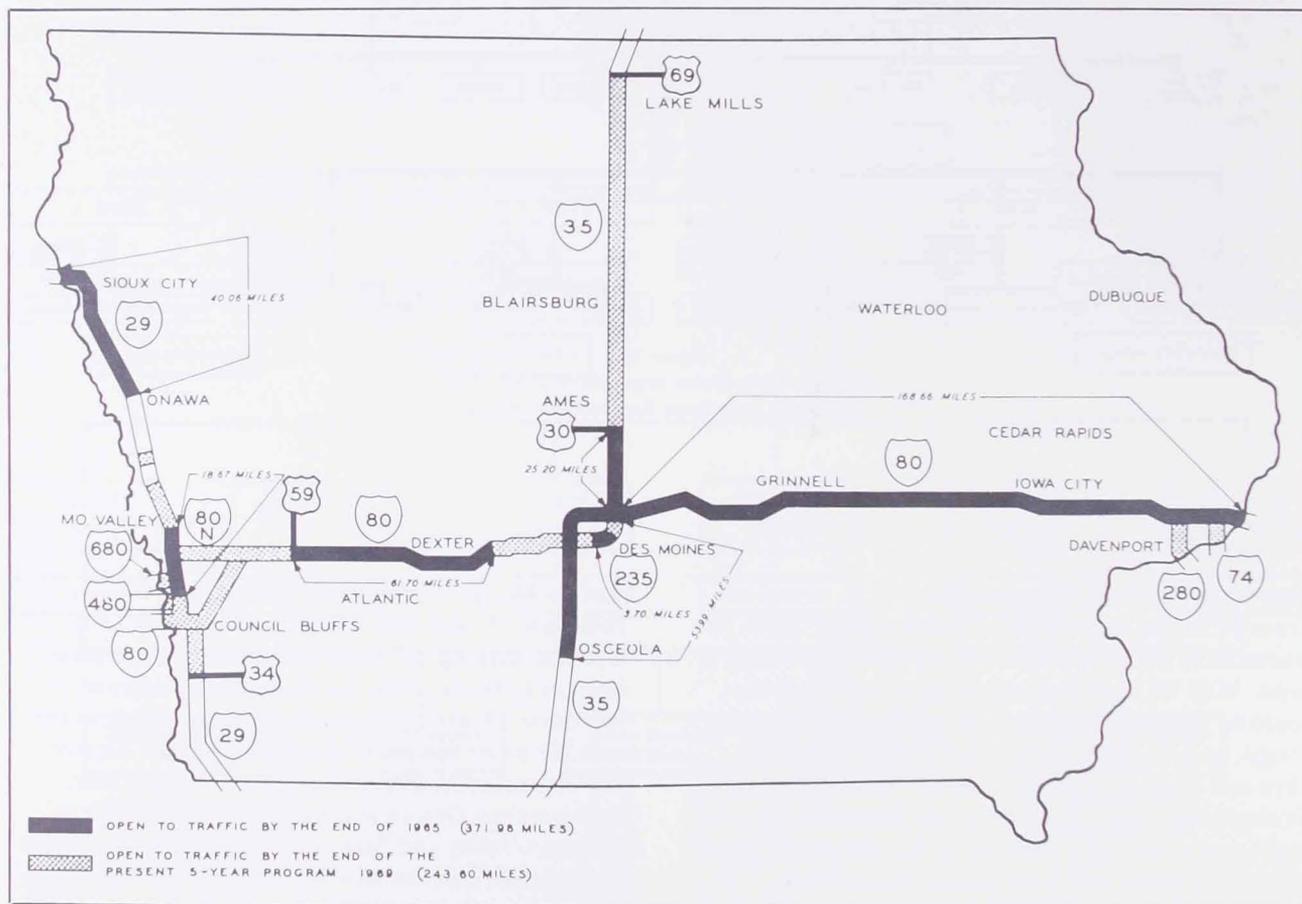


Figure 10-6
The Iowa four-lane interstate system in 1965.
(Courtesy: Iowa State Highway Commission)

as the peripheral sectors bypassing the cities. For these reasons, the national program provided for through-city freeways as well as circuitous roads.

By the close of 1968, Interstate 80 west to Council Bluffs, Interstate 29 north from Council Bluffs to Sioux City, and Interstate 35 north from Des Moines to Blairsburg were open to traffic, and the remaining segments were planned for completion in 1971 (Fig.

