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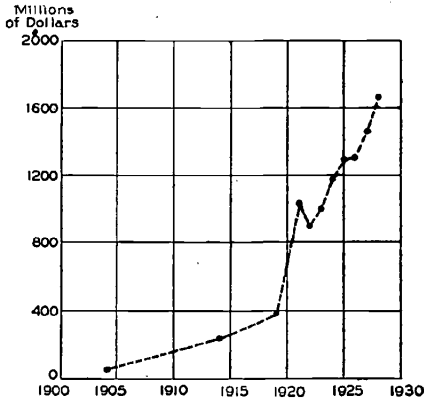
Chapter pages in book: (p. 127 - 134)

CHAPTER VI

ROAD BUILDING

The cost of constructing and maintaining roads, streets and bridges in the United States now amounts to about 40 per cent of the total expenditures in the country on public works. Highway building of the modern type, an outgrowth of the radical revolution in transportation arising out of the perfection of the automobile has thus come to be one of the major forms of public permanent improvements. In 1904 the total state and local road and bridge disbursements amounted only to \$59,500,000; by 1914 the sum had risen to over \$240,000,000; and in 1928 to nearly \$1,660,000,000.⁵⁷

CHART 19.—TOTAL STATE AND LOCAL ROAD AND BRIDGE DISBURSEMENTS THROUGHOUT THE UNITED STATES, 1904-1928.

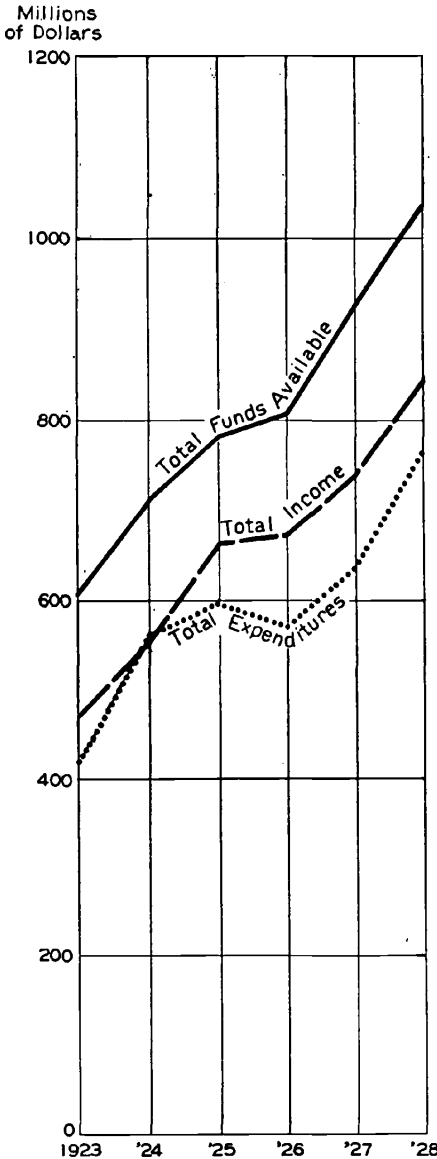


Source: United States Department of Agriculture, Bureau of Public Roads.

Actual expenditures for the construction and maintenance of bridges and roads, not including various overheads and the cost of equipment and materials, rose in the period 1923-1928 from \$784,000,000 in 1923 to more than \$1,237,000,000 in 1928. The an-

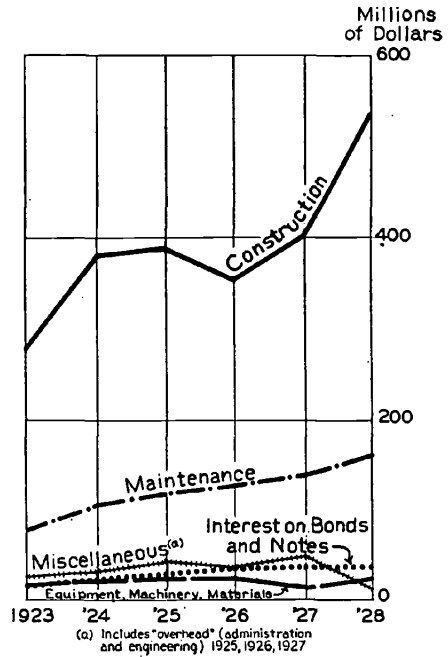
⁵⁷ United States Department of Agriculture, Bureau of Public Roads.

