A PROGRAM TO MEET

PRESENT AND FUTURE IOWA

HIGHWAY NEEDS

Recommended for

consideration by

The 57th General Assembly of Iowa

By

THE IOWA GOOD ROADS ASSOCIATION

402 Garver Building

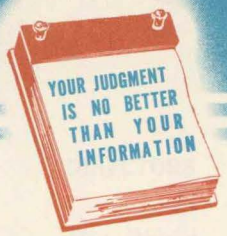
Des Moines, Iowa

INDEX

IOWA GOOD ROADS ASSOCIATION Inc.

Phone AT 8-0572

A non-profit organization dedicated to better and safer roads for all Iowa



GERALD BOGAN

GERALD BOGAN, *Executive Secretary*
402 Garver Bldg., 707 Locust St.
Des Moines 9, Iowa

1-30-57

Dear Bernie:

Attached is our legislative booklet. Thought you'd like to have a copy for your files. We've had some fine comments about it already and believe it will be helpful in selling our program to the legislators.

GB

ERAL ASSEMBLY

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during the session, please

Sincerely,

Gerald Bogan

Gerald Bogan
EXECUTIVE SECRETARY

MAJOR RECOMMENDATIONS FOR MEETING

PRESENT AND FUTURE IOWA HIGHWAY PROBLEMS

1. Retention of the one cent gas tax earmarked specifically for widening and modernization of primary roads and bridges.

2. Retention of the one cent gas tax earmarked specifically for construction of primary highways now surfaced with gravel or crushed stone.

3. Establishment of a legislative interim road study committee with power to make a thorough study of Iowa's highway finance, highway needs and highway administration.

4. Legislation to provide for long-range planning and periodic evaluation of Iowa's primary highway program.

5. Legislation removing the restriction against construction of diagonal highways.

6. Restudy of allocation of highway funds to get better balance among the various highway funds with the view of giving relief to hard-pressed cities and towns.

7. Strengthening of statutes relative secondary road laws especially review of county road budgets by state highway commission.

FOREWORD

The Iowa Good Roads Association's program for meeting the present and future highways' needs in Iowa is based on completion of the program adopted by the legislature in 1949 plus the construction of needed dual-highway facilities, both in the interstate and the primary road systems. The program does not contemplate an increase in highway user taxes but does contemplate the continuation of the tax rate at least at the present level.

Following are the goals adopted by the Highway Investigation Committee and submitted to the legislature in 1949:

For The Primary System

1. Complete the grading and bridging and the construction of a dust-free surface, either concrete pavement or a bituminous wearing surface supported by an adequate base, on all primary roads and extensions thereof that are not now so improved.
2. Widen and either resurface or reconstruct, as their condition may require, existing pavements that are too narrow or that for other reasons are not satisfactorily serving the traffic that is using them.
3. Replace obsolete, narrow roadway bridges that are now causing traffic bottlenecks and traffic accidents with bridges of adequate roadway width and load carrying capacity.
4. Widen narrow rights of way, extend drainage structures and widen narrow earth shoulders on paved roads where these facilities no longer are adequate.
5. Reconstruct narrow, rough or worn-out pavements on the primary road extensions within municipalities.

For The Secondary System

1. Complete the grading, bridging and surfacing of the secondary road system to whatever extent is necessary to provide every reasonably located rural home with a surfaced outlet, including all secondary roads that are necessarily used by rural mail carriers and school buses.
2. Reconstruct existing surfaced roads where grades are too low and side ditches too shallow to provide adequate drainage. On such roads maintenance costs are excessive and satisfactory service cannot be provided. The reconstruction of such roads includes the replacement of obsolete and inadequate drainage structures and the application of new surfacing material.
3. Construct a suitable type of dustless surface on the most heavily traveled sections of the secondary road system. On such sections, maintenance cost of untreated gravel or crushed stone surfaces are high, dust is a nuisance as well as a traffic hazard and the road surface cannot be maintained in a satisfactorily smooth condition.

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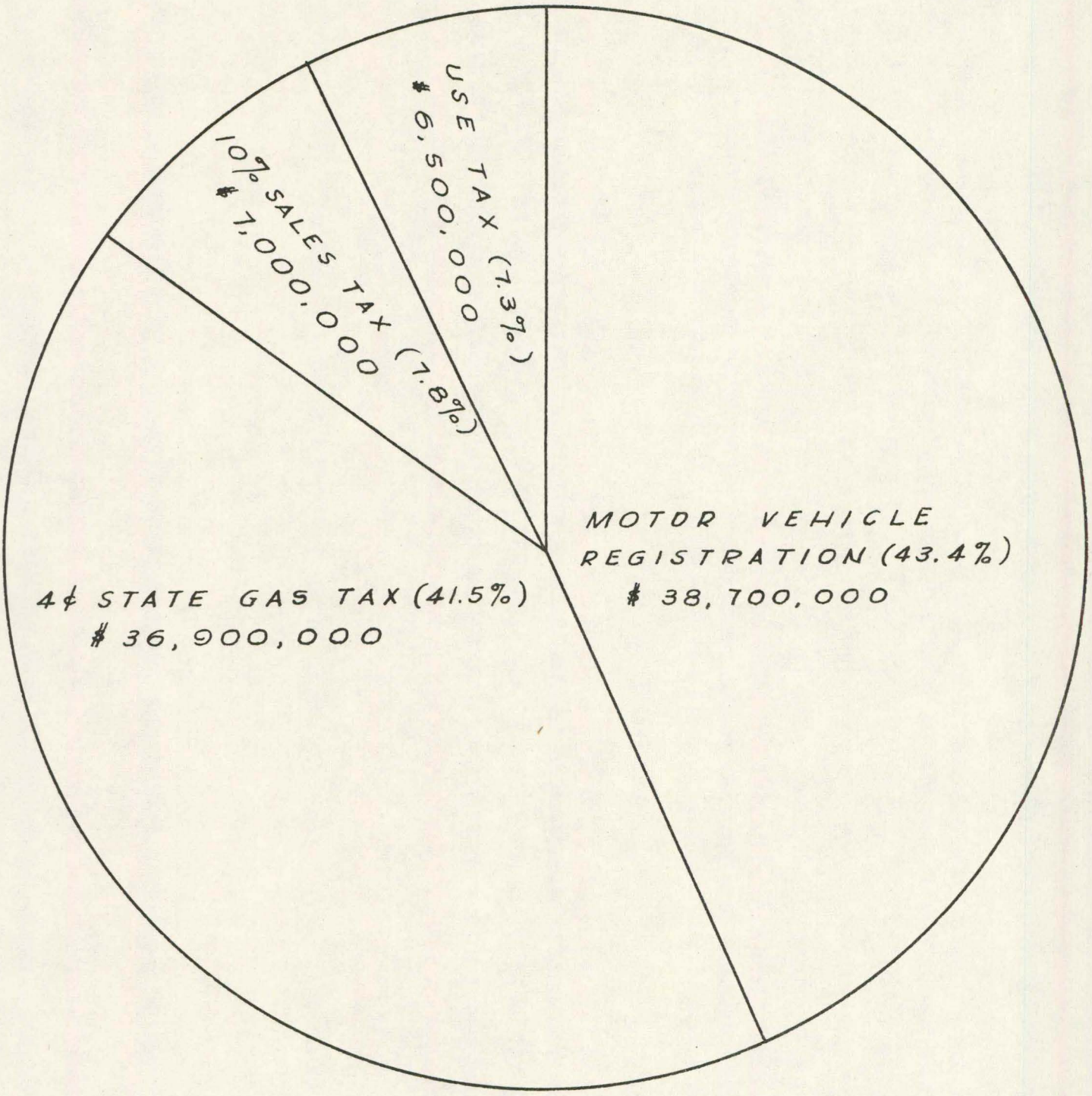
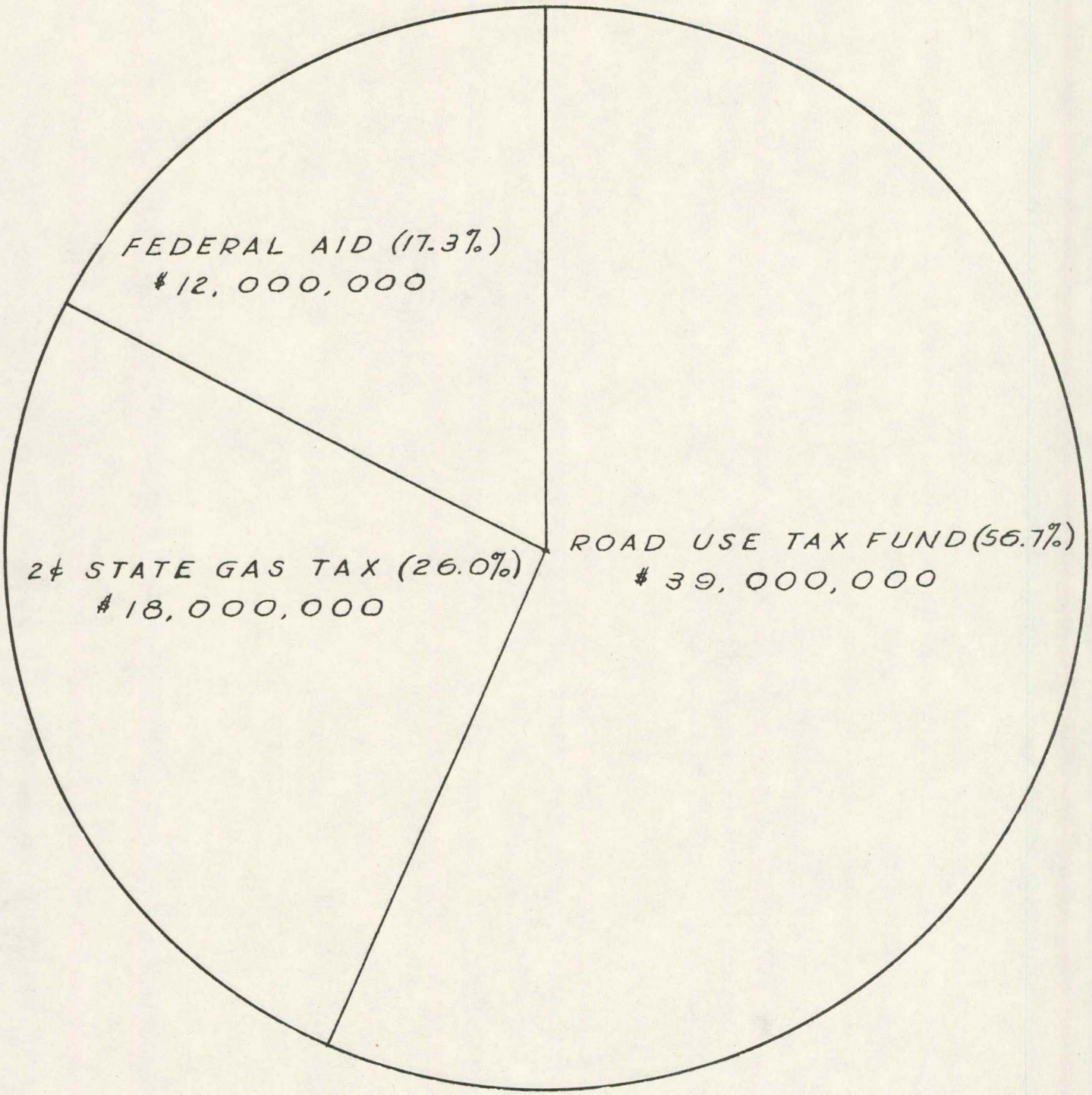
In addition to these excellent objectives, it is increasingly obvious that Iowa must build some high-type multi-lane roads to serve the motoring public in the areas of heavy motor vehicle concentration.

In the succeeding pages we will deal with the problems, current highway needs, funds available and proposals made by the association to meet the problems.



ROAD USE TAX FUND



PRIMARY ROAD FUND

In considering legislation relative to highway financing it is necessary (1) to determine the money needs of the various highway systems (2) ascertain the availability of finances to meet those needs.

The only county-by-county detailed analysis of primary construction needs made in recent years was completed in 1952 and a report of that was made to the proper legislative committees in January, 1953.