10-7). Iowa's share of the 1,500 miles added by Congress in 1969 to the national system would mean an estimated \$125 million in additional federal funds over the following five years. The funds would be used to construct a four-lane controlled access road from Iowa City to Waterloo and for a new interstate bridge over the Missouri River at Sioux City.⁷



Interchange of Interstate 380, U.S. 20 and U.S. 218 at southeast corner of Waterloo.
(Courtesy: Iowa Department of Transportation)

⁷ Iowa State Highway Commission, *1964 Annual Report; 1968 Annual Report; 1969 Annual Report*, Ames: Iowa State Highway Commission. One of the major concerns of the Highway Commission was snow and ice removal. The average annual snowfall in Iowa is 30 inches. This amount would cover a 160-acre farm to a depth of 938 feet and if loaded into railroad box cars with a capacity of 50 cubic yards each, the train would be 45,833 miles long and would extend twice around the world. Snow fences were erected on certain sections of the primary system. Salting, initiated in 1954 and spread on the roads at 500 pounds to the mile, covered 3,800 miles of primary and interstate highways in 1963, with 1,700 miles to be added in 1964.

Interstate Progress In Iowa

(Total Miles In System—710)

TIMETABLE To Open

Late 1968—10
 Late 1969—66
 Late 1970—59.5
 Late 1971—76.5

212.0 miles

1956—Estimated Construction Cost \$428,007,000
 Jan. 1967—Construction Cost to Date \$432,834,199
 Estimated Cost to Complete \$271,000,000

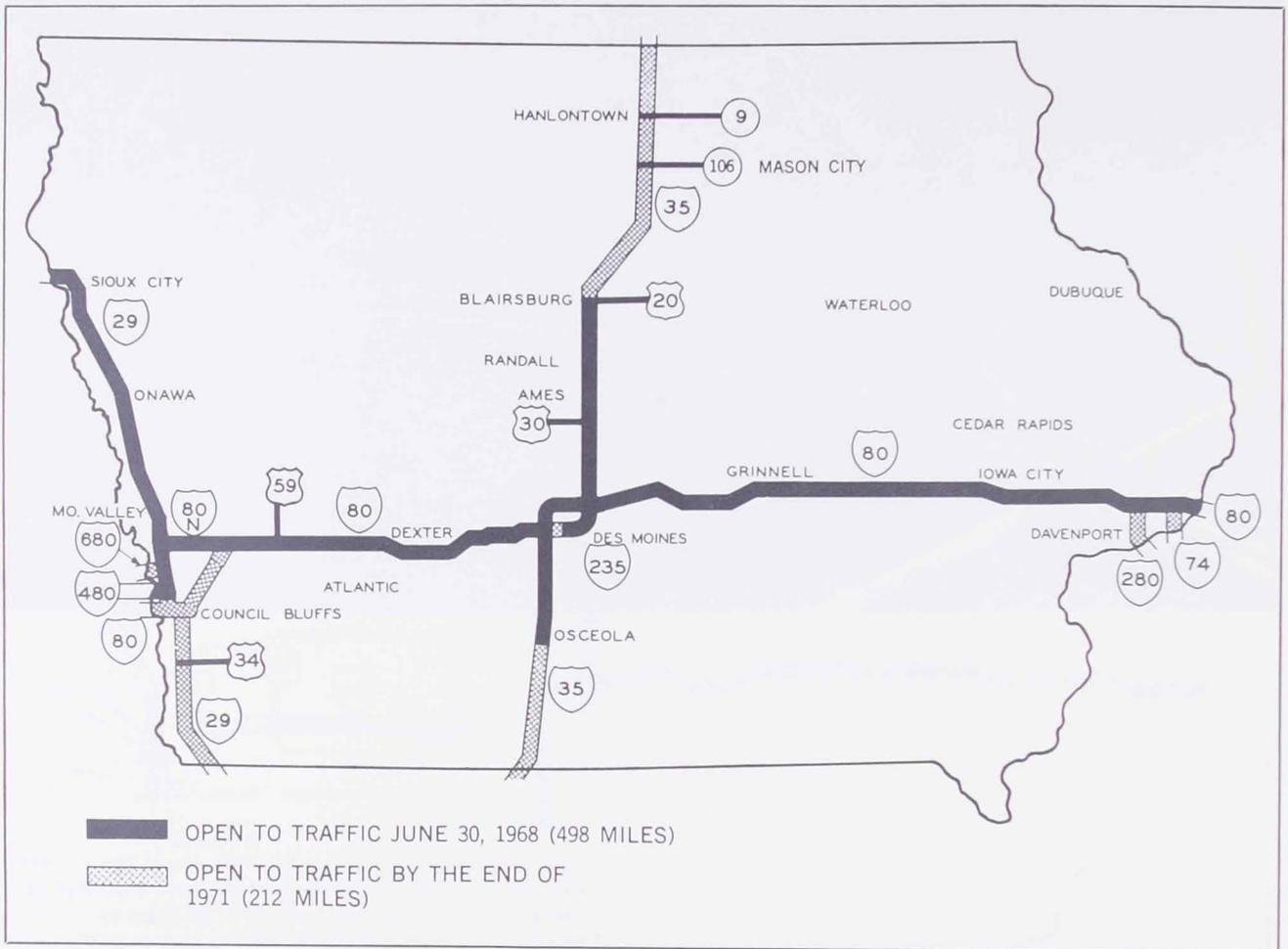


Figure 10-7
 Interstate progress in Iowa.
 (Courtesy: Iowa State Highway Commission)