CHART 20.—TOTAL INCOME, FUNDS AVAILABLE AND EXPENDITURES FOR STATE HIGHWAYS AND BRIDGES THROUGHOUT THE UNITED STATES, 1923-1928.



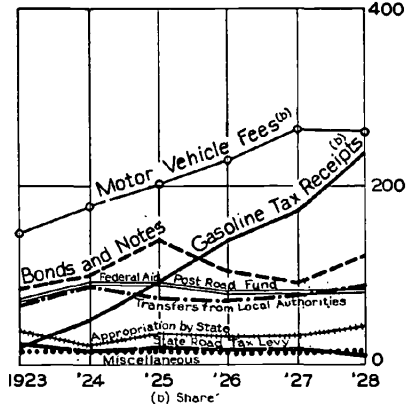
Source: United States Department of Agriculture, Bureau of Public Roads.

CHART 21.—PURPOSES OF EXPENDITURES FOR STATE HIGHWAYS AND BRIDGES IN THE UNITED STATES, 1923-1928.



(a) Includes "overhead" (administration and engineering) 1925, 1926, 1927

CHART 22.—SOURCES OF FUNDS AVAILABLE FOR STATE HIGHWAYS AND BRIDGES IN THE UNITED STATES, 1923-1928.



(b) Share

Source: United States Department of Agriculture, Bureau of Public Roads.

CHART 23.—TOTAL INCOME, FUNDS AVAILABLE AND EXPENDITURES FOR LOCAL HIGHWAYS AND BRIDGES THROUGHOUT THE UNITED STATES, 1923-1928.

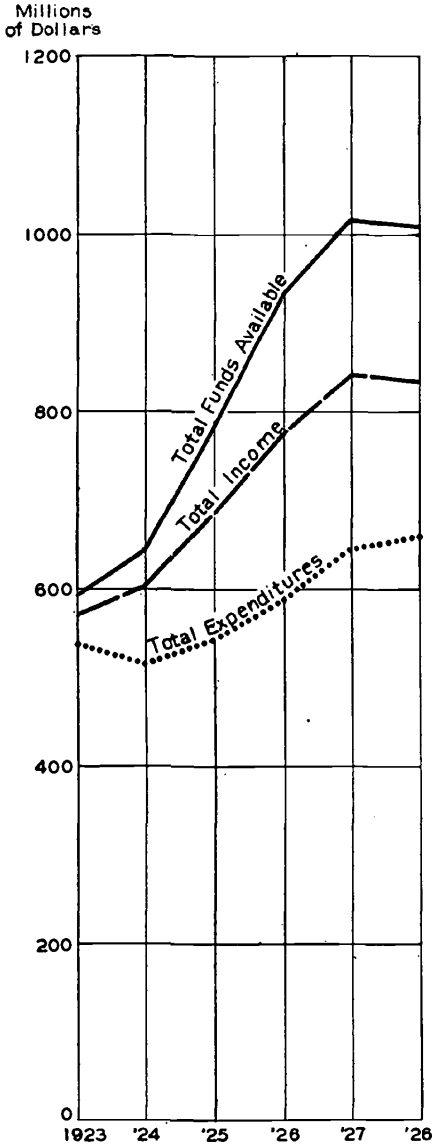
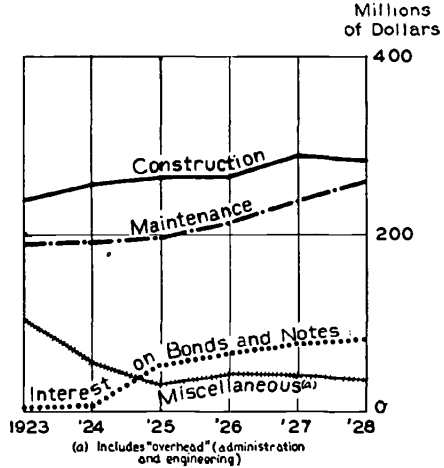
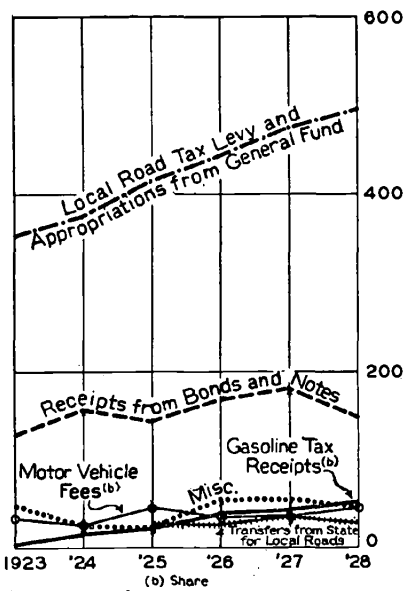


CHART 24.—PURPOSES OF EXPENDITURES FOR LOCAL HIGHWAYS AND BRIDGES IN THE UNITED STATES, 1923-1928.