In his letter of transmittal to the chief engineer Ed Koch, the present chief engineer, John Butter, pointed out that the "estimated cost of modernizing the present primary road system is below the AASHO standards," and that only 17.3 miles of four-lane rural highways were included in the estimate of $767,902,600 made at that time. In addition, no extensive relocations were estimated.

That estimate, admittedly was on the conservative side. But on the basis of that estimate, Iowa's minimum needs still existing (the 1953 estimate less the primary construction work let during the time since that date, amounting to $118,699,861) would exceed $649,222,739.

The 1954 Federal Aid Highway Act called for an estimate of needs on the various highway systems of each state, Engineers of the Iowa State Highway Commission, made such an estimate, using as the critera for needs the expected traffic volumes of 1975 and based on standards adopted by the AASHO. That estimate of needs listed Iowa's deficiency at $2,048,976,700 for all types of highways in the state, interstate, primary, secondary, farm to market and city streets.

The detailed estimate submitted by the engineers is included in statistical data listed elsewhere in this report, but the totals for each group are as follows:

Interstate	$ 267,672,000
Primary	1,137,855,000
Local Secondary	369,000,000
Farm to Market	511,500,000
Other state highways	2,952,000
Other state urban highways	800,000
City streets other than primary extensions	128,147,700

The above estimate is based on expected volumes carried by the respective highway systems by 1975. For example, it is estimated that Iowa will need 1,130 miles of four-lane highways outside the interstate system by 1975. It is estimated that 2,728 miles of the rural primary system is considered adequate and that it would require about $35,000 per mile for grading and culvert extensions on widening of shoulders on the present 24 foot widening program. It is estimated there will be need for 10,000 miles of hard-surfaced farm to market roads by 1975.

The interstate highway building program, as outlined by the Congress in passing legislation establishing the financing of such a program, calls for completion of the system in 13 years. A re-evaluation of the system is to be made each three years and a new estimate of needs on the system is expected to be made within the next year in Iowa. The interstate estimate in Iowa admittedly

is low since it calls for two-lane construction on 137 miles and it has been determined that none of the more than 730 mile network will be less than four lanes in width and in some cases might exceed that width.

Since the financing of the Interstate Highway system is largely a federal government responsibility (based on the 90% federal; 10% state percentage) the financing of Iowa's primary highway needs discussed here does not include the interstate mileage.

Iowa has a sound financing program for its state highways. Since 1949, when the legislature wisely established a road use tax fund, financing of primary highways as well as distribution of funds to counties for secondary and farm-to-market roads and to cities and towns for streets improvment has been from funds collected from the gasoline tax, motor vehicle registrations, use tax and 10 per cent of the sales tax.

Since 1942 when Iowa adopted a constitutional amendment restricting the use of gasoline tax and motor vehicle registrations to highway construction and maintenance, funds from those two sources have gone only to highways. The 1949 Highway Investigation Committee report, which recommended that the use tax and 10% of the sales tax go to the road use tax fund said this, "Since motor vehicles and trailers are purchased solely for road use, (the use tax from the sale of new motor vehicles and trailers) is without question a tax upon road users" and "at the present time the owners and operators of motor vehicles are annually paying substantial sums of money in the form of sales tax ... on motor vehicle accessories that are not becoming a part of the annual road income." These two features give Iowa a sound base for its highway financing, restricting the use of taxes paid by motor vehicle users to highway construction and maintenance only.

Following are the sources of income to the road use tax fund, which is distributed 42% primary; 35% local secondary; 15% farm to market and 8% to cities and towns, for the past two fiscal years and the estimate of income for the present fiscal year made by the highway commission:

	7-1-54 to 6-30-55	7-1-55 to 6-30-56	Estimated 1957
Motor Vehicle Registrations	$33,456,629.64	$47,027,440.14	$38,578,900.00
Motor Fuel Tax (4¢)	34,124,274.55	36,865,261.45	36,900,000.00
Use Tax	6,505,408.37	6,502,444.19	6,502,000.00
10% Sales Tax	5,504,079.04	6,924,128.13	7,000,000.00
Motor Carrier Fees	149,636.70	162,079.74	162,000.00
Totals	$79,849,029.30	$97,441,353.35	$89,142,000.00

It will be noted from the above tabulation that the estimate of income for 1957 is lower than the actual income of 1956. The greatest difference, it will be noted, is in motor vehicle registrations. The 1956 figure included a record amount of "draws" from county treasurers, while the 1957 estimate is based

on actual license fees expected. The estimate, made by the highway commission, takes into account the present levels of taxation for the various categories.

In addition to the road use fax fund, there are two other sources of income for state-supported highways: a special gasoline tax (two cents) earmarked specifically for the primary road fund and federal aid. The two-cent gas tax is for use in building hard-surfaced roads on the primary system in areas where primary roads are surfaced with gravel or crushed rock and for widening and modernizing primary road and bridges. Thus, two cents of the six-cent gas tax is earmarked specifically for the primary road system. It produces an estimated $18,000,000.

The federal aid allocated to Iowa has totaled about $18,000,000 in the past of which some $12,000,000 is for primary and urban work. Following is the allocations under the 1955 Federal Aid Highway Act the first figure being the addition for the 1956 year and the latter two the full federal aid amounts.

All regular aid is to be matched 50-50, while interstate is matched 10% from state funds and 90% federal fund.

	(In Millions of Dollars)		
	Fiscal 1957	Fiscal 1958	Fiscal 1959
Regular Primary	$ 1.4	$ 9.1	$ 9.4
Secondary	1.0	6.7	6.9
Urban	.4	2.5	2.6
All Regular Aid	2.8	18.3	18.9
Interstate	20.4	34.7	40.8
Total	$23.2	$53.0	$59.7

The great increase in federal aid is in the interstate system from $23.2 million in 1956 to $59.7 million in 1959, while the regular aid matching funds will increase only slightly.

On the basis of this there would be available for primary highway construction (not including the interstate highway system) the following funds: (approximate figures used in each case)

From the road use tax fund	$37,000,000
From Federal aid	12,000,000
From Two-cents gas tax	18,000,000
Total	$67,000,000
Less non-construction costs	22,000,000
Available for construction	$45,000,000

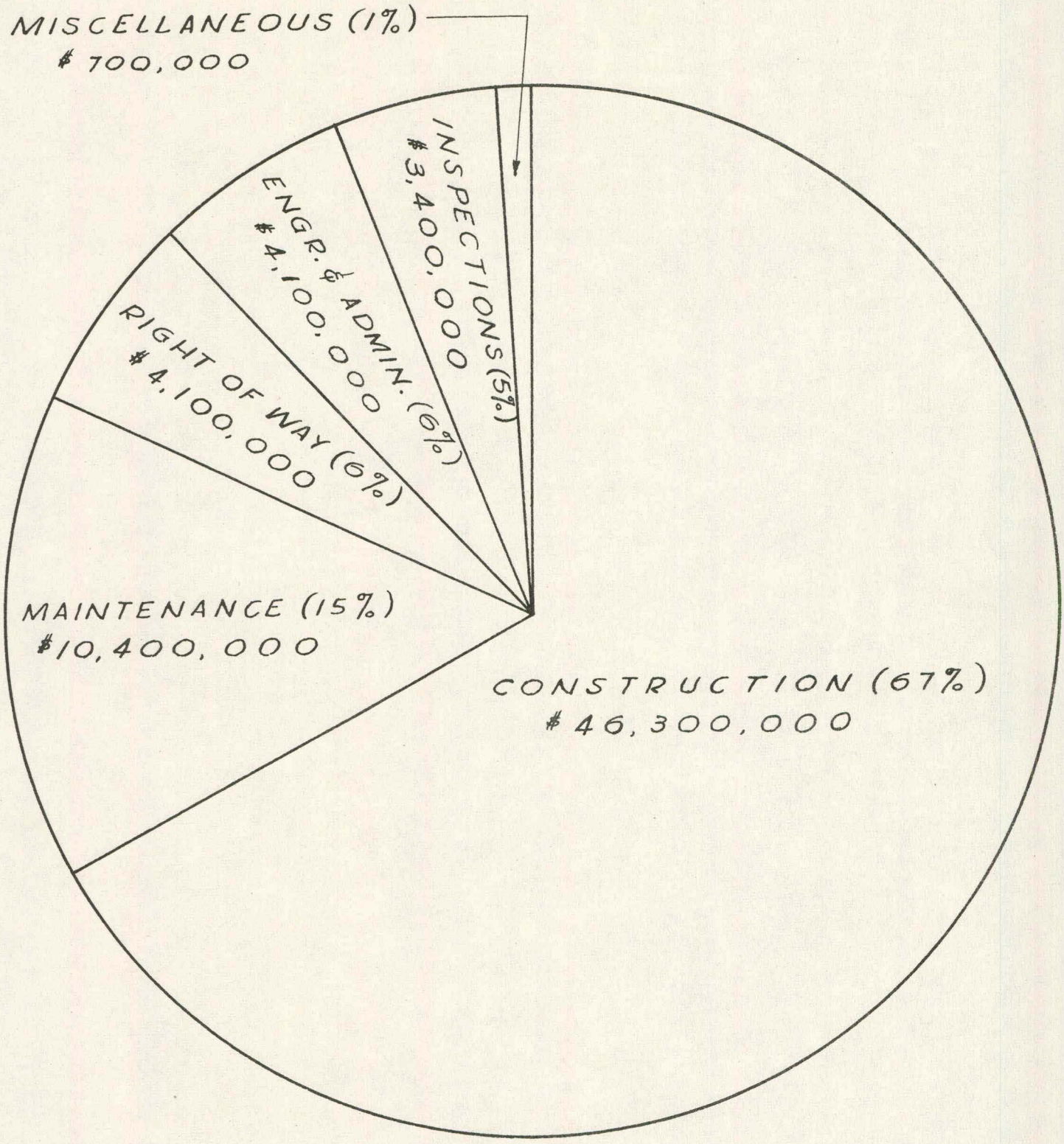
There has been a marked rise in maintenance costs during the past seven or eight years. As the primary system grows older the maintenance costs

naturally increase. For the fiscal year ended June 30, 1948, the primary highway maintenance expenditures amount to $5,990,052. The highway commission forecast at that time that "during the next 15 or 20 years the average annual maintenance costs will amount to $6,500,000." The annual maintenance cost of the primary system has exceeded $10,000,000 each of the past two fiscal years and it is reasonable to assume that such expenditures will increase rather than decrease.

In addition to maintenance items such as right of way, engineering and administration, inspections, etc. must be subtracted from the total funds available to determine the funds available for primary road construction.

Following are the reported non-construction funds for the past two fiscal years and the estimated cost for 1957:

	1955	1956	Estimated 1957
Maintenance	$10,151,384.14	$10,252,731.70	$10,000,000.00
Engineering & Administration	2,597,439.32	3,053,975.49	4,000,000.00
Litigation	15,396.51	11,741.76	15,000.00
Workman's Compensation	50,000.00	50,000.00	50,000.00
Planning Surveys	189,476.63	228,422.10	500,000.00
Inspections	2,091,883.57	2,479,229.83	3,300,000.00
Auditor	6,500.00	6,283.38	----
Building & Grounds	400,707.95	477,006.61	500,000.00
Storeroom	8,251.72	3,678.74	----
Research	109,452.92	93,619.42	120,000.00
Traffic weighing	225,392.79	229,135.08	250,000.00
Drainage assessments	----	----	25,000.00
Property & Equipment	491,896.73	75,110.80	----
Right of Way	2,080,620.46	2,429,341.99	4,000,000.00
TOTAL	$18,418,402.74	$19,390,276.90	$22,760,000.00



WHERE YOUR PRIMARY ROAD DOLLAR GOES

AGE OF RURAL CONCRETE PAVEMENTS
AS OF JULY 1, 1956

District		25 yrs. or Older	20 yrs. - 25 yrs.	15 yrs. - 20 yrs.	10 yrs. - 15 yrs.	5 yrs. - 10 yrs.	New - 5 yrs.	Totals
I	mi.	206.1	252.7	125.0	29.1	41.8	180.3	835.0
	%	24.7	30.3	15.0	3.5	5.0	21.5	
II	mi.	405.2	265.0	160.9	11.6	29.7	68.1	940.5
	%	43.1	28.2	17.1	1.2	3.2	7.2	
III	mi.	241.7	195.2	427.4	42.7	92.0	94.0	1093.0
	%	22.1	17.9	39.1	3.9	8.4	8.6	
IV	mi.	325.3	61.5	62.0	20.7	66.4	63.5	599.4
	%	54.3	10.2	10.3	3.5	11.1	10.6	
V	mi.	458.3	106.2	59.4	10.6	45.8	98.9	779.2
	%	58.8	13.6	7.6	1.4	5.9	12.7	
VI	mi.	494.9	48.4	117.9	9.6	68.9	68.9	808.6
	%	61.2	6.0	14.6	1.2	8.5	8.5	
State Totals	mi.	2131.5	929.0	952.6	124.3	344.6	573.7	5055.7
	%	42.2	18.4	18.8	2.5	6.8	11.3	

AVERAGE AGE OF PAVEMENTS

Miles	Age	Yr. Miles
2131.5	27.5	58,616.25
929.0	22.5	20,902.50
952.6	17.5	16,670.50
124.3	12.5	1,553.75
344.6	7.5	2,584.50
573.7	2.5	1,434.25
5055.7		101,761.75

Average Age: 20.13 yrs. on July 1, 1956
20.20 yrs. on Jan. 1, 1955
19.80 yrs. on Jan. 1, 1954

PROPOSAL NO. 1

Iowa has and is making excellent progress in eliminating the many miles of narrow, dangerous highways and bridges. Retention of this tax, originally voted for a two-year period only ending June 30, 1957, will make it possible to continue the elimination of the narrow highways and also accelerate the modernization features such as widening shoulders, resurfacing and elimination of poor sight distance areas where they exist.