An inadequate primary road bridge typical of the bridge problem that existed in the early 1960s.
(Courtesy: Iowa State Highway Commission)

Primary and Secondary Roads

Emphasis on interstate construction by no means diminished the pace of modernization and improvement of the state's primary and secondary road systems and expansion of support services. Primary road activity involved relocation of both federal-aid and state numbered roads.⁸ Primary extensions through urban areas embodied replacement of narrow brick or other surfaces with paved multi-lane roadways with curbs. Additional mileages on farm-to-market roads were graded and paved, and a more efficient system was adopted for marking highways. Of the almost 10,000 miles of primary roads, 907 miles were still 18 feet wide, and 206 miles were graded but not paved. In 1965 the General Assembly added one cent to the fuel tax,

expected to increase highway revenues by \$10 million, with one-half of the new funds earmarked for expansion of the program for widening roads and bridges then 20 feet or less in width.

In 1968, a Freeway-Expressway System was approved by the commission to serve traffic needs in the years following completion of the interstate program. The 833-mile Freeway System was designed for four-lane divided highways with access via interchange only, estimated to cost \$901 million. The 1,139-mile Expressway System was also designed for four-lane divided highways with access via interchange and selected public road connections at grade. The estimated cost of construction was \$889 million (Fig. 10-8).

⁸ Iowa State Highway Commission, *1964-1965 Annual Report*, Ames: Iowa State Highway Commission, 1965, p. 15. The reconstruction of Iowa 150 between Fayette and West Union was interrupted by the discovery of three graves on the new right-of-way. It was alleged that a man, woman and child died at the Half Way House, four miles north of Fayette or were murdered in the 1860's and buried 1,000 feet from the Inn. None of these stories were verified. The graves were moved in April, 1965, under the supervision of the Commission Resident Engineer to Grandview Cemetery in Fayette. A simple bronze plaque placed on the headstone reads: "Three members Pioneer Family Died Enroute, 1868, Reburied 1965 by Order of the Court."

