

1. Responsibilities of Various Governmental Agencies.

The various major activities which the public has undertaken to perform for itself thru the Federal, State and local governments, each requiring the expenditure of public funds, are shown in the following schedule. The extent of taxing power exercised by these governmental units and the allocation of the funds produced thru taxation to the various activities are determined by the constitutions of State and Nation and the laws of the legislative bodies or by direct popular vote. The funds, therefore, allocated to any one activity as a whole may be fixed by the action of one governmental agency or may be the total of the sums determined by action of several or all of the governmental units.

Group one

Major governmental functions primarily exercised without financial interdependence of governmental units.

Federal	State	Local Rural	Local Urban
War debts and obligations	: Soldiers Bonus	: Local Government	: Local Government
Federal Government	: State Government	: Public Schools	: Public Schools
ment	: Higher Education	: Eleemosynary	: Sanitary Provisions
Army and Navy	: Eleemosynary	: County Courts	: Water Supply
Postal Service	: State Courts	:	: Fire Protection
Indian Affairs	:	:	: Police
Prohibition Enforcement	:	:	: Street Cleaning
Business Service	:	:	: Waste Collection and Disposal
Special Services to Education & Labor	:	:	: Charity

Group two

Major governmental functions involving financial interdependence

Federal	State	Local Rural	Local Urban
Federal aid to agriculture	: State aid to schools and agriculture	: County aid to agriculture	:
:	:	:	:
:	:	:	:

Group three

Major governmental functions providing recreational facilities				
Federal	State	Local Rural	Local Urban	
National Parks	State Parks	County Parks	Parks	
			Recreational	
			facilities	

Group four

Major governmental functions and sources of income for regulating or providing transportation facilities				
Federal	State	Local Rural	Local Urban	
Interstate Commerce Commission	State Highway Department	County Highway Department	City Highway Departments	
Bureau of Public Roads	Motor Vehicle, Railroad or Public Utilities Commissions	Highway Police	Traffic Police	
Waterway Appropriations for road aid	General Appropriations for roads	General appropriations for roads	General appropriations for roads and streets	
Appropriations for forest roads	General Appropriations for roads	Convict labor for roads	Road and street bonds	
River and Harbor appropriations	Special taxes for roads - license-gas - Road bonds - Convict labor - Canals, river & harbor or port appropriations	Special assessments for roads	Special assessments for streets - Appropriations for harbor, port	

2. The Federal Highway System

The original system of roads on which all Federal funds are used was fixed by law at a maximum of seven per cent. This system now includes 179,000 miles. There have been improved or improvement provided for up to July 1st, 1925, 57,560 miles with Federal and State funds. Improvement with State funds only of more than 65,000 miles brings the total to more than 122,500 miles. Since this system is coincident but not

coextensive with the State systems, this discussion will consider the combined Federal Highway System and State systems under one class.

3. Highway Improvement Status

On the basis of one billion dollars annual expenditure, the average annual cost of our public roads is approximately \$330 per mile.

The total rural highway mileage of the United States at the end of 1924 amounted to 3,002,916 miles. The responsibility for the improvement and maintenance of these highways is divided between the highway departments of the several States on the one hand and the counties and townships on the other. These two types of control may be called State control and local control. Of this total highway mileage 259,721 miles, or 8.6 per cent, were under the supervision and control of State highway departments; the local control extended over 2,743,195 miles, or 91.4 per cent of the country's total highway mileage. The significant fact is that such a small part of the total highway mileage is found to be under direct or indirect control of State highway departments. The counties and townships and local road districts are still responsible for the construction and maintenance of by far the larger portion of all the highways. The relationship of the importance of the highways under these two types of control so far as traffic conditions are concerned is a wholly different matter.

No definite or uniform policy has been followed by the States in determining the amount of mileage that should be placed within the control of the respective State Highway departments and the amount of highway mileage which should be left to the counties and townships to maintain as had been the policy prior to the establishment of any centralized supervision or control on the part of a State. As has been indicated above the State highway system mileage averages 8.7 per cent of the total mileage. In 29 of the States the mileage under State control comprises less than 10 per cent of the total highway mileage of these respective States; in 17 States it ranges between 10 and 20 per cent; in Vermont it is 30 per cent, and in Rhode Island 32.8 per cent. Oklahoma has the smallest proportion of its highway mileage under State control; the percentage there is 4.9 per cent. The tendency, therefore, seems to be to keep the mileage of the State highway systems down to the main travelled highways and important traffic routes.