While it is true that one-cent of the gas tax was earmarked specifically for this purpose, the state highway commission spent more than $15,000,000 (or nearly double what one cent of the gas tax produces) on widening only during the fiscal period ended June 30, 1956. This did not include the funds spent on resurfacing or on widening bridges.

As of the end of the 1956 construction season there were 2,798 miles of 18-foot pavement left in the state primary system as well as 1,247 miles of 20-foot pavement. It generally is conceded that the width and length of modern vehicles, both passenger cars and trucks, a 24-foot pavement width is most desirable.

In addition, Iowa has 936 bridges on the primary system which are much too narrow for highway safety.

Some idea of the magnitude of the job ahead in this field can be seen by the following county-by-county tabulation showing the miles of various highway widths:

CONDITION OF IOWA'S PRIMARY SYSTEM AS OF ~~JANUARY 1~~ July 1, 1957 BY SURFACE WIDTHS:

County	18 Ft.	20 Ft.	22 Ft.	Over 22 Ft.	Bit.	Gravel
Adair	16.1	---	21.5	---	11.2	---
Adams	23.6	---	7.6	---	15.7	11.3
Allamakee	29.6	---	---	---	42.2	31.2
Appanoose	34.8	0.4	7.9	5.1	5.5	16.6
Audubon	38.9	---	1.6	3.2	---	---
Benton	7.5	---	---	73.9	8.8	19.6
Black Hawk	27.5	14.7	0.2	35.4	---	4.5
Boone	35.5	11.9	5.0	10.2	11.1	9.8
Bremer	35.5	13.6	---	34.3	1.0	---
Buchanan	0.9	---	35.9	37.1	9.4	5.0
Buena Vista	1.1	47.7	12.4	22.0	---	12.0
Butler	26.6	11.6	12.4	21.6	---	11.0
Calhoun	---	56.0	4.0	11.3	6.7	1.8
Carroll	37.0	0.2	8.5	22.8	4.7	9.7
Cass	39.3	---	22.7	15.4	18.3	19.8
Cedar	7.8	13.4	3.3	33.9	---	16.1
Cerro Gordo	6.3	1.0	12.5	36.6	3.4	9.7
Cherokee	1.1	47.0	---	9.7	---	26.2
Chickasaw	16.3	21.1	3.4	13.4	5.5	11.8
Clarke	44.0	---	---	---	3.5	---

Condition of Iowa's Primary System as of January 1, 1957 by Surface Widths: (Continued)

County	18 Ft.	20 Ft.	22 Ft.	Over 22 Ft.	Bit.	Gravel
Clay	36.1	6.2	7.6	22.2	1.8	---
Clayton	83.6	8.0	10.2	2.0	8.7	---
Clinton	53.9	6.9	---	44.1	4.5	---
Crawford	28.0	14.4	21.9	27.4	---	---
Dallas	47.4	14.4	11.9	46.5	0.1	4.0
Davis	46.1	---	0.9	10.1	---	---
Decatur	23.2	23.6	---	3.9	1.2	10.7
Delaware	37.2	9.6	13.7	16.0	---	10.9
Des Moines	13.3	---	6.9	39.6	---	---
Dickinson	4.2	28.3	---	19.9	8.0	---
Dubuque	68.6	20.2	9.3	12.0	3.7	14.7
Emmet	22.9	4.4	---	3.3	24.4	1.5
Fayette	65.1	8.1	31.6	17.4	3.3	17.1
Floyd	23.0	17.2	18.7	---	7.6	5.7
Franklin	23.7	---	6.1	31.9	3.0	---
Fremont	43.3	0.6	1.6	---	23.8	13.0
Greene	27.3	10.0	13.5	5.7	18.7	5.4
Grundy	11.3	---	6.1	44.9	6.2	---
Guthrie	44.8	0.3	20.0	11.1	---	40.6
Hamilton	---	7.1	---	47.6	38.2	4.3
Hancock	27.0	---	---	44.4	---	---
Hardin	11.7	---	---	45.7	16.4	6.9
Harrison	21.4	4.9	0.3	44.2	9.5	5.0
Henry	30.9	---	5.6	22.2	3.1	3.5
Howard	31.9	12.1	---	10.7	6.4	11.7
Humboldt	14.0	33.9	---	1.0	0.4	28.1
Ida	5.8	42.5	11.7	3.6	---	---
Iowa	30.9	---	1.9	43.1	1.4	9.9
Jackson	30.4	36.1	18.1	3.0	---	40.5
Jasper	5.4	22.5	18.1	47.2	---	11.8
Jefferson	27.1	---	---	15.9	4.5	---
Johnson	25.6	12.4	14.8	22.8	15.2	8.6
Jones	48.1	3.8	9.7	---	14.0	11.6
Keokuk	56.1	---	17.0	1.5	28.0	15.4
Kossuth	71.1	15.0	---	13.2	33.1	2.0
Lee	61.2	1.2	27.0	16.2	13.0	1.2
Linn	43.3	7.6	11.6	49.4	---	5.8
Louisa	---	15.0	8.5	35.6	0.9	---
Lucas	9.3	5.0	23.6	14.4	1.1	---
Lyon	13.2	51.2	15.8	---	0.1	---
Madison	24.3	11.4	---	11.7	2.7	22.3
Mahaska	30.0	1.0	16.4	28.9	0.7	8.8
Marion	38.6	12.9	16.8	19.1	8.7	2.7
Marshall	9.3	28.5	22.0	21.3	---	15.7
Mills	36.5	7.4	19.7	5.4	2.0	5.5
Mitchell	41.8	9.9	---	5.4	7.4	8.0
Monona	15.9	4.7	23.6	46.4	---	22.8
Monroe	30.1	---	---	24.4	1.0	---
Montgomery	46.3	---	2.0	---	14.3	---

Condition of Iowa's Primary System as of January 1, 1957 by Surface Widths: (Continued)

County	18 Ft.	20 Ft.	22 Ft.	Over 22 Ft.	Bit.	Gravel
Muscatine	22.3	---	---	49.3	10.5	21.5
O'Brien	45.0	20.8	8.5	0.1	---	5.0
Osceola	3.4	26.3	11.5	19.7	---	---
Page	38.9	0.3	0.3	17.1	22.7	37.4
Palo Alto	43.0	19.5	---	---	---	---
Plymouth	---	7.5	10.7	48.1	28.1	33.1
Pocahontas	7.8	56.3	20.9	0.1	0.1	9.3
Polk	22.1	35.7	7.3	42.5	3.6	15.5
Pottawattamie	89.3	5.7	14.3	31.7	13.4	14.1
Poweshiek	8.5	13.8	0.6	43.2	4.7	35.6
Ringgold	---	37.2	6.6	13.9	---	4.2
Sac	3.7	50.8	10.6	23.5	---	---
Scott	49.4	1.4	---	30.3	2.1	---
Shelby	35.0	17.3	12.9	---	15.0	22.5
Sioux	---	73.0	25.2	15.6	1.5	---
Story	12.0	10.3	15.6	42.8	6.3	---
Tama	40.7	---	3.0	29.5	26.9	12.7
Taylor	26.3	7.7	14.4	---	15.6	19.0
Union	33.0	0.1	---	8.1	7.9	20.7
Van Buren	30.6	10.8	6.5	---	13.5	14.3
Wapello	24.7	6.8	---	10.0	16.5	4.6
Warren	22.1	---	1.7	41.8	21.6	17.3
Washington	33.5	---	11.4	44.1	14.2	6.0
Wayne	25.0	8.7	18.9	---	7.0	---
Webster	48.3	---	24.3	21.6	7.1	12.0
Winnebago	20.0	17.1	1.0	13.0	--- (under const)	1.1
Winneshiek	64.2	3.8	6.1	3.6	7.1	---
Woodbury	30.5	34.6	3.9	35.6	0.5	47.6
Worth	12.4	22.8	14.3	2.0	---	15.7
Wright	37.1	2.0	---	37.7	1.6	---
Total	2798.4	1247.2	873.7	2013.1	731.6	961.0
			GRAND TOTAL			8625.0

Comparisons of surface materials on Primary Roads
1947, 1954, 1957

Type	1/1/57	1/1/54	1/1/47
Earth	----	28.4 miles	46.0 miles
Gravel or Stone	961.0 miles	1,648.5 miles	2,229.8 miles
Bituminous	731.6 miles	1,243.1 miles	772.4 miles
Concrete, Brick, Recapped Concrete			
18 foot	2,798.4 miles	3,281.9 miles	4,229.2 miles
20 foot	1,247.2 miles	1,233.9 miles	1,363.8 miles
22 foot	873.7 miles	389.0 miles	14.4 miles
Over 22 feet	2,013.1 miles	154.3 miles	7.3 miles

In the 10 years since 1947 remarkable progress has been made in eliminating narrow highways in the primary system. Despite this progress, however, Iowa still has more than 4,000 miles of primary highways less than 22 feet in width.

The latest count showed that Iowa had 357.75 miles carrying 4,000 or more vehicles per day, the traffic volume which engineers say call for a four-lane highway. That volume generally is carried by the 10 north-south and 10 east-west major highways. Following is the breakdown of rural mileage and average daily traffic (ADT) and truck volumes on those roads:

Route	Mileage	A.D.T.	Trucks
US 30	297.41	3582	886
US 6	262.68	3341	922
US 69	204.61	3071	599
US 275	51.74	2680	741
IA. 64	301.59	2572	569
US 65	194.15	2449	510
US 218	239.26	2433	456
US 61	157.97	2433	449
US 75	146.39	2422	509
US 20	274.47	2373	460
US 34	238.82	2352	511
IA. 92	251.51	2242	553
US 71	218.11	2116	391
US 18	276.57	1853	387
US 169	222.65	1792	327
US 63	207.31	1757	355
IA. 2	243.54	1481	338
IA. 3	333.36	1476	287
IA. 9	277.05	1447	348
US 59	203.09	1002	209

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Motor vehicle registrations in Iowa, both passenger cars and trucks, have been rising steadily each year, although the most spectacular increase has been in truck registrations.

Since 1946 there has been an increase of 459,501 vehicles in Iowa, of which 351,318 were passenger cars and 108,183 were trucks.

Most of Iowa's highways were built in the 1930's. At that time there were 708,138 passenger cars registered compared with 974,723 in 1956 and truck registrations totaled 73,417 and by 1956 that had nearly tripled to 225,797.

The greatest motor vehicle registration increases have been in the larger counties, and a few counties actually had fewer passenger car registrations in 1956 than in 1930, including Adair, Adams, Lucas, Ringgold and Taylor. Counties showing the greatest numerical passenger car increases were Polk, 44,988; Linn, 22,235; Black Hawk, 20,539; Scott, 19,975; Woodbury, 10,820.