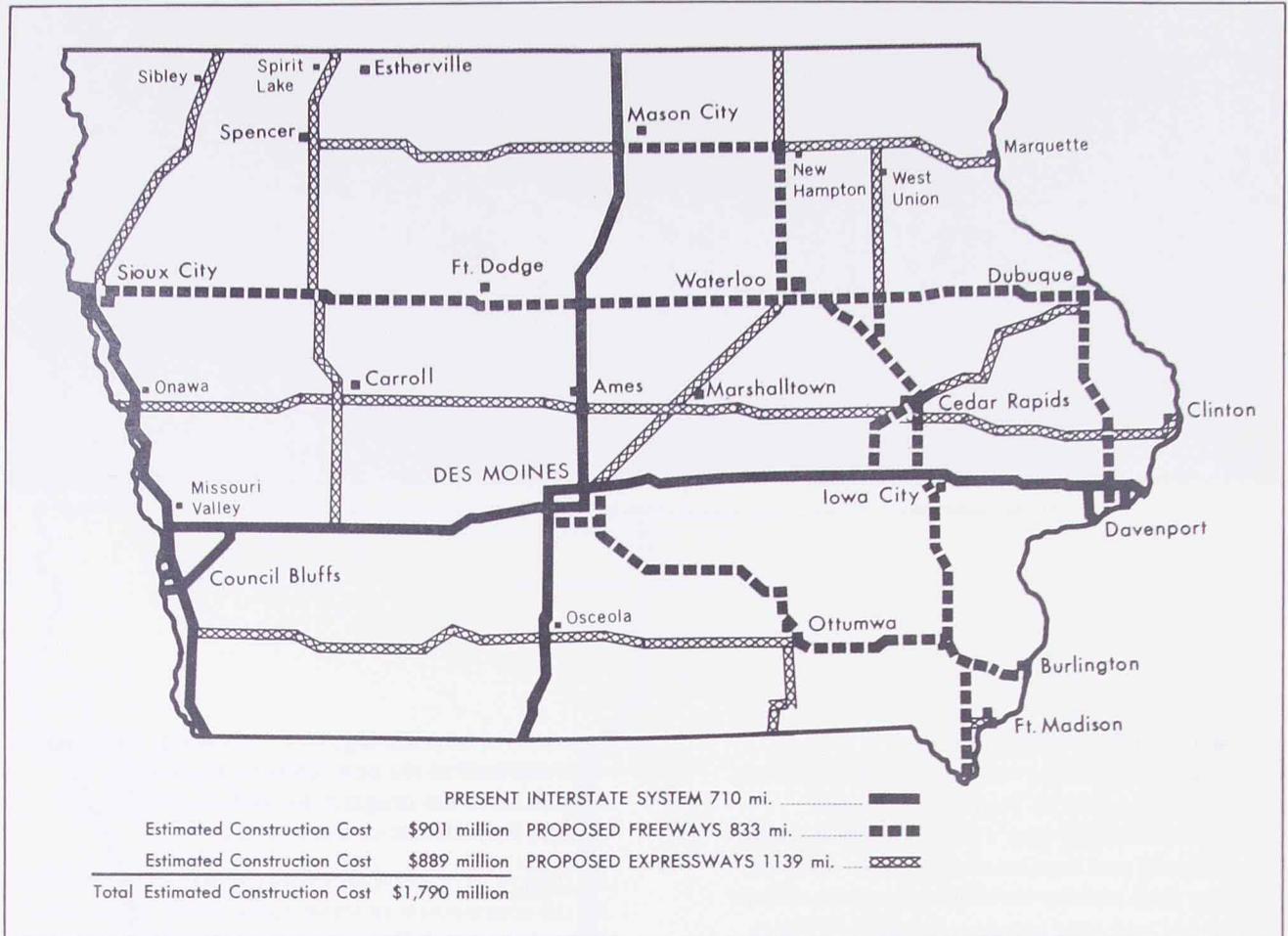


Figure 10-8
Iowa's proposed network of freeways and expressways.
(Courtesy: Iowa State Highway Commission)

Highway Improvements

Progress in highway improvements during the 1960s may be measured by comparisons of mileages by type of surface and a summary of highway contracts approved between 1960 and 1969. These are found in Tables 10-7 and 10-8.

The total expenditures of \$910.8 million were considerably higher than the \$700.2 million spent on highways from 1946 to 1960 and reflected the construction of interstates and modernization and urban extension programs.

A report on "Highway Needs and Finances, 1968-1988" was released in 1969, prepared by the commission staff under a new system designed for

maintaining up-to-date needs and finances. All of the state's roads and streets and their structures were compared to desirable design standards to determine present or anticipated deficiencies for correction. Construction dollar requirements based upon 1968 prices were applied to improvement, maintenance and administrative costs for the 20-year period. Projected dollar needs amounted to approximately \$10.6 billion while anticipated revenues were only \$8.5 billion, leaving a deficit of \$2.1 billion. Considering all factors in the study, a redistribution of road use tax funds was proposed. The Primary System would receive 63 percent; county roads, 20.9 percent; and municipal streets, 16.1 percent.

Table 10-7
Total Highway Miles by Type of Surface, Jan. 1, 1961 and Dec. 31, 1969

Type of Surface	1961 (mileage)	1969 (mileage)
Portland Cement Pavement	9,254	9,648
Asphaltic Concrete Pavement	6,599	15,521
Bituminous Treated	4,874	5,246
Gravel or Stone	80,091	74,215
Not Surfaced	10,852	7,664
Totals	111,670	112,294

(Source: Iowa Highway Commission, *Annual Reports*.)

Table 10-8
Highway Contracts Approved Between 1960 and 1969

Fiscal Year	Primary Roads (in millions)	Farm-to-Market Roads (in millions)	Total
1960	\$ 48.7	\$ 21.9	\$ 70.6
1961	51.1	21.4	72.5
1962	42.3	19.8	62.1
1963	52.8	24.4	77.2
1964	79.3	22.7	102.0
1965	56.4	21.7	78.1
1966	97.0	23.7	120.7
1967	100.0	26.4	126.4
1968	66.2	25.7	91.9
1969	82.0	27.3	109.3
Totals	\$675.8	\$235.0	\$910.8

(Source: Iowa Highway Commission, *Annual Reports*.)

¹ Expenditures include interstate, state park and institutional roads.

² Figures rounded to the nearest unit.

Trends in Air Transportation

Changing transportation conditions usually require a reevaluation of policies. Such was the nature of a two-volume report by Baxter, McDonald and Company, published in 1968. The study was contracted by the State Office of Planning and Programming for the purpose of analyzing state transportation policy. It discussed policy issues and recommended changes which are presented briefly in

a later section. Excerpts from the report on airport planning, construction and improvement, air transportation and functions of the Iowa Aeronautical Commission are incorporated into this section.