The total surfaced highway mileage of the country at the end of 1924 was 467,865 miles which was 15.6 per cent of the country's total rural road mileage. This includes the surfaced mileage of the State highway systems and also that part of the surfaced highway mileage which is under local control. The ratio of surfaced mileage to the total highway mileage differs widely in the various States. While the average is 15.6 per cent, the actual ratios range from 1.1 per cent in Kansas to 49.5 per cent in Indiana. Indiana is the

only State of which it may be said that approximately as much as half of its highway mileage is improved with some type or other of surfacing. The extent to which this surfacing of highway mileage has been carried on can best be shown in the following tabulation which presents a grouping of the several States in accordance with ratios of surfaced mileage to total mileage:

Ratio of Surfaced Mileage
to
Total Mileage

0 - 9	10 - 19	20 - 29	30 - 39	40 - 49
Per cent	Per cent	Per cent	Per cent	Per cent
Arkansas	Arizona	Alabama	Florida	Indiana
Iowa	Colorado	California	Idaho	New Jersey
Kansas	Connecticut	Kentucky	Massachusetts	
Missouri	Delaware	Maryland	New York	
Montana	Georgia	Michigan	Ohio	
Nevada	Illinois	Minnesota	Vermont	
New Hampshire	Louisiana	North Carolina	Washington	
New Mexico	Maine	Oregon	Wisconsin	
North Dakota	Mississippi	Rhode Island		
Oklahoma	Nebraska			
South Dakota	Pennsylvania			
West Virginia	South Carolina			
Wyoming	Tennessee			
	Texas			
	Utah			

In 13 of the States the surfaced mileage ratio is less than 10 per cent of the total mileage; in 15 States it is between 10 and 19 per cent; in 9 States it is between 20 and 29 per cent; in 8 States it is between 30 and 39 per cent, and in 2 States the surfaced mileage ranges between 40 and 49 per cent. These percentages indicate on the face of it the extent to which highway improvements of various kinds have been

attempted by the several States. It is not an accurate indication, however, of the quality and character of such improvements. That will be shown later when an analysis of the various types of surfacings will be made.

The total surfaced highway mileage of the country is 467,905 miles. That part of this surfaced mileage which is included within the State systems is 128,347 miles, or 27.4 per cent; 339,558 miles, or 72.6 per cent, are included within that part of the highway mileage which is under the control of counties and townships. While the State highway systems comprise only 8.7 per cent of the country's mileage they do include 27.4 per cent of all of the surfaced mileage.

The State highway systems consist of 259,721 miles. Of this total amount, 128,347 miles, or 49.5 per cent, are surfaced and 131,374 miles, or 50.5 per cent, are unsurfaced. Of the State highway systems it can be said that about half the mileage is surfaced.

The total mileage under local control is 2,723,195 miles. Of this amount, 339,558 miles, or only 12.4 per cent, are surfaced and 2,383,637 miles, or 87.6 per cent, are unsurfaced. While there are more miles of surfaced highways in the local systems than in the State systems, the ratio of surfaced mileage to the total mileage in the State systems is greater in the State systems than the corresponding ratio in the local systems.

The 467,905 miles of surfaced highways in the United States are improved with various kinds of surfacing. The amount of each

type of surfacing and the percentage which that mileage bears to the total surfaced mileage is set forth in the following tabulation:

Surfaced Highways, end of 1924.		
Type of Surfacing	Miles	Per cent
Sand-clay	63,681	13.6
Gravel, untreated	244,282	52.2
Waterbound macadam	60,234	12.9
Surface treated macadam & gravel	26,680	5.7
Bituminous macadam	17,539	3.7
Sheet asphalt	2,260	.5
Bituminous concrete	7,443	1.6
Cement concrete	31,146	6.7
Brick	4,319	.9
Miscellaneous	10,318	2.2
Total	467,905	100.0

These types of surfacings may be grouped as follows:

Type of Surfacing	Miles	Percent
Low	307,964	65.8
Medium	112,250	24.0
High	47,691	10.2
	467,905	100.0

In the low type group are included the sand-clay and the untreated gravel types; in the medium group are included the water-bound macadam, the surface treated macadam and gravel, and the bituminous macadam. There are also added to this group 7,796 miles of miscellaneous roads which are found in the State of Pennsylvania and which that State failed to classify. It is believed though that most of the roads referred to may be regarded as of medium type. The high type group includes pavements of all kinds, such as sheet asphalt, bituminous concrete, cement concrete, brick, and 2,521 miles of miscellaneous roads which consist for the most part of wood, asphalt, or stone block surfacing.