Following is a county-by-county comparison of registrations:

IOWA MOTOR VEHICLE REGISTRATIONS 1930-1956

COUNTY	CARS 1930	CARS 1956	TRUCKS 1930	TRUCKS 1956
Adair	4,425	4,392	465	1,165
Adams	3,274	3,000	328	915
Allamakee	4,587	5,162	424	1,504
Appanoose	5,431	5,570	423	1,230
Audubon	4,081	4,190	436	1,150
Benton	6,758	8,422	846	2,400
Black Hawk	19,129	40,668	1,821	5,931
Boone	7,801	10,072	1,003	2,086
Bremer	5,949	7,419	630	2,063
Buchanan	5,338	7,146	492	1,772
Buena Vista	6,211	8,430	884	1,953
Butler	5,560	6,839	572	1,840
Calhoun	5,398	6,291	681	1,558
Carroll	7,031	8,387	913	2,083
Cass	6,433	7,326	662	1,758
Cedar	5,949	6,465	456	2,298
Cerro Gordo	10,796	18,030	1,165	3,476
Cherokee	5,585	6,771	627	1,731
Chickasaw	4,344	5,179	385	1,471
Clarke	2,935	3,117	192	738
Clay	5,665	7,351	645	1,792
Clayton	7,540	7,611	833	2,499
Clinton	12,260	18,650	1,121	3,582
Crawford	6,584	6,705	676	1,853
Dallas	7,485	9,403	1,091	2,147
Davis	3,278	3,512	198	833
Decatur	3,652	3,590	221	846
Delaware	5,361	6,298	432	1,728
Des Moines	9,964	16,348	802	2,816
Dickinson	3,381	5,186	480	1,310
Dubuque	13,839	23,354	1,360	4,247
Emmet	4,032	5,640	495	1,460
Fayette	8,305	9,779	734	2,312
Floyd	5,961	7,818	530	1,876
Franklin	5,478	6,404	509	1,813
Fremont	4,411	4,134	545	1,352
Greene	5,103	6,036	624	1,471
Grundy	4,954	5,719	599	1,652
Guthrie	5,023	5,169	521	1,351
Hamilton	6,318	7,898	787	2,024
Hancock	4,671	5,680	501	1,731
Hardin	7,334	8,833	667	2,256
Harrison	6,803	6,299	602	1,786
Henry	5,248	6,622	441	1,794
Howard	3,967	4,574	351	1,246
Humboldt	4,157	5,032	451	1,422
Ida	4,007	4,186	409	1,329
Iowa	5,117	5,779	647	1,737
Jackson	5,682	7,138	523	1,994
Jasper	9,894	13,010	817	2,565

IOWA MOTOR VEHICLE REGISTRATIONS 1930-1956 (Continued)

COUNTY	CARS 1930	CARS 1956	TRUCKS 1930	TRUCKS 1956
Jefferson	4,901	5,746	332	1,419
Johnson	9,695	14,694	987	3,074
Jones	5,217	6,917	501	1,901
Keokuk	5,487	5,975	396	1,589
Kossuth	7,781	9,419	954	2,720
Lee	9,943	15,445	896	2,974
Linn	23,044	45,279	2,321	7,366
Louisa	3,290	3,874	308	1,304
Lucas	4,047	3,940	327	981
Lyon	4,902	5,341	529	1,540
Madison	4,486	4,621	483	1,206
Mahaska	6,923	8,843	719	2,094
Marion	6,759	8,354	515	1,892
Marshall	9,702	13,864	1,012	3,007
Mills	4,327	4,369	445	1,273
Mitchell	4,420	5,138	440	1,404
Monona	5,344	5,530	578	1,644
Monroe	3,256	3,701	221	807
Montgomery	5,451	5,757	628	1,413
Muscatine	8,506	12,108	856	2,719
O'Brien	5,926	7,286	661	1,963
Osceola	3,252	3,984	379	1,187
Page	7,203	7,715	701	1,927
Palo Alto	4,470	5,416	556	1,513
Plymouth	7,532	8,404	998	2,411
Pocahontas	5,067	5,727	727	1,537
Polk	43,876	88,864	4,462	12,766
Pottawattamie	18,427	27,246	1,763	4,939
Poweshiek	5,768	6,790	579	1,823
Ringgold	3,361	3,072	211	844
Sac	5,905	6,744	816	2,121
Scott	22,019	41,994	2,493	6,252
Shelby	5,580	5,763	503	1,542
Sioux	8,286	9,531	781	2,515
Story	9,327	15,246	1,057	2,807
Tama	7,163	7,778	894	2,432
Taylor	4,312	3,975	313	1,062
Union	4,962	5,207	370	1,052
Van Buren	3,354	3,602	273	1,116
Wapello	9,022	16,220	961	3,064
Warren	5,151	6,879	514	1,621
Washington	6,029	7,140	533	2,253
Wayne	3,610	3,756	265	996
Webster	10,783	17,200	1,146	3,519
Winnebago	4,198	5,104	388	1,384
Woodbury	25,352	36,172	2,680	6,368
Winneshiek	6,682	6,896	588	2,062
Worth	3,464	3,978	350	1,218
Wright	6,145	7,397	723	1,889
TOTAL	706,196	970,635	72,190	214,456
Non-Residential	1,942	1,944	1,227	1,706
	708,138	972,579	73,417	216,162

Following is a comparison of registrations of motor vehicle registrations for 1930 and 1956:

Year	Passenger Cars	Trucks	Total
1930	708,138	73,417	781,555
1931	671,642	79,621	751,263
1932	608,023	74,882	682,905
1933	562,802	69,490	632,292
1934	591,090	75,350	666,440
1935	618,487	80,529	699,016
1936	644,565	83,849	728,414
1937	657,734	87,868	745,602
1938	650,534	89,487	740,021
1939	671,858	94,554	766,412
1940	691,257	102,711	793,968
1941	714,608	110,504	825,112
1942	656,910	103,962	760,872
1943	613,911	99,265	713,176
1944	596,610	99,837	696,447
1945	589,387	103,609	692,996
1946	623,405	117,614	741,019
1947	676,222	135,814	712,036
1948	734,281	152,917	887,198
1949	807,536	170,420	977,956
1950	878,606	181,748	1,060,354
1951	895,948	191,931	1,087,879
1952	883,298	194,581	1,077,879
1953	911,044	201,837	1,112,881
1954	924,066	206,752	1,130,818
1955	968,643	213,490	1,182,133
1956	974,723	225,797	1,209,520

Traffic patterns on Iowa's highways are changing constantly. There is an increasingly greater mileage of highways carrying a correspondingly higher traffic volume as indicated by the comparative figures for 1953 and 1955 listed below.

In 1949, when the so-called 20-year road plan was discussed there were 1,669.45 miles in the primary system or 19 per cent of the total primary mileage carrying 1,500 or more vehicles per day. That vehicular figure usually is considered the minimum for a 24-foot highway. By 1953 that figure was increased to 3,402.49 miles or 39 per cent and by 1955 the figure had reached 3,782.46, or 42 per cent of the total mileage.

In addition, Iowa is a greater mileage of densely populated highways. Engineers usually consider that a traffic volume of 4,000 vehicles per day means that such a highway should be a minimum of a four-lane highway and any road carrying a traffic volume in excess of that should be a divided facility. In 1947 there were only 33.92 miles of the primary system carrying traffic volumes in excess of 4,000 vehicles per day. In 1953 there were 209.33 miles of primary roads carrying that traffic volume, and by 1955 there were 257.75 miles of 4,000-or-more-vehicles-per-day mileage.

The importance of highways to Iowa schools is reflected in the fact that there are 4,141 conventional public school buses operating in the state, in addition to 40 station wagons and 130 passenger cars making a total of 4,311 vehicles during the 1955-56 school year. This is an increase of 300 over the 1954-55 year.

The most recent data on the number of miles these buses travel during a year is for the 1954-55 school year when the mileage totaled 33,868,727 miles or an increase of five million over the 1952-53 year.

The "one trip" mileage of the buses totaled 96,387 miles for the 1954-55 school year, an increase of nearly 12,000 miles over the 84,136 miles in 1952-53.

Records in the Department of Public Instruction show that 6,866.05 miles are over dirt roads, or 7 per cent of the total; 75,656.91 are over gravel roads or 79 per cent of the total and 13,865.03 over pavement, or 14 per cent of the total. This means that 93 per cent of the mileage traveled is either gravel or paved.

It has been estimated that operations of a motor vehicle over a hard-surfaced road is one cent per mile cheaper than over a gravel, crushed rock or dirt road. As the highway system is improved the operating costs on the school buses will be reduced also. This will mean savings to taxpayers since a great portion of the tax dollar goes for schools and part of that is for operating school buses.

NUMBER OF SCHOOL BUSES BY COUNTY

County	No. Buses	County	No. Buses	County	No. Buses
Adair	33	Floyd	42	Monona	52
Adams	20	Franklin	51	Monroe	15
Allamakee	49	Fremont	44	Montgomery	41
Appanoose	34	Greene	41	Muscatine	29
Audubon	21	Grundy	44	O'Brien	48
Benton	78	Guthrie	49	Osceola	23
Black Hawk	52	Hamilton	54	Page	31
Boone	42	Hancock	43	Palo Alto	53
Bremer	39	Hardin	69	Plymouth	54
Buchanan	62	Harrison	56	Pocahontas	38
Buena Vista	62	Henry	56	Polk	88
Butler	52	Howard	15	Pottawattamie	69
Calhoun	48	Humboldt	41	Poweshiek	40
Carroll	32	Ida	33	Ringgold	29
Cass	42	Iowa	38	Sac	43
Cedar	68	Jackson	36	Scott	31
Cerro Gordo	47	Jasper	47	Shelby	35
Cherokee	50	Jefferson	20	Sioux	33
Chickasaw	14	Johnson	26	Story	71
Clarke	20	Jones	48	Tama	56
Clay	47	Keokuk	52	Taylor	30
Clayton	71	Koosuth	69	Union	36
Clinton	64	Lee	26	Van Buren	31
Crawford	35	Linn	103	Wapello	28
Dallas	73	Louisa	41	Warren	59
Davis	23	Lucas	23	Washington	25
Decatur	31	Lyon	30	Wayne	33
Delaware	45	Madison	39	Webster	56
Des Moines	33	Mahaska	31	Winnebago	47
Dickinson	38	Marion	41	Winneshiek	37
Dubuque	0	Marshall	75	Woodbury	94
Emmet	35	Mills	23	Worth	30
Fayette	67	Mitchell	47	Wright	46

MILES OF ROAD ON RURAL PRIMARY SYSTEM CLASSIFIED BY TRAFFIC VOLUME GROUPS

	1953		1955	
Traffic Volume	Miles	Percentage	Miles	Percentage
0-49	7.45	0.09	6.23	0.07
50-99	50.78	0.58	40.32	0.47
100-199	259.75	2.99	211.26	2.45
200-299	557.97	6.43	548.63	6.35
300-399	691.09	7.96	593.30	6.86
400-499	517.17	5.96	549.66	6.36
500-599	368.34	4.24	342.82	3.95
600-699	295.99	3.41	319.81	3.70
700-799	286.80	3.30	283.96	3.29
800-899	340.86	3.92	281.94	3.26
900-999	285.21	3.29	295.56	3.42
1,000-1,499	1,647.46	18.98	1,480.89	17.18
1,500-1,999	1,425.48	16.42	1,394.70	16.15
2,000-2,999	1,304.14	15.02	1,448.30	16.76
3,000-3,999	423.54	4.88	581.71	6.74
4,000-4,999	173.49	2.00	144.79	1.68
5,000-10,999	75.84	.53	112.96	1.31
Totals	8,653.90		8,636.93	

PROPOSAL NO. 2

In 1949, the legislature set as one of the goals of its 20-year program, the elimination of all gravel or crushed stone roads in the primary system. At that time there were more than 2,222 miles of such roads in the system. The legislative report at that time said "Any road of sufficient importance to rate inclusion in the primary road system should have a dust-free surface."