In 1965 the Aeronautics Commission celebrated its 20th anniversary. During the period, the primary concern was meeting the needs of general aviation (non-commercial) through assistance in development

of small airports and registration of pilots and aircraft, aircraft dealers, air schools and ground instructors. The commission functioned in four major programs: (1) airport development and improvement; (2) air age education; (3) aviation safety; and (4) administration and enforcement of Iowa aviation law. Decisions on planning and financing airports or improving old ones were shared by the federal government and municipalities with the commission representing the interests of the state, acting as liaison between the principal parties. The commission was not equipped by statutory powers or structure to conduct comprehensive airport planning. However, they actively participated by providing technical assistance and advice. They also supplemented federal navigation and safety measures by installing runway lights and rotating beacons, marking routes, and providing two-way radio communication systems and weather instruments. Scheduling of regular commercial service into and out of major airports was left to the initiative of individual cities and towns.

Nearly all of the revenues of the commission came from registration fees of pilots, small aircraft and the unfunded portion of the state aviation gasoline taxes. Within relatively modest budgets and under legal restraints they were obliged to favor general aviation, and in this context they were considered to have performed their function effectively. Yet the role of the state in aviation was seriously limited by interpretations of the commission as to its functions, and thus the "role of the state in airport planning and in expansion and improvement of air transportation service was viewed basically as a passive one."⁹ There was no formal airport plan in Iowa at this time.

By the mid-1960s, Iowa had more than kept pace with national growth in aviation. The state had 31.2 aircraft per 1,000 square miles compared to a national average of 23.8, and 6.3 aircraft per 10,000 population contrasted to 4.6 nationally. In 1964, Iowa ranked 14th in the nation in the number of airports, 15th in the number of civil aircraft, fifth in the number of lighted airports and 15th in the number of airports with paved runways. Airport construction, improvements and air service, 1945 compared to 1965, are shown in Table 10-9.

The number of municipal airports represented nearly half of the 225 airports in the state. The remainder were owned and operated by private interests but were available for public use. There were also a large number of privately owned smaller airports and airstrips not available for public use and not under

active supervision by the commission. For the first time since safety records had been kept, there were no aviation fatalities during the 1965 fiscal year. What made the record more noteworthy was the considerable increase in general aviation activity. Using the Des Moines airport as an example, civil itinerant aircraft movement rose about 22 percent over 1964, from 52,682 to 72,787. This was an average of 100 transient aircraft per day using the airport, and the figure did not include air carriers, military or local flights. One of the major problems facing Iowa was the introduction of jumbo jets in 1969, and no airport in the state had runways long enough to accommodate them.

Table 10-9
Airport Construction, Improvements and
Air Transportation Service in Iowa,
1945 and 1965

Classification	1945	1965
Municipal Airports	43	101
Lighted Airports	7	101
Airports with Paved Surfaces	7	59
Airports with Two-Way Radio	6	64
Cities with Airline Service	2	15

(Source: Iowa Aeronautical Commission, *Annual Report*, 1965.)

There were two classifications of air service in Iowa in 1966. One was "general aviation"—aircraft owned by individuals and business firms. The other was scheduled commercial service into 15 cities with two communities receiving service through airports in contiguous states. Nine cities: Sioux City, Mason City, Fort Dodge, Ottumwa, Waterloo, Iowa City, Dubuque, Clinton and Burlington were served by Ozark Airlines, operating both local service and

⁹ Baxter, McDonald and Company, Consultants, *Transportation in Iowa—A Review of Key Policy Issues* (two volumes), prepared for the Office for Planning and Programming, State of Iowa, Berkeley, Calif.: Baxter, McDonald and Company, September, 1968.

flights to Omaha, Des Moines and Chicago for connections to other destinations. North Central also served Sioux City with routes to Minnesota and the Dakotas. Four cities: Des Moines, Cedar Rapids, Council Bluffs (using the Omaha airport) and Davenport (using the Moline airport) had flights to major cities or metropolitan areas that did not involve interchanges. United and Ozark served all four airports. Braniff Airways operated from Des Moines and Omaha, the latter city also served by North Central and Frontier airlines. Two cities, Ames and Marshalltown, had air taxi or commuter service into Chicago (Fig. 10-9, 10-10).

The importance of federal grants to the annual funding of airport projects and improvements during the 1960s is shown in Table 10-10.

For the fiscal years 1965 to 1969, the National

Airport Plan listed 88 Iowa airports for development and improvement. Thirteen new airports were projected for initial development, 44 airports were to acquire additional land, more lighting facilities were to be installed at 55 airports, and 23 would receive runway or taxiway extensions. In the first 11 months of 1967, the Des Moines airport reported 606,000 passenger movements (arrivals and departures), a gain of 112,000 over the same period in 1966, and over double the number of 300,000 in 1959. Estimates of over one million passengers through the airport by 1971 proved quite accurate. For airports statewide in 1966, the number of passenger departures alone totaled 577,000 for 11 airports reporting, not including the Iowa passengers embarking from the Moline and Omaha airports.