(a) Includes "overhead" (administration and engineering)

CHART 25.—SOURCES OF FUNDS AVAILABLE FOR LOCAL HIGHWAYS AND BRIDGES IN THE UNITED STATES, 1923-1928.



(b) Share

Source: United States Department of Agriculture, Bureau of Public Roads.

Source: United States Department of Agriculture, Bureau of Public Roads.

TABLE 44. — INCOME AND FUNDS AVAILABLE FOR STATE HIGHWAY AND BRIDGE WORK, 1923-1928*

SOURCE OF INCOME	1923	1924	1925	1926	1927	1928
State road tax levy.....	\$24,348,478	\$18,282,878	\$21,489,004	\$18,278,994	\$18,769,561	\$11,955,782
Appropriation by state.....	37,461,579	20,084,324	33,390,642	29,868,048	30,794,645	42,468,386
State share of motor vehicle fees.....	147,075,966	174,816,973	199,845,163	224,551,631	259,854,786	259,134,820
State share of gasoline tax receipts.....	15,872,884	47,810,615	89,328,340	134,303,154	169,818,473	234,163,826
Receipts from bonds and notes.....	88,186,784	101,653,327	141,402,022	103,846,301	90,979,230	121,483,599
Federal Aid Post Road Fund.....	72,343,401	91,400,832	92,180,406	79,163,201	80,459,671	80,798,365
Transfers from local authorities.....	66,753,265	87,998,486	71,737,028	69,973,570	76,639,189	86,709,904
Miscellaneous income.....	15,498,492	13,349,610	15,051,966	13,223,531	12,469,703	12,611,916
Total income.....	\$467,540,849	\$555,397,045	\$664,424,571	\$673,208,430	\$739,785,258	\$849,326,598
Balance from previous year.....	138,834,354	156,826,702	115,656,721	133,479,178	182,714,171	186,159,876
Total funds available.....	\$606,375,203	\$712,223,747	\$780,081,292	\$806,687,608	\$922,499,429	\$1,035,486,474

Source: United States Department of Agriculture, Bureau of Public Roads, Tables F-1, 1923-1928.
 * Under supervision of State Highway Departments.

TABLE 45. — INCOME AND FUNDS AVAILABLE FOR LOCAL HIGHWAY AND BRIDGE WORK, 1923-1928

Source of Income	1923	1924	1925	1926	1927	1928
Local road tax levy	\$354,227,471	\$376,787,861	\$412,825,227	\$357,263,356	\$405,219,774	\$416,812,566
Appropriations from general fund		26,856,176		85,783,406	72,692,737	81,948,993
Local share of motor vehicle fees	35,717,942	16,971,402	46,545,445	37,861,018	40,239,856	50,433,055
Local share of gasoline tax receipts	4,137,401	157,536,944	24,833,979	39,733,227	46,860,508	53,778,852
Receipts from bonds and notes	128,782,373	.....	144,413,116	168,575,423	181,080,953	150,222,357
Transfers from State for local roads	.....	.....	30,433,841	29,964,569	37,984,351	30,997,475
Miscellaneous income	48,284,360	24,214,559	23,966,034	56,242,683	56,535,744	51,133,653
Total income	\$571,149,547	\$602,366,942	\$683,017,642	\$775,423,682	\$840,613,923	\$835,326,951
Balance from previous year	21,907,045	43,917,320	97,895,087	158,278,223	178,107,618	172,897,145
Total funds available	\$593,056,592	\$646,284,262	\$780,912,729	\$933,701,905	\$1,018,721,541	\$1,008,224,096

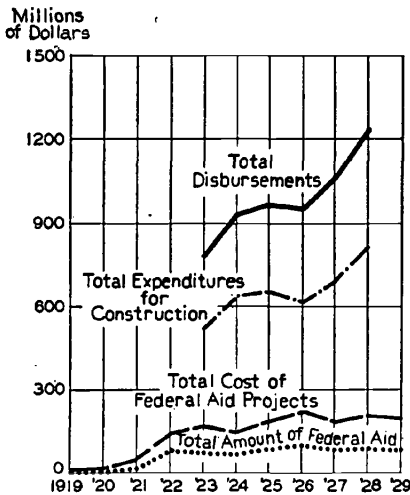
Source: United States Department of Agriculture, Bureau of Public Roads, Tables P-4, 1923-1928.