Splendid progress has been made in reaching this goal as indicated by the previous tabulation showing that 69 counties still have roads in the primary system that are not dust-free roads.

The highway commission, during the fiscal period ended June 30, 1956, spent $16,380,544 on these roads from a one-cent gas tax earmarked specifically for this purpose.

While these roads, generally speaking, are low traffic roads they are important to the economy of the state. For that reason we believe the one-cent gas tax earmarked for that purpose should be continued.

Counties which have more than 25 miles of primary roads that are not now hard-surfaced are: Woodbury, 47.6 miles; Jackson, 40.5 miles; Guthrie, 40 miles; Page, 37.4 miles; Poweshiek, 35.6 miles; Plymouth, 33.1 miles; Allamakee, 31.2 miles; Humboldt, 28 miles; Cherokee, 26.2 miles.

The tabulation on page 13 lists the counties and the mileage of gravel roads in the primary system.

PROPOSAL NO. 3

The need for a thorough study of Iowa's roads and streets needs, and the financing of our gigantic highway network is recognized by many groups in the state.

A committee of the legislature already has recommended such a study by the establishment of an interim committee to conduct a thorough investigation into this field. The Congress of the United States has indicated that such a study is needed in most of the states.

The Iowa Good Roads Association suggested two years ago that the legislature establish such a committee for the purpose of determining the needs of the various systems, such administrative changes as would be deemed necessary and the most equitable manner of financing Iowa's highways.

The Highway Investigation Committee report to the legislature in 1949 resulted in the establishment of the Road Use Tax Fund and a distribution formula by which the funds for the various highway systems would be distributed. Since that time there have been many changes in Iowa's traffic, population and economic-life pattern and a re-evaluation of the formula would appear to be in order.

Such a committee should be composed of members of the legislature as well as from areas outside the legislative branch. It should conduct an engineering study of the present deficiencies and future needs of all highways in the state; make a finance study to determine the adequacy of highway revenues, both state and local, to meet these deficiencies; make a management study to determine the ability of the state, counties and municipalities to spend highway funds efficiently; make an analysis of highway, roads and streets laws and conduct a safety study.

Such a committee would be the first step in developing a sound procedure for Iowa's highways.

Highway needs do not remain static but change as conditions within the state change, it is imperative that periodic studies of financial resources as well as needs be made to enable legislative bodies to consider legislation needed to accomplish the goal of a highway and streets network in Iowa to serve its population.

The local secondary road system (not including farm-to-market) comprises by far the largest road system in the state, 58,274.02 miles. Of this mileage, 41,045.08, or 70.43 per cent, is surfaced. Two years ago, 64.37 per cent of 37,087.29 miles was surfaced. This would indicate that nearly 4,000 miles of local secondary roads have been surfaced during the two year period.

A report of the state highway commission shows that 29 counties had 90 per cent or more of their local secondary roads surfaced and that 25 counties had only 50 per cent or less of their local secondary road mileage surfaced.

Condition Of The Local Secondary Road System of Iowa As Of
January 1, 1956 And Listed In Descending Order of Percent Surfaced

County	Local Secondary (Not Farm To Market) Total Miles	Miles Surfaced	Miles Unsurfaced	Percent Surfaced
Wright	610.04	598.64	11.40	98.13
Humboldt	435.11	426.52	8.59	98.03
Polk	648.18	632.77	15.41	97.62
Greene	612.60	594.51	18.09	97.05
Webster	735.32	713.48	21.84	97.03
Boone	618.87	600.08	18.79	96.96
Lyon	667.18	644.81	22.37	96.65
Howard	455.22	436.63	18.59	95.92
Hamilton	599.57	574.63	24.94	95.84
Palo Alto	604.23	578.38	25.85	95.72
Black Hawk	502.13	479.25	22.88	95.44
Hancock	656.95	623.49	33.46	94.91
Franklin	673.86	636.22	37.64	94.41
Hardin	631.29	596.00	35.29	94.41
Buena Vista	669.15	630.99	38.16	94.30
Story	604.88	569.68	35.20	94.18
Calhoun	651.84	613.05	38.79	94.05
Emmet	413.30	386.45	26.85	93.50
Grundy	532.47	494.56	37.91	92.88
Carroll	628.06	583.01	45.05	92.83
Pocahontas	664.11	613.29	50.82	92.35
Dallas	544.77	510.68	44.09	92.05
Sac	676.52	622.08	54.44	91.95
Clinton	616.59	565.37	51.22	91.69
Winnebago	448.13	410.02	38.11	91.50
Worth	422.34	386.31	36.03	91.47
Sioux	915.37	834.54	80.83	91.47
Floyd	563.01	512.01	51.00	90.94
Clay	664.10	599.78	64.32	90.31
Bremer	432.22	388.36	43.86	89.85
Marshall	586.71	525.11	61.60	89.50
Mitchell	510.96	452.81	58.15	88.62
Fayette	678.88	595.72	83.16	87.75
Kossuth	1,103.42	965.04	138.38	87.46
Cherokee	675.19	683.95	91.24	86.49
Cerro Gordo	674.53	582.16	92.37	86.31
Butler	623.57	538.02	85.55	86.28
Dubuque	422.53	364.01	58.52	86.15
Plymouth	951.24	814.82	136.42	85.66
Winneshiek	656.89	561.31	95.58	85.45

Mahaska	615.55	521.43	94.12	84.71
O'Brien	673.59	558.26	115.33	82.88
Linn	733.74	607.94	125.80	82.85
Lee	448.26	368.20	80.06	82.14
Tama	737.55	603.27	134.28	81.79
Delaware	570.72	466.25	359.17	81.70
Dickinson	409.61	329.92	79.69	80.54
Scott	361.77	283.65	78.12	78.41
Benton	792.83	613.48	179.35	77.38
Osceola	491.21	374.32	116.89	76.20
Muscatine	357.51	268.31	89.20	75.05
Wapello	434.73	322.30	112.43	74.14
Allamakee	517.05	382.63	134.42	74.00
Jones	518.71	378.81	139.90	73.03
Cedar	606.32	437.64	168.68	72.18
Jasper	795.58	572.64	222.94	71.98
Henry	447.22	315.14	132.08	70.47
Marion	539.40	380.13	159.27	70.47
Ida	498.24	345.60	154.62	69.36
Chickasaw	551.19	381.95	169.24	69.30
Woodbury	828.63	571.70	256.93	68.99
Appanoose	478.17	328.04	150.13	68.60
Louisa	352.71	241.14	111.57	68.37
Johnson	619.71	421.75	197.96	68.06
Clayton	653.19	433.68	219.51	66.39
Iowa	612.86	364.65	248.21	59.50
Des Moines	387.16	229.51	157.65	59.28
Union	489.73	289.40	200.33	59.09
Madison	643.57	380.07	263.50	59.06
Washington	631.99	372.44	259.55	58.93
Poweshiek	648.76	375.46	273.30	57.87
Monroe	418.78	233.19	185.59	55.68
Keokuk	597.50	332.09	265.41	55.68
Guthrie	607.38	320.70	286.68	52.80
Adair	703.99	345.22	358.77	49.04
Buchanan	594.44	269.67	324.77	45.37
Jefferson	512.88	230.49	282.39	44.94
Montgomery	468.36	195.27	273.09	41.69
Jackson	483.37	198.37	285.00	41.04
Van Buren	484.97	194.89	290.08	40.19
Monona	665.26	266.09	399.17	40.00
Lucas	432.88	171.41	261.47	39.60
Warren	581.09	229.76	351.33	39.54
Davis	531.84	208.70	323.14	39.24
Taylor	606.65	235.14	371.51	38.76

Wayne	544.51	207.91	336.60	38.18
Audubon	519.82	191.85	327.97	36.91
Ringgold	608.45	218.31	390.14	35.88
Pottawattamie	944.04	316.90	627.14	33.57
Adams	466.33	147.92	318.41	31.72
Clarke	445.58	141.25	304.33	31.70
Fremont	492.13	155.04	337.09	31.50
Decatur	515.47	156.30	359.17	30.32
Page	598.93	179.12	419.81	29.91
Cass	605.20	179.39	425.81	29.64
Crawford	857.87	187.07	670.80	21.81
Mills	422.66	91.56	331.10	21.66
Harrison	691.05	74.81	616.24	10.83
Shelby	634.00	8.41	625.59	1.33
TOTAL	58,274.02	41,045.08	17,228.94	70.43

The total secondary road mileage in Iowa (both farm to market and local secondary) is 92,366.35 miles of which 73,461.23 miles were surfaced as of January 1, 1956 or 79.53 per cent. Two years ago there were 63,378.84 miles surfaced, or 70 per cent of the total mileage. Expressed in another way, there has been an increase of more than 10,000 miles in the surfaced secondary road mileage in a two year period.

A report of the highway commission shows that 38 counties have 90 per cent or more of their secondary mileage surfaced and that only five counties have less than 50 per cent of the mileage not surfaced.

Condition of the Total Secondary Road Systems of Iowa as of January 1, 1956 and Listed in Descending Order of Percent Surfaced

County	Total Secondary Miles	Miles Surfaced	Miles Unsurfaced	Percent Surfaced
Wright	956.82	945.42	11.40	98.81
Humboldt	685.99	677.15	8.84	98.71
Polk	1,016.20	999.78	16.42	98.38
Green	951.84	933.75	18.09	98.10
Boone	988.03	967.47	20.56	97.92
Webster	1,158.43	1,133.94	24.49	97.89
Lyon	1,014.38	992.01	22.37	97.79
Hamilton	940.69	915.75	24.94	97.35
Howard	736.57	716.98	19.59	97.34
Palo Alto	936.08	910.23	25.85	97.24

Black Hawk	856.68	832.37	24.31	97.16
Hancock	1,001.04	967.58	33.46	96.66
Hardin	995.50	959.06	36.44	96.34
Franklin	1,015.45	977.81	37.64	96.29
Story	968.13	931.43	36.70	96.21
Calhoun	1,010.70	970.08	40.62	95.98
Emmet	655.85	629.00	26.85	95.91
Buena Vista	1,029.29	986.16	43.13	95.81
Carroll	999.27	954.22	45.05	95.49
Grundy	835.17	797.26	37.91	95.46
Pocahontas	1,015.89	964.07	51.82	94.90
Dallas	918.94	871.82	47.12	94.87
Clinton	1,042.50	987.28	55.22	94.70
Worth	669.50	632.47	37.03	94.47
Sac	1,031.14	971.93	60.21	94.26
Sioux	1,416.34	1,332.82	83.52	94.10
Floyd	863.54	812.54	51.00	94.09
Winnebago	707.22	662.17	45.05	93.63
Clay	993.15	927.04	66.11	93.34
Marshall	944.99	882.01	62.98	93.34
Bremer	723.80	673.33	50.47	93.03
Mitchell	792.24	731.34	60.90	92.31
Fayette	1,145.38	1,056.51	88.87	92.24
Dubuque	782.30	717.72	64.58	91.74
Cerro Gordo	1,034.43	942.06	92.37	91.07
Cherokee	1,013.21	921.48	91.73	90.95
Kossuth	1,671.20	1,518.91	152.29	90.89
Plymouth	1,443.65	1,306.98	136.67	90.53
Butler	976.55	878.10	98.45	89.92
Mahaska	985.06	884.93	100.13	89.84
Lee	764.04	679.92	84.12	88.99
Linn	1,193.40	1,060.96	132.44	88.90
O'Brien	1,037.92	913.15	124.77	87.98
Delaware	928.71	816.01	112.70	87.86
Dickinson	652.08	571.46	80.62	87.64
Winneshiek	1,082.69	941.09	141.60	86.92
Tama	1,192.82	1,029.90	162.92	86.34
Scott	669.26	575.47	93.79	85.99
Allamakee	898.98	758.96	140.02	84.42
Muscatine	640.28	540.18	100.10	84.37
Benton	1,220.55	1,028.85	191.70	84.29
Osceola	743.76	621.29	122.47	83.53
Wapello	708.47	588.08	120.39	83.01
Cedar	961.70	789.47	172.23	82.09
Jasper	1,263.98	1,034.74	229.24	81.86