Table 10-10
Annual State and Federal Aid for Airport Projects
and Airport Improvements, 1960-1970

Fiscal Year	Annual State Expenditures (in thousands)	Year	Annual Federal Expenditures (Iowa) (in thousands)
1960-1961	\$ 48.4	1960	\$ 243.1
1961-1962	38.6	1961	1,586.8
1962-1963	137.2	1962	476.2
1963-1964	93.2	1963	527.9
1964-1965	59.7	1964	861.1
1965-1966	125.5	1965	898.0
1966-1967	102.7	1966	1,481.5
1967-1968	189.4	1967	769.1
1968-1969	223.1	1968	2,186.0
1969-1970	218.4	1969	1,390.7
Totals	\$1,236.2		\$10,420.4

(Source: *Iowa Airport System Plan*, Vol. 1, Tables 4 and 5. Summary Report prepared for the Iowa Aeronautics Commission by the Engineering Research Institute, Iowa State University, Ames, November, 1972.)

¹ Figures rounded to the nearest unit.

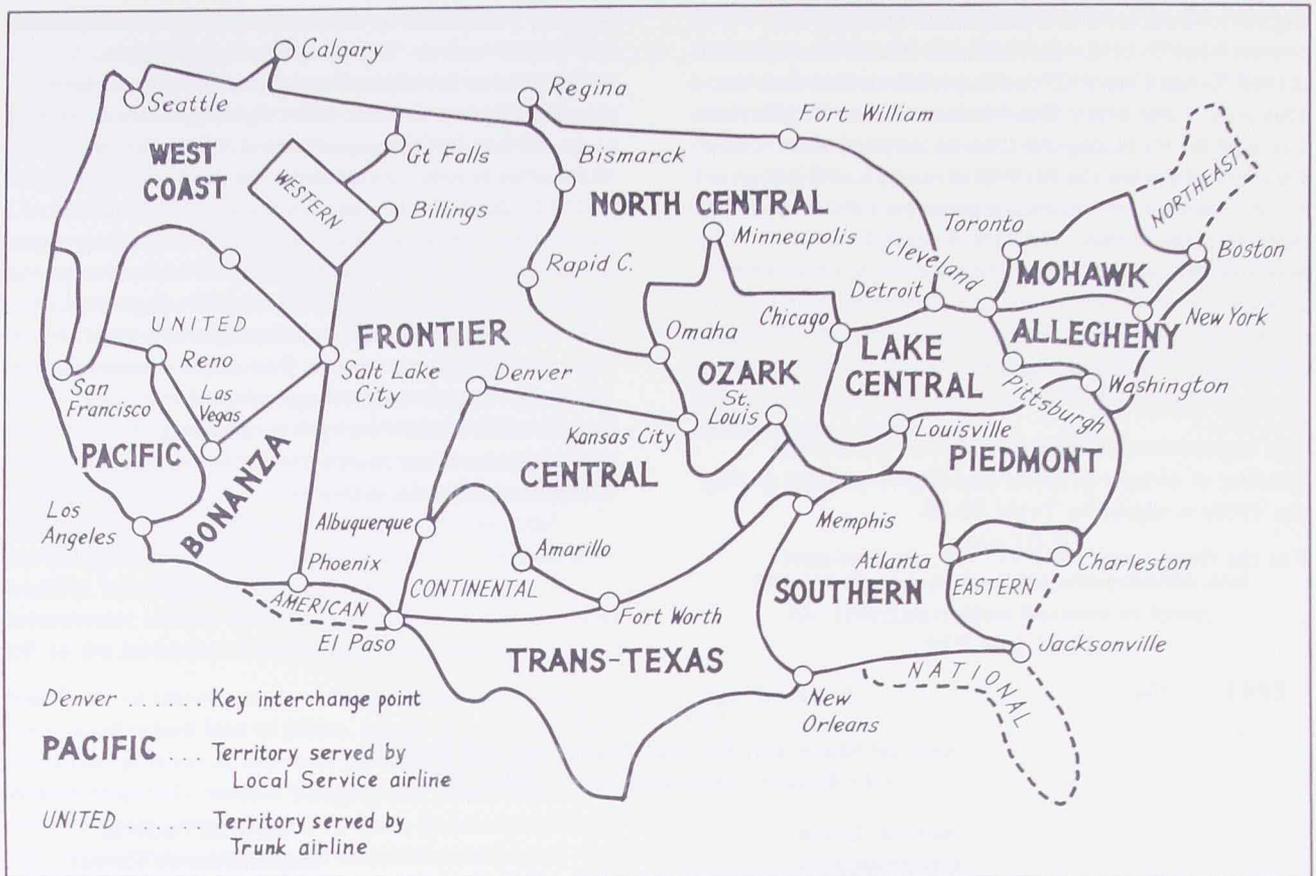


Figure 10-9

Territories served by local service airlines in the early 1960s.
 (Courtesy: R.E.G. Davies Collection)

Waterborne Commerce—The Alter Company

Unique among those identified with Upper Mississippi River commerce was the Alter Company, organized in Davenport in 1916 by Frank R. Alter. The firm was engaged in processing and shipping scrap metal from the Quad Cities for more than a half century, starting with railroads and later by water when the nine-foot channel was completed. In May 1960, Alter moved into the towing business with four open hopper barges and a single towboat named after the owner. Gordon L. Jones was hired as executive of the newly formed Marine Division and later promoted to vice president. Under his leadership, the operation expanded to five towboats and 148 barges by 1972. Terminals were built at St. Paul and La Crosse in addition to the main base at Davenport. A terminal in the New Orleans harbor provided cleaning, repair and fleet facilities for the

company's barges.