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nual cost of maintenance, alone, is now rapidly approaching \$500,000,000.

The procedure involved in road building and the methods of financing employed by federal, state and local governments have already been described.⁵⁸ The variety of the sources of income available for state and local highway and bridge construction is shown in Tables 44 and 45. The greater part of the funds for state

CHART 26.—TOTAL FEDERAL AID FOR ROAD CONSTRUCTION COMPARED WITH TOTAL COST OF SUCH PROJECTS AND WITH TOTAL ROAD AND BRIDGE EXPENDITURES OF ALL KINDS, 1919-1929.



Source: United States Department of Agriculture, Bureau of Public Roads.

highways are raised out of current revenues, of which the largest shares come from motor vehicle fees and from gasoline tax receipts. In 1928 nearly \$500,000,000, out of total funds of \$1,035,000,000 available for state highway and bridge construction and maintenance, came from motor vehicle fees and gasoline tax receipts. Gasoline tax receipts for state roads were a negligible factor in 1923, yielding then less than \$16,000,000; but by 1926 returns from this source had mounted to over \$134,000,000. In the building of local highways and bridges local road tax levies are the largest single source of income, amounting to more than 40 per cent of the total funds available in 1928. The federal grants have amounted to

⁵⁸ Chapters III and IV.

TABLE 46. — MILEAGE AND COST OF FEDERAL AID ROADS, 1919-1929

YEAR	MILES										Cost	
	Graded and Drained	Sand and Clay	Gravel	Water-sound Macadam	Bituminous Macadam	Bituminous Concrete	Portland Cement Concrete	Brick	Bridges	Total Miles	Amount of Federal Aid	Total Cost
1919	10.0	46.8	55.2	.....	1.2	19.5	25.2	18.8	0.2	176.8	\$ 768,472	\$ 2,124,873
1920	203.0	90.0	247.8	11.7	11.0	19.7	110.3	21.8	0.9	716.1	3,159,791	7,405,001
1921	349.9	384.2	1,290.0	40.5	148.9	159.1	494.6	26.8	4.2	2,898.5	18,462,090	42,149,181
1922	1,635.5	1,111.8	3,445.3	286.8	294.5	392.8	2,126.9	205.6	20.0	9,519.3	79,654,073	188,505,292
1923	1,966.0	1,016.7	4,404.0	287.5	468.1	131.0	1,621.4	69.0	10.3	9,973.9	71,360,084	166,149,032
1924	2,365.2	805.8	3,463.4	238.6	601.0	210.6	1,292.0	166.8	12.3	9,155.7	63,053,169	140,227,611
1925	1,824.4	729.9	3,328.8	117.3	624.8	244.0	2,431.6	122.5	22.2	9,445.5	85,605,264	186,003,066
1926	2,159.5	663.3	4,037.3	74.0	790.0	255.7	2,536.6	74.7	37.1	10,628.3	97,619,261	219,434,547
1927	2,558.1	612.1	3,299.1	157.4	488.3	198.6	2,284.1	39.8	45.9	9,683.4	81,330,358	182,770,090
1928	2,196.5	1,241.4	2,591.1	126.3	645.3	164.5	3,130.4	48.2	54.6	10,198.3	88,056,984	205,043,784
1929	2,290.6	662.8	2,324.5	118.6	552.1	212.0	3,134.5	47.8	47.1	9,390.0	82,736,879	195,298,168

SOURCE: United States Department of Agriculture, Bureau of Public Roads.

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\$75,000,000 a year; but Congress, in April, 1930, passed a bill raising the federal annual appropriation to \$125,000,000 in 1931, 1932 and 1933.

The federal aided system on June 30, 1929, comprised a total of 188,857 miles of main interstate and intercounty highways. At the close of the fiscal year 1929, the actual length of roads improved with federal aid was 78,097 miles, or 41 per cent of the total mileage.

Among the many projects of public construction whose schedules have been accelerated during the last months of 1929, road and bridge building is likely to show the largest increase when the final records for 1930 become available. Elaborate preliminary estimates made by the Bureau of Public Roads would appear to indicate that total expenditures on roads and bridges during 1930 will exceed the outlays of the preceding year by more than a quarter of a billion dollars.