Jones	875.88	712.53	163.35	81.35
Henry	727.44	591.51	135.93	81.31
Marion	915.18	743.81	171.37	81.27
Louisa	589.53	475.31	114.22	80.63
Woodbury	1,307.07	1,036.50	270.57	79.30
Appanoose	789.42	625.79	163.63	79.27
Ida	769.75	607.77	161.98	78.96
Clayton	1,129.15	883.47	245.68	78.24
Johnson	1,007.58	787.92	219.66	78.20
Iowa	968.14	716.91	251.23	74.05
Des Moines	639.93	470.47	169.46	73.52
Madison	978.85	706.35	272.50	72.16
Union	738.13	526.21	211.92	71.29
Washington	954.21	679.22	274.99	71.18
Monroe	665.55	470.22	195.33	70.65
Poweshiek	992.66	686.22	306.44	69.13
Chickasaw	865.86	586.84	279.02	67.78
Keokuk	969.38	655.61	313.77	67.63
Guthrie	977.41	648.34	329.07	66.33
Adair	1,041.04	677.97	363.07	65.12
Montgomery	735.35	458.17	276.18	62.31
Jefferson	773.54	480.75	292.79	62.15
Van Buren	765.75	472.07	293.68	61.65
Warren	926.28	567.06	359.22	61.22
Davis	828.45	502.16	326.29	60.61
Wayne	852.97	509.61	343.36	59.75
Lucas	688.59	409.12	279.47	59.41
Buchanan	962.91	560.21	402.70	58.18
Audubon	805.11	458.44	346.67	56.94
Ringgold	916.57	518.88	397.69	56.61
Pottawattamie	1,529.75	865.65	664.10	56.59
Jackson	842.22	475.79	366.43	56.49
Taylor	931.99	517.34	414.65	55.51
Fremont	775.94	427.62	348.32	55.11
Monona	1,039.03	569.79	469.24	54.84
Page	943.27	508.17	435.10	53.87
Decatur	821.43	441.09	380.34	53.70
Clarke	679.33	355.61	323.72	52.35
Adams	723.04	364.93	358.11	50.47
Cass	945.48	455.64	489.84	48.19
Mills	675.08	323.42	351.66	47.91
Crawford	1,306.40	549.43	756.97	42.06
Harrison	1,124.47	390.31	734.16	34.71
Shelby	989.46	168.51	820.95	17.03
TOTAL	92,366.35	73,461.23	18,905.12	79.53

FARM TO MARKET ROADS

Iowa has one of the most extensive farm to market road systems in the nation. In fact, the federal aid secondary road system, which embraces all of the farm to market roads and a small mileage of the local secondary road system, is the largest in the nation.

Only 13 counties in the state had less than 90 per cent of their farm to market roads surfaced in 1956. Forty-three counties have fewer than five miles of the farm to market system not surfaced.

Excellent progress has been made in this field. In 1950, for example, 6,244 miles of the system was not surfaced. By 1955 this mileage had been reduced to only 1,676 miles or 4.9 per cent of the total farm to market mileage of 34,092. There were only 432 miles of hard-surfaced roads in the system in 1950, compared with 1,366 miles in 1955.

While the mileage of dust-free roads has increased sharply, there will be according to a 1954 estimate, need for 10,000 miles of hard-surfaced farm to market roads by 1975. It is generally conceded that as other road systems are upgraded and improved that there will be greater demand for dust-free roads in the rural areas.

Condition of the Farm-To-Market Road System of Iowa as of January 1, 1956 and Listed in Descending Order of Percent Surfaced

	Farm To Market Road System			
County	Total Miles	Miles Surfaced	Miles Unsurfaced	Percent Surfaced
Louisa	236.82	234.17	2.65	98.88
Fayette	466.50	460.79	5.71	98.78
Adair	337.05	332.75	4.30	98.72
Van Buren	280.78	277.18	3.60	98.72
Lee	315.78	311.72	4.06	98.71
Jasper	468.40	462.10	6.30	98.65
Sac	354.62	349.85	4.77	98.65
Henry	280.22	276.37	3.85	98.63
Buena Vista	360.14	355.17	4.97	98.62
Linn	459.66	453.02	6.64	98.56
Allamakee	381.93	376.33	5.60	98.53
Montgomery	266.99	262.90	4.09	98.47
Mahaska	369.51	363.50	6.01	98.37
Dubuque	359.77	353.71	6.06	98.32
Wayne	308.46	301.70	6.76	97.81
Osceola	252.55	246.97	5.58	97.79
Bremer	291.58	284.97	6.61	97.73
Warren	345.19	337.30	7.89	97.71
Delaware	357.99	349.76	8.23	97.70
Kossuth	567.78	553.87	13.91	97.55

Ringgold	308.12	300.57	7.55	97.55
O'Brien	364.33	354.89	9.44	97.41
Madison	335.28	326.28	9.00	97.32
Winnebago	259.09	252.15	6.94	97.32
Woodbury	478.44	464.80	13.64	97.15
Benton	427.72	415.37	12.35	97.11
Wapello	273.74	265.78	7.96	97.09
Marion	375.78	363.68	12.10	96.78
Ida	271.51	262.17	9.34	96.56
Butler	352.98	340.08	12.90	96.35
Muscatine	282.77	271.87	10.90	96.15
Monroe	246.77	237.03	9.74	96.05
Fremont	283.81	272.58	11.23	96.04
Jefferson	260.66	250.26	10.40	96.01
Appanoose	311.25	297.75	13.50	95.66
Carroll	371.21	371.21		100.00
Cerro Gordo	359.90	359.90		100.00
Emmet	242.55	242.55		100.00
Floyd	300.53	300.53		100.00
Franklin	341.59	341.59		100.00
Greene	339.24	339.24		100.00
Grundy	302.70	302.70		100.00
Hamilton	341.12	341.12		100.00
Hancock	344.09	344.09		100.00
Lyon	347.20	347.20		100.00
Palo Alto	331.85	331.85		100.00
Wright	346.78	346.78		100.00
Plymouth	492.41	492.16	.25	99.95
Humboldt	250.88	250.63	.25	99.90
Cherokee	338.02	337.53	.49	99.86
Polk	368.02	367.01	1.01	99.73
Pocahontas	351.78	350.78	1.00	99.72
Hardin	364.21	363.06	1.15	99.68
Howard	281.35	280.35	1.00	99.64
Dickinson	242.47	241.54	.93	99.62
Marshall	358.28	356.90	1.38	99.61
Black Hawk	354.55	353.12	1.43	99.60
Worth	247.16	246.16	1.00	99.60
Story	363.25	361.75	1.50	99.59
Boone	369.16	367.39	1.77	99.52
Calhoun	358.86	357.03	1.83	99.49
Clay	329.05	327.26	1.79	99.46
Sioux	500.97	498.28	2.69	99.46
Webster	423.11	420.46	2.65	99.37
Dallas	364.17	361.14	3.03	99.17

Iowa	355.28	352.26	3.02	99.15
Clinton	425.91	421.91	4.00	99.06
Mitchell	281.28	278.53	2.75	99.02
Cedar	355.38	351.83	3.55	99.00
Davis	296.61	293.46	3.15	98.94
Page	344.34	329.05	15.29	95.56
Des Moines	252.77	240.96	11.81	95.33
Union	248.40	236.81	11.59	95.33
Washington	322.22	306.78	15.44	95.21
Scott	307.49	291.82	15.67	94.90
Clayton	475.96	449.79	26.17	94.50
Johnson	387.87	366.17	21.70	94.41
Tama	455.27	426.63	28.64	93.71
Pottawattamie	585.71	548.75	36.96	93.69
Audubon	285.29	266.59	18.70	93.45
Jones	357.17	333.72	23.45	93.43
Decatur	305.96	284.79	21.17	93.08
Lucas	255.71	237.71	18.00	92.96
Mills	252.42	231.86	20.56	91.85
Clarke	233.75	214.36	19.39	91.70
Poweshiek	343.90	310.76	33.14	90.36
Winneshiek	425.80	379.78	46.02	89.19
Guthrie	370.03	327.64	42.39	88.54
Keokuk	371.88	323.52	48.36	87.00
Taylor	325.34	282.20	43.14	86.74
Adams	256.71	217.01	39.70	84.54
Monona	373.77	303.70	70.07	81.25
Cass	340.28	276.25	64.03	81.18
Crawford	448.53	362.36	86.17	80.79
Buchanan	368.47	290.54	77.93	78.85
Jackson	358.85	277.42	81.43	77.31
Harrison	433.42	315.50	117.92	72.79
Chickasaw	314.67	204.89	109.78	65.11
Shelby	355.46	160.10	195.36	45.04
TOTAL	34,092.33	32,416.15	1,676.18	95.08

MILES OF ROAD ON THE OTHER SECONDARY SYSTEM CLASSIFIED BY TRAFFIC VOLUME GROUP

1947 - 1953 - 1956

Traffic Volume	1947 Miles	1947 %	1953 Miles	1953 %	1956 Miles	1956 %
0-9	16,358.27	27.97	15,354.17	26.19	12,225.91	21.17
10-24	28,941.77	49.50	24,084.57	41.09	21,444.64	37.12
25-49	11,806.09	20.19	13,305.52	22.70	15,852.04	27.44
50-99	1,365.97	2.34	4,976.51	8.49	6,750.27	11.69
100-199	---	---	652.09	1.11	1,265.24	2.19
200-299	---	---	155.40	0.26	126.15	0.22
300-399	---	---	59.40	0.10	35.27	0.06
400-499	---	---	10.39	0.02	23.36	0.04
500-599	---	---	5.83	0.01	12.37	0.02
600-699	---	---	10.43	0.02	30.02	0.05 (1)
700-799	---	---	1.08	(*)	---	---
800-899	---	---	3.42	0.01	---	---
Total	58,472.10	100.00	58,618.81	100.00	57,765.17	100.00

(1) Includes all mileage for traffic volume groups over 600
(*) Less than 0.005%

MILES OF ROAD ON FARM-TO-MARKET SYSTEM CLASSIFIED BY TRAFFIC VOLUME GROUP

1947 - 1953 - 1956

0-9	960.80	2.81	1,025.67	3.00	768.34	2.25
10-24	4,818.92	14.07	4,509.01	13.20	3,653.29	10.72
25-49	8,303.31	24.25	8,733.90	25.57	8,337.19	24.47
50-99	9,849.14	28.76	10,935.83	32.02	11,391.23	33.43
100-199	7,311.23	21.35	7,005.53	20.51	7,665.96	22.50
200-299	2,155.85	6.30	1,496.42	4.38	1,627.47	4.78
300-399	589.37	1.72	353.98	1.04	403.54	1.18
400-499	155.04	0.45	62.13	0.18	125.83	0.37
500-599	72.08	0.21	25.23	0.07	49.48	0.15
600-699	14.68	0.04	7.32	0.02	52.66	0.15 (1)
700-799	9.32	0.03	---	---	---	---
800-899	1.23	(*)	---	---	---	---
900-999	1.00	(*)	3.27	0.01	---	---
1000-1249	.76	(*)	---	---	---	---
1250-1499	2.50	0.20	.46	(*)	---	---
1500-1999	0.20	(*)	---	---	---	---
2000-2999	0.45	(*)	---	---	---	---
Total	34,245.53	100.00	34,158.75	100.00	34,074.99	100.00