Except for the Diamond Joe line of past fame, the Alter Company was the only barge line located in Iowa. It concentrated its efforts on service in the "Middle Upper Mississippi," the area between Cassville, Wisconsin, on the north and Hannibal, Missouri, on the south. Grains moved downstream and phosphate rock and coal upstream. The firm's outstanding features included the variety and frequency of services it offered shippers. It also provided somewhat unusual terminal operations by combining terminal and transfer facilities using railroad, truck and water to facilitate complete transportation services. The success of the Alter Company in offering low cost, reliable service to Upper Mississippi firms is a tribute to Iowa's contribution to inland waterway development.

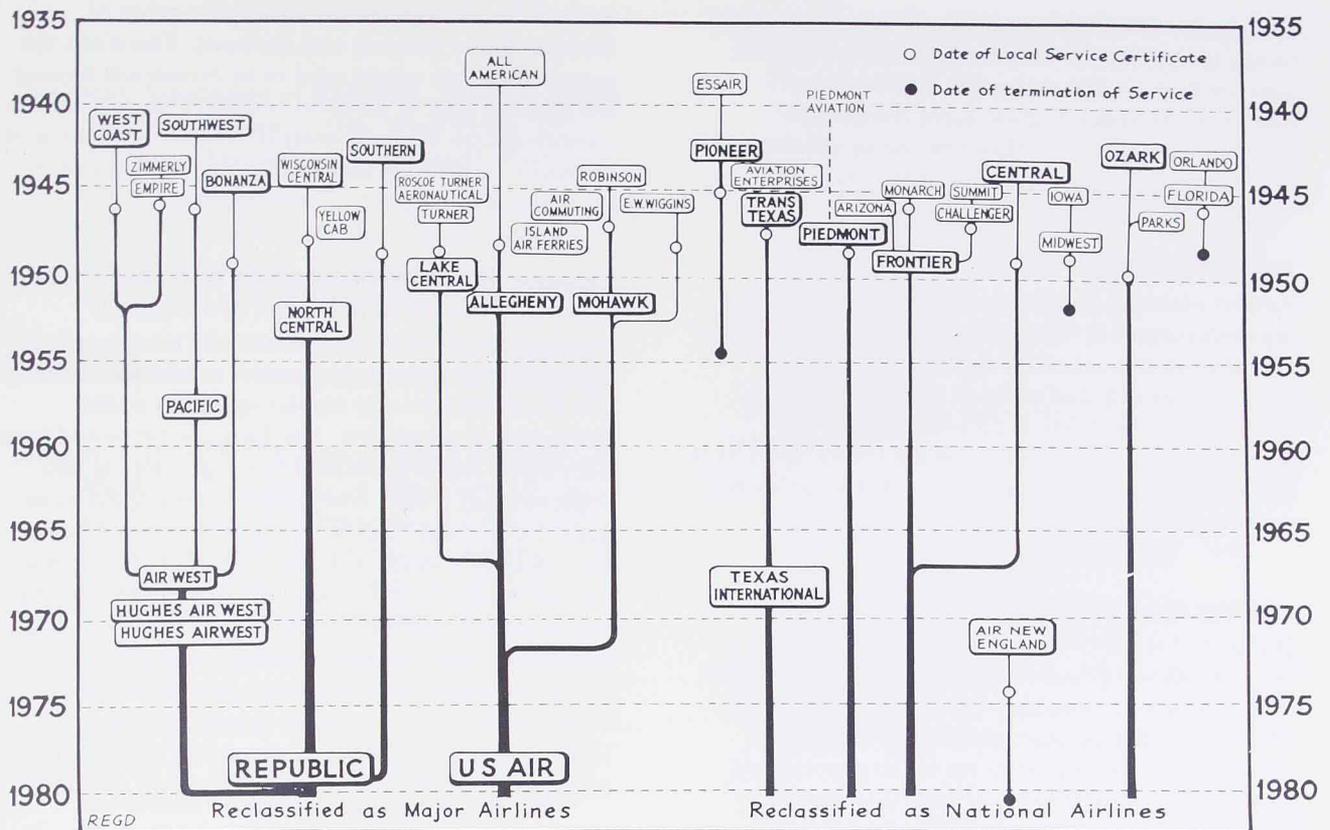


Figure 10-10
Genealogy of local service airlines.
(Courtesy: R.E.G. Davies Collection)