(1) Includes all mileage for traffic volume groups over 600
(*) Less than 0.005%

COMPARISON OF CONDITION OF IOWA SECONDARY ROADS - 1953 and 1956

County	TOTAL SECONDARY 1953 Miles Surfaced	TOTAL SECONDARY 1953 % Surfaced	TOTAL SECONDARY 1956 Miles Surfaced	TOTAL SECONDARY 1956 % Surfaced	LOCAL SECONDARY 1953 Miles Surfaced	LOCAL SECONDARY 1953 % Surfaced	LOCAL SECONDARY 1956 Miles Surfaced	LOCAL SECONDARY 1956 % Surfaced
Adair	572.99	55.70	677.97	65.1	387.49	45.90	345.22	49.0
Adams	266.85	38.2	364.93	50.6	135.60	24.30	147.92	32.9
Allamakee	788.42	77.90	758.96	84.4	625.44	73.90	382.63	74.0
Appanoose	550.50	69.80	625.79	82.0	410.48	63.50	328.04	72.5
Audubon	289.37	35.8	458.44	57.2	125.92	19.60	191.85	37.2
Benton	991.65	81.40	1,028.85	84.6	847.00	78.90	613.48	77.9
Black Hawk	818.86	94.80	832.97	97.4	677.56	93.80	479.25	95.8
Boone	948.41	95.90	967.47	98.0	802.79	95.10	600.08	97.0
Bremer	667.38	91.90	673.33	94.0	569.38	90.60	388.36	91.4
Buchanan	507.43	53.10	560.21	58.7	390.82	46.60	269.67	46.0
Buena Vista	951.75	93.90	986.16	95.8	809.75	92.90	630.99	94.3
Butler	825.07	85.30	878.10	89.9	664.82	82.60	538.02	86.3
Calhoun	956.60	95.2	970.08	96.0	792.80	94.20	613.05	94.1
Carroll	934.00	94.8	953.32	95.5	766.75	93.80	582.11	92.8
Cass	319.75	33.5	455.64	48.2	200.65	24.00	179.38	29.6
Cedar	717.73	76.40	789.47	82.5	599.39	73.00	437.64	72.7
Cerro Gordo	927.40	90.70	942.06	91.4	814.42	89.60	582.16	86.7
Cherokee	849.16	85.50	921.48	91.0	711.66	83.10	583.95	86.6
Chickasaw	719.65	85.10	737.30	88.0	585.85	82.40	456.86	86.9
Clarke	271.47	41.70	355.61	52.4	154.92	29.50	141.25	31.8
Clay	927.41	93.00	926.64	93.4	796.50	91.90	599.78	90.4
Clayton	790.84	72.60	883.47	78.3	644.47	68.30	433.68	66.4
Clinton	949.11	90.30	987.28	94.9	854.30	89.30	565.37	91.9
Crawford	494.20	36.10	549.43	42.7	320.50	26.80	187.07	22.3
Dallas	844.68	93.60	871.82	94.9	729.14	92.70	510.68	92.1
Davis	391.37	43.40	502.16	60.7	262.26	34.00	208.70	39.3
Decatur	349.19	42.60	441.09	54.5	224.42	32.30	156.30	31.0
Delaware	778.20	86.70	816.01	88.4	653.05	84.60	466.25	82.3
Des Moines	440.52	69.60	470.47	73.9	348.78	64.40	229.51	59.8
Dickinson	571.40	84.80	571.46	87.6	473.40	82.30	329.92	80.5
Dubuque	692.39	91.90	717.72	91.7	610.60	90.90	364.01	86.2
Emmet	627.35	95.60	629.00	96.2	575.20	95.20	386.45	93.9
Fayette	1,035.24	90.1	1,056.51	92.3	930.60	89.70	595.72	87.8
Floyd	729.64	85.40	812.54	94.2	613.70	83.10	512.01	91.1
Franklin	968.93	95.90	977.81	96.5	818.22	95.10	636.22	94.7
Fremont	325.55	40.80	428.63	55.4	211.25	31.00	156.05	31.8
Greene	931.03	98.40	933.75	98.3	797.03	98.10	594.51	97.4
Grundy	783.81	93.80	797.26	95.5	571.77	91.70	494.56	92.9
Guthrie	517.50	52.90	648.34	67.2	385.50	45.60	320.70	54.0
Hamilton	888.29	94.70	915.75	97.6	711.22	93.50	574.63	96.2
Hancock	942.20	94.80	967.58	97.0	822.20	94.10	623.49	95.4
Hardin	875.50	89.10	959.06	96.6	570.80	84.30	596.00	94.8
Harrison	341.77	29.70	390.31	35.5	212.97	20.90	74.81	11.2
Henry	541.91	76.50	591.51	81.3	412.11	71.30	315.14	70.5
Howard	726.50	98.50	761.98	97.3	651.75	98.30	436.63	95.9
Humboldt	679.20	99.30	677.15	98.7	568.35	99.10	426.52	98.0
Ida	574.78	74.40	607.77	79.2	461.63	70.10	345.60	69.7
Iowa	685.00	72.90	716.91	75.1	529.50	67.50	364.65	60.9
Jackson	417.70	50.40	475.79	56.5	346.51	45.70	198.37	41.0

Comparison of Condition of Iowa Secondary Roads (Continued)

County	Miles Surfaced	% Surfaced	Miles Surfaced	% Surfaced	Miles Surfaced	% Surfaced	Miles Surfaced	% Surfaced
Jasper	843.25	66.00	1,034.74	81.9	568.39	66.60	572.64	72.0
Jefferson	412.56	52.60	480.75	62.9	285.76	43.40	230.49	45.7
Johnson	714.45	70.60	787.92	78.3	579.92	66.10	421.75	68.1
Jones	685.19	81.50	712.53	82.5	586.86	79.10	378.81	74.9
Keokuk	520.37	53.50	655.61	69.1	435.02	49.00	332.09	57.4
Kossuth	1,438.80	86.30	1,518.91	91.1	1,277.80	84.90	965.04	87.7
Lee	639.95	88.60	679.92	89.8	485.35	85.50	368.20	83.5
Linn	982.70	82.10	1,060.96	89.0	795.30	78.80	607.94	82.9
Louisa	448.42	75.30	475.31	80.6	364.20	71.20	241.14	68.4
Lucas	350.91	50.70	409.12	60.3	240.61	41.40	171.41	40.5
Lyon	1,001.00	96.20	992.01	98.3	860.50	95.70	644.81	97.5
Madison	623.90	62.40	706.35	75.5	510.90	57.70	380.07	63.1
Mahaska	905.04	89.60	884.93	90.1	799.92	88.40	521.43	85.0
Marion	644.31	71.50	743.81	82.8	496.71	66.00	380.13	72.5
Marshall	853.08	91.00	882.01	93.3	672.88	88.80	525.11	89.5
Mills	262.80	38.50	323.42	48.7	109.10	21.40	91.56	22.2
Mitchell	723.10	81.70	731.34	92.3	622.20	91.00	452.81	88.6
Monona	417.95	64.70	569.79	55.2	258.45	53.60	266.09	40.4
Monroe	462.35	44.3	470.22	73.3	300.22	34.00	233.19	59.0
Montgomery	390.58	52.10	458.17	62.3	263.33	42.30	195.27	41.7
Muscatine	517.42	80.00	540.18	84.5	442.02	77.30	268.31	75.2
O'Brien	884.52	85.50	913.15	88.0	759.82	83.80	558.26	82.9
Osceola	592.67	80.20	621.29	83.5	483.77	76.80	374.32	76.2
Page	393.88	41.90	508.17	54.7	258.20	32.10	179.12	30.6
Palo Alto	904.30	95.70	910.23	97.4	753.55	94.90	578.38	95.9
Plymouth	1,270.88	87.60	1,306.98	90.6	1,051.18	85.40	814.82	85.7
Pocahontas	933.60	89.50	964.07	94.9	782.90	87.70	613.29	92.3
Polk	982.55	97.10	999.78	98.4	682.99	95.90	632.77	97.7
Pottawattamie	636.52	41.80	865.65	56.6	414.82	31.90	316.90	33.6
Poweshiek	586.60	58.40	686.22	69.1	477.10	53.30	375.46	57.9
Ringgold	385.78	42.50	518.88	57.3	239.38	31.40	218.31	36.6
Sac	974.75	95.20	971.93	94.7	858.75	94.60	622.08	92.4
Scott	556.49	84.40	575.47	86.0	460.76	81.80	283.65	78.4
Shelby	456.70	46.50	168.51	17.0	310.85	37.20	8.41	1.3
Sioux	1,297.50	96.00	1,332.82	94.1	1,149.50	95.50	834.54	91.2
Story	915.60	95.50	931.43	96.3	775.60	94.80	569.68	94.3
Tama	1,027.22	88.60	1,029.90	87.7	839.27	86.40	603.27	83.1
Taylor	375.45	41.60	517.34	55.9	203.65	27.80	235.14	39.2
Union	355.84	48.90	526.21	71.8	235.38	38.80	289.40	59.7
Van Buren	378.07	47.30	472.07	61.8	267.67	39.10	194.89	40.3
Wapello	532.51	69.00	589.75	84.5	423.51	63.90	323.97	76.4
Warren	518.77	54.70	567.06	62.4	415.77	49.10	229.76	40.7
Washington	629.55	67.80	679.22	74.0	527.71	63.90	372.44	62.5
Wayne	430.80	50.90	509.61	60.5	282.15	40.50	207.91	38.9
Webster	1,123.67	98.40	1,133.44	98.0	812.15	97.80	713.73	97.2
Winnebago	645.12	90.60	662.17	94.0	527.68	88.70	410.02	92.1
Winneshiek	877.03	82.40	941.09	87.0	754.33	80.10	561.31	85.6
Woodbury	829.83	65.20	1,036.50	79.3	652.25	59.60	571.70	69.0
Worth	600.65	90.40	632.47	94.5	518.64	89.00	386.31	91.5
Wright	944.07	98.80	945.42	98.8	782.20	98.60	598.64	98.1
TOTAL	68,564.70	74.70	73,613.17	80.2	54,838.01	70.00	41,122.02	71.2

WHERE THE PRIMARY ROAD FUNDS WERE SPENT DURING THE FISCAL YEAR ENDED JUNE 30, 1956

County	Regular	Special	Widening	Total
Adair	$	$ 191,662	$	$ 191,662
Adams	6,061	139,765		145,826
Allamakee	307,272	440,990		748,262
Appanoose	62,188	---		62,188
Audubon	40,458	---	6,669	47,127
Benton	13	169,865	67,693	237,571
Black Hawk	979,485	---	199,850	1,179,335
Boone	426	180,606	75,372	256,404
Bremer	184,859	---	---	184,859
Buchanan	257,617	143,189	281,980	682,786
Buena Vista	157,105	11,891	203,339	372,335
Butler	14,869	51,673	283,737	350,279
Calhoun	13,230	11,232	211,012	235,474
Carroll	11,733	8,274	448,847	468,854
Cass	---	170,066	162,583	332,649
Cedar	177,021	121,181	57,027	355,229
Cerro Gordo	871,341	102,688	225,305	1,199,334
Cherokee	8,366	---	---	8,366
Chickasaw	552	62,340	376,515	439,407
Clarke	280,248	---	---	280,248
Clay	143,391	6,245	120,715	270,351
Clayton	12,687	29,213	---	41,900
Clinton	558,938	14,501	---	573,439
Crawford	12,379	6,214	304,004	322,597
Dallas	25	1,584,031	351,250	1,935,306
Davis	---	105,176	---	105,176
Decatur	---	---	10,096	10,096
Delaware	---	307,099	9,000	316,099
Des Moines	443,586	---	8,352	451,938
Dickinson	108,214	179,570	---	287,784
Dubuque	431,438	195,778	9,085	636,301
Emmet	744	---	---	744
Fayette	364,641	173,259	51,629	589,529
Floyd	34,298	80,071	---	114,369
Franklin	137,370	4,141	463,408	604,919
Fremont	12,491	---	---	12,491
Greene	123,432	68,042	5,481	196,955
Grundy	---	---	388,683	388,683
Guthrie	8,084	321,589	---	329,673
Hamilton	157,201	3,431	499,824	660,456
Hancock	4,974	125,828	319,191	449,993
Hardin	89,079	---	420,587	509,666
Harrison	92,288	193,585	506,879	792,752
Henry	397,772	---	---	397,772
Howard	165,553	70,818	---	236,371
Humboldt	127,307	58,377	---	185,684
Ida	6	54,797	42,369	97,172
Iowa	339,209	128,487	724,057	1,191,753
Jackson	---	764,341	---	764,341
Jasper	43,568	430,245	281,600	755,413

Where the Primary Road Funds were spent during the Fiscal Year ended June 30, 1956 (Contd.)

County	Regular	Special	Widening	Total
Jefferson	1,211,957	---	---	1,211,957
Johnson	212,707	---	356,677	569,384
Jones	---	243,005	---	243,005
Keokuk	19,275	287,681	---	306,956
Kossuth	6,784	123,425	---	130,209
Lee	179,521	182,468	---	361,989
Linn	429,631	226,403	139,967	796,001
Louisa	5	416,999	298,560	715,564
Lucas	24,138	498,570	22,267	544,975
Lyon	---	359,252	---	359,252
Madison	---	16,430	208,116	224,546
Mahaska	126,840	---	50,482	177,322
Marion	---	841,450	151,859	993,309
Marshall	303,838	154,691	177,646	636,175
Mills	10	26,363	---	26,373
Mitchell	42	75	---	117
Monona	24,343	692,648	279,951	996,942
Monroe	2,520	---	180,280	182,800
Montgomery	574	---	---	574
Muscatine	68	802,605	764,597	1,567,270
O'Brien	17,873	---	---	17,873
Osceola	---	---	---	---
Page	114,003	---	2,157	116,160
Palo Alto	2,415	20,937	---	23,352
Plymouth	150,785	145,004	208,215	504,004
Pocahontas	356	168,560	---	168,916
Polk	436,935	29,927	3	466,865
Pottawattamie	880,062	881,945	---	1,722,007
Poweshiek	1,166,883	366,091	---	1,532,974
Ringgold	17,359	341,344	---	358,703
Sac	5,306	---	190,988	196,294
Scott	239,928	19,949	104,845	364,722
Shelby	28,458	---	---	28,458
Sioux	---	307,149	53,033	360,182
Story	47,760	426,957	321,042	795,759
Tama	509,155	50,528	---	559,683
Taylor	---	59,866	---	59,866
Union	---	42,376	272,164	314,540
Van Buren	---	14,353	---	14,353
Wapello	1,013,090	41	---	1,013,131
Warren	162,747	---	43,678	206,425
Washington	19,146	954,786	176,559	1,150,491
Wayne	27,266	---	---	27,266
Webster	236,656	244,546	202,207	683,409
Winnebago	2	31,284	128,952	160,238
Winneshiek	251	44,055	10,811	55,117
Woodbury	426,191	574,701	83,174	360,182
Worth	407	80,853	---	81,260
Wright	---	32,929	94,552	127,481
Totals	$15,253,434	$16,380,544	$10,151,384	$41,785,362

ESTIMATE OF COST TO MODERNIZE IOWA ROAD SYSTEMS ACCORDING TO NATION-WIDE HIGHWAY FINANCE STUDY, SECTION 13, 1954 FEDERAL AID HIGHWAY ACT

Rural Interstate

Item	No. of Lanes	Miles	Cost per Mile	Cost	Cost for Item
R.O.W.	4	637	$ 60,000	$38,220,000	$ 38,220,000
Grading	2	137	55,000	7,535,000	
	4	500	90,000	45,000,000	52,535,000
Surface	2	137	60,000	8,220,000	
	4	500	132,000	66,000,000	74,220,000

Structures	No.	Group Length	Average Length	Width	Cost	Cost for Item
	324	Under 150'	50'	40'	8,100,000	
	80	Over 150'	425'	33'	14,025,000	4-lane section
	37	Under 150'	50'	44'	1,017,000	
	4	Over 150'	425'	33'	701,000	2-lane section
			Structures over roadway			
	500	@ $50,000			$25,000,000	48,843,000

TOTAL COST $213,818,000

Note: (1) Unit price for surface = $4.25 / sq. yd.
24' section - 14,080 x 4.25 = 59,840 miles
(2) Unit price for structures = $12.50 / sq. ft.

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Urban Interstate

Item	No. of Lanes	Miles	Cost per Mile	Cost	Cost for Item
R.O.W.	4	65	$ 90,000	$ 5,850,000	$ 5,850,000
Grading	4	65	75,000	4,875,000	4,875,000
Surface	4	65	185,000	12,025,000	12,025,000

Structures	No.	Group Length	Average Length	Width	Cost	Cost for Item
	80	Under 150'	50'	40'	2,000,000	
	24	Over 150'	425'	33'	4,208,000	
	½	Missouri River Bridge			3,500,000	
	1½	Big Sioux River Bridge			750,000	
			Over Roadway			
	296	Over 150'	150'	42'	20,646,000	31,104,000

TOTAL COST $53,854,000

Note: (1) Structures over roadway computed as 30' roadway and 2-6' sidewalks.
Unit prices $12.50 / sq. ft. for roadway.
7.50 / sq. ft. for sidewalk.

RURAL PRIMARY SYSTEM (OUTSIDE INTERSTATE)

Item	Type of Construction	No.of Lanes	Miles	Cost per Mile	Cost	Cost for Item
R. O. W.	Additions and Betterments	2	3100	$ 6,600	$ 20,460,000	
	Rebuilding	2	1030	6,600	6,798,000	
	On new location	2	585	15,000	8,775,000	
	On new location	4	1130	60,000	67,800,000	$103,833,000
Grading	Additions and Betterments	2	3100	15,000	46,500,000	
	Rebuilding	2	1030	19,250	19,828,000	
	On new location	2	585	41,500	24,278,000	
	On new location	4	1130	90,000	101,700,000	192,306,000
Surface	Additions and Betterments	2	3100	50,000	155,000,000	
	Rebuilding	2	1030	56,750	58,453,000	
	On new location	2	585	62,000	36,270,000	
	On new location	4	1130	120,000	135,600,000	385,323,000
Structures	Additions and Betterments	2	3100	22,400	96,077,000	
	Rebuilding	2	1030	22,400	23,072,000	
	On new location	2	585	72,500	42,413,000	
	On new location	4	1130	94,000	106,220,000	267,782,000
Grand Total	Additions and Betterments	2	3100	94,000	318,037,000	
	Rebuilding	2	1030	105,000	108,151,000	
	On new location	2	585	191,000	111,736,000	
	On new location	4	1130	364,000	411,320,000	949,244,000

NOTE: 2728 Miles of Rural FA Primary considered as adequate surface.

Estimated for bridges $26,637,000 on roads for which no other modernization was estimated.

URBAN PRIMARY (OUTSIDE INTERSTATE)

Item	Type of Construction	No. of Lanes	Miles	Cost per Mile	Cost	Cost for Item
R.O.W.	Additions and Betterments	-	--	$ --	$ --	
	Rebuilding	2	15	75,000	1,125,000	
	Rebuilding	4	180	125,000	22,500,000	
	New Construction	6	150	235,000	35,250,000	$ 58,875,000
Grading	Additions and Betterments	-	--	--	--	
	Rebuilding	2	15	15,000	225,000	
	Rebuilding	4	180	25,000	4,500,000	
	New Construction	6	150	90,000	13,500,000	18,225,000
Surface	Additions and Betterments	-	--	--	--	
	Rebuilding	2	15	110,000	1,650,000	
	Rebuilding	4	180	150,000	27,000,000	
	New Construction	6	150	230,000	34,500,000	63,150,000
Structures	Additions and Betterments	-	--	--	--	
	Rebuilding	2	15	58,600	879,000	
	Rebuilding	4	180	117,250	21,105,000	
	New Construction	6	150	175,850	26,377,000	48,361,000
Grand Total	Additions and Betterments	-	--	--	--	
	Rebuilding	2	15	258,600	3,879,000	
	Rebuilding	4	180	417,250	75,105,000	
	New Construction	6	150	730,850	109,627,000	188,611,000

Note: $35,000 / mile for grading and culvert extensions on widening shoulders on present 24' widening.

FEDERAL AID SECONDARY SYSTEM

Item	Type of Surface	Miles	Cost per Mile	Cost	Cost for Item
R.O.W.	Bit.	10,000	5,000	$ 50,000,000	
	Gravel	12,000	5,000	60,000,000	$110,000,000
Grading	Bit.	10,000	5,500	55,000,000	
	Gravel	12,000	5,500	66,000,000	121,000,000
Surface	Bit.	10,000	16,250	162,500,000	
	Gravel	12,000	2,500	30,000,000	192,500,000
Structures	Bit.	10,000	4,000	40,000,000	
	Gravel	12,000	4,000	48,000,000	88,000,000
Grand Total	Bit.	10,000	30,750	307,500,000	
	Gravel	12,000	17,000	204,000,000	511,500,000

OTHER STATE HIGHWAYS (NOT FA)

Item	Type of Surface	Miles	Cost per Mile	Cost	Total Cost
R. O. W.	Bit.	101	$ 5,000	$ 505,000	
Grading	Bit.	101	5,500	556,000	
Surface	Bit.	101	16,250	1,641,000	
Structures	Bit.	101	2,500	250,000	
Total					$2,952,000

OTHER STATE URBAN HIGHWAYS (NOT FA)

Item	Type of Construction	Miles	Cost per Mile	Cost	Total Cost
R. O. W.	Rebuilding	8	--	--	
Grading	Rebuilding	8	$ 25,000	$ 200,000	
Surface	Rebuilding	8	75,000	600,000	
Structures	Rebuilding	8	--	--	
Total					$ 800,000

Local Secondary
21,700 miles @ $17,000/mi. = $369,000,000

CITY STREETS OTHER THAN EXTENSIONS

Population Group	Total Population In Group	Per Capital Cost 1954 to 1964	Total Cost 1954 to 1964
(1)	(2)	(3)	(4)
Under 500	129,324	$ 95	$ 12,285,780
500-999	143,156	45	6,442,020
1,000-2,499	195,261	40	7,810,440
2,500-4,999	152,154	35	5,325,390
5,000-9,999	180,738	65	11,747,970
10,000-24,999	152,512	85	12,963,520
25,000-49,999	270,030	95	25,652,850
50,000-99,999	296,034	95	28,123,230
Over 100,000	177,965	100	17,796,500
Total	1,697,174		128,147,700

Above estimate is based on the following:

Column (3) lists per capita costs as determined by an extensive survey of city needs costs in the State of Minnesota

Column (4) is the product of Column (2) - 1950 population--multiplied by Column (3).

INTERSTATE AND DEFENSE HIGHWAY SYSTEM

The Interstate and Defense Highway System is discussed separately from the primary system, although it still remains a part of the primary system. The reason for this special discussion is that the Interstate system is financed on a different matching basis than is the regular federal aid primary system. Interstate financing is on the basis of 90% federal aid and 10% state funds.

The system embraces some 730 miles in Iowa and generally is in the location of US 6, Council Bluffs to Davenport, US 69 from Lamoni to the Minnesota line, US 275 from Council Bluffs to Hamburg and US 75 from Sioux City to Council Bluffs. Also included are some urban routes in the cities.

While the system, which embraces 41,000 miles of the nation's important routes, was established in 1947 it was not until the Federal Aid Act of 1956 that substantial funds were provided for the financing of such a system. The Interstate network will consist of four-lane divided, controlled access highways with grade separations and designated points of entry and exit from the highway. It will not go through any town, as is the case of many of Iowa's highways today. There will be no stoplights. In other words, one could drive across the state. There will be no business places on the highway, but there will be feeder roads. to allow motorists to get off for such services as are needed.

The Interstate highways will be designed to the highest of standards and will be comparable to the best of the toll roads.

These roads will be among the safest it is possible to build, eliminating head-on collisions and collisions at intersections which annually take an appalling toll of lives in traffic accidents. In 1954, for example, there were 995 accidents in which 593 persons were injured and 40 persons were killed on highways 6 and 69. Of these, 511 of the accidents were of the type which would have been prevented had the highways been built to interstate standards, consequently 326 of the injuries would have been eliminated and 29 lives saved. Thus it can be seen that construction of the Interstate system will result in a considerable savings of lives and reduction in property damage by eliminating head-on and intersection collisions on these highways.

It should be kept in mind that the Interstate program as adopted by Congress is a 13-year construction program. However, federal aid has been set up for only three years and a re-appraisal of the program is to be made periodically to determine progress and costs.

It originally was estimated that the Interstate construction would cost $275 million in Iowa. However, experts now believe that the cost will be nearer $400 million dollars.

The Interstate system would constitute less than one per cent of the primary system and would carry approximately 10 per cent of the total traffic of the state.

This new highway network will bring a new type road to Iowa. It will provide facilities for fast, safe and economical travel across the state both east-west and north-south. However, it will not solve Iowa's pressing highway needs and will not provide a panacea for the state's road problems. Just as the magnificent Pennsylvania Turnpike carries only about five per cent of that state's total traffic, so the Interstate Network in Iowa will carry only a small portion of the ever-increasing vehicular traffic in this state.