Transportation Policy Issues and Conflicts in the 1960s

Policy issues were presented and recommendations made in the Baxter Report. These are outlined briefly in the discussion which follows:

Regulation and Fragmentation of State Authority

The Commerce Commission was admonished for being too passive on proposals by shippers and carriers concerning rate and route changes, acquiescing in most cases to their requests. Where the interests of the state were argued before federal agencies, courts or congressional committees, there was a multiplicity of representation in some instances, in others, none. For consistency, the Governor's office was suggested as a clearing house for approval or disapproval of advocacy positions taken by state agencies in transportation matters.

Service to Small Towns

Small towns experienced increased isolation from reductions in both quantity and quality of public transportation and would be expected to suffer additional losses through the threat of "modal deregulation." Declines in passenger services, abandonment of freight agency service and/or removal of depots had been a progressive strategy of railroads during the postwar years. Branch lines, consisting of approximately 46 percent of Class I railroad mileages, were particularly vulnerable for further abandonment, and regulated motor carriers sought relief from operating requirements to serve low volume shippers. The issues were whether or not the social goal of low cost service to small communities could be reconciled with the economic objectives of the carriers in choosing the traffic which would result in higher returns on investment. On the

assumption that preservation of small towns and family farms was a widely held political and social goal for Iowa, it was suggested that wherever necessary, subsidies be considered for needed transportation services. However, no suggestions were made as to the sources for such subsidies.

Airport Planning

Airport planning policies have been included in the previous section. It was recommended that immediate formulation of a statewide regional plan be implemented and studies made with neighboring states on the feasibility of constructing a mid-continent airport designed to relieve the congestion at O'Hare airport in Chicago and to function as an east-west interchange point.

Highway Financing

Division of responsibility between users and non-users in financing future highways was a basic policy issue in highway financing. Projections from 1967-1987 indicated user deficits in primary roads and municipal streets and surpluses in the county road system under the current user fund distribution program. The state primary system was financed entirely through user revenues while most of the municipal streets were financed by non-user revenues. Both supported traffic loads in excess of their share of user revenues. A change in the distribution formula was recommended.

Conflicts between Social and Economic Goals

Conflicts were a factor in secondary road policies and urban transportation corridors. In 1968 the state's highway system showed 81 percent of the total mileage classified as secondary roads, eight percent in primary roads, and 11 percent in primary and secondary extensions and city streets. Vehicle miles on primary roads accounted for 45 percent of the traffic, on city streets for 36 percent, and on secondary roads only 19 percent. The large rural population in earlier years made extensive use of secondary roads, but as population declined, the roads carried a smaller proportion. The public cost of providing for low density high-cost highways per vehicle mile was disproportionately high relative to the other systems. However, economic modification or abandonment had to be balanced against the possible loss of mobility into and out of rural areas. A similar balance was necessary in constructing city freeways as between the expansion of the economic

base of the city against the social disruption of business firms, housing and residents. Therefore, the system planning would need to be broadened beyond the singular goal of physical considerations to include a combination of environmental, economic and social concerns—a difficult and challenging assignment in an ever-changing political atmosphere.

Creation of a State Department of Transportation

A separate section of the report developed the rationale for a State Department of Transportation. All functions of the state agencies would be combined except for the rate and regulatory duties of the Commerce Commission. The Department would have the powers and responsibilities for developing and implementing a state comprehensive transportation plan. Its establishment would provide the potential for solution of much of Iowa's policy problems, but the potential would not be automatically realized by simply combining the agencies under one administration. The merits of the reorganization lay in the new opportunities for integration of operations of the various modes and for the use of state and federal programs capable of providing the state with a more effective and efficient transportation system.

Summary

National trends in modal relationships and changing transportation markets were followed to a limited extent in Iowa. The merger movement of the railroads serving the state was a microcosm of national patterns designed to adjust to increased competition of surface and air carriers. Flexibility of motor carriers was enhanced by construction of interstate highways and improvements in state road systems. Inland water carriers gained through expansion of bulk commodity traffic. Intermodalism, particularly in rail-truck combinations, began a slow but steady evolution to take advantage of the low-cost features of each mode. General aviation activity and commercial air transportation of passengers and mail showed substantial growth, putting emphasis on further development of airports, safety and navigational aids. More variety and frequency of waterway service was offered by the newly organized Marine Division of the Alter Company in Davenport. Traditional trends in markets and modal relationships brought transportation issues and conflicts between social and economic goals into public consciousness. This stimulated proposals for a State Department of Transportation as an agency with potential for a comprehensive analysis and study of the state's major transportation problems.

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