These percentages relate only to the total surfaced mileage. Of this surfaced mileage it may be said that roughly two-thirds of all the surfaced mileage is of a low type of surfacing, one-quarter is of a medium type, and about ten per cent is of the high type.

The progress which has been made with respect to the surfacing of the highways of the country can best be shown in the following tabulation:

Highway Improvements in the United States,
end of 1924.

	Miles	Per cent
Unsurfaced highways	2,535,010	84.4
Low type surfacing	307,964	10.3
Medium type surfacing	112,250	3.7
High type surfacing	47,691	1.6
Total	3,002,915	100.0

These figures of highway mileages of surfaced and unsurfaced highways and the corresponding percentages tend to mislead the reader and make him conclude that the improvements and surfacings made thus far serve the public in a very inadequate manner. In this connection it must be borne in mind that the highway traffic of this country is not distributed uniformly over the country's total highway mileage. If that were the case, then we could say that only 15 per cent of the traffic was afforded surfaced highways. The facts in the situation are, as every one familiar with the highway situation knows full well,

that certain highways carry much more traffic than other highways and that the highways carrying the dense traffic are the highways which are surfaced with one kind or other of surfacing.

The highway traffic studies made by the Bureau of Public Roads in cooperation with the highway departments of several of the States show that between 50 and 60 per cent of the total motor vehicle mileage is found on the State highway systems. In other words, it is estimated that about 8 per cent of the country's highway mileage carries somewhat over 50 per cent of the traffic. According to statements already made, fifty per cent of the State highway systems are surfaced. Those parts which are surfaced are naturally those sections of the State highway systems over which the traffic is most dense. It follows therefore that a very large proportion of the country's traffic is afforded surfaced highways by the State systems and by the surfaced highways outside of the State systems.

In the last two decades great improvements have been made as indicated by the number of miles of highways found in a surfaced condition. Comparisons are shown below:

Year	Total Miles of Highway	Total Miles Surfaced	Per cent
1904	2,151,379	153,530	7.14
1909	2,199,645	190,476	8.7
1914	2,445,760	257,291	10.5
1921	2,941,294	387,760	13.2
1924	3,002,916	467,905	15.6

During this period the total highway mileage increased from 2,151,379 miles to 3,002,916 miles, or 13.9 per cent. The surfaced mileage, during the same period, increased from 153,530 miles to 467,905 miles, or a three-fold increase. In 1904 the total surfaced mileage constituted 7.14% of the country's mileage; by the end of 1924 this percentage relationship had risen to 15.6 per cent. These increases in the number of miles of surfaced highways and the percentage increases do not by any means indicate the exact extent or degree of highway improvements. The actual types of surfacing are better evidences of the nature of the improvements. Prior to 1914 the data available do not show the various kinds of surfacings. In the following tabulation a comparison is made for the years 1914, 1921 and 1924;

Comparison of Types of Surfaced Roads
1914, 1921 and 1924.

Type of Surfacing	1914		1921		1924	
	Miles	Per cent	Miles	Per cent	Miles	Per cent
Sand-clay	44,154.7	17.2	63,339	16.3	63,681	13.6
Gravel	116,058.1	45.1	199,899	50.5	244,282	52.2
Waterbound Macadam	64,898.4	25.2	58,036	14.7	60,234	12.9
Surface treated						
Macadam and Gravel	-	-	19,309	4.9	26,680	5.7
Bituminous Macadam	10,499.8	4.1	10,264	2.6	17,539	3.7
Sheet Asphalt	-	-	1,601	.4	2,250	.5
Bituminous Concrete	-	-	4,978	1.2	7,443	1.6
Cement Concrete	2,348.4	.9	15,611	3.9	31,146	6.7
Brick	1,593.4	.6	3,333	.8	4,319	.9
Miscellaneous	17,758.2	6.9	11,390	2.9	10,318	2.2
Total	257,291.0	100.0	387,760	100.0	467,905	100.0

4. Federal Income and Expenditures

The report of the Secretary of the Treasury for the fiscal year

1925 shows:

Receipts, sources:

Income and profit	47 per cent
Miscellaneous internal revenue	22 " "
Customs	14 " "
Foreign obligations	5 " "
All other	12 " "
Total collections	\$3,780,148,000
Total expenditures	<u>3,529,643,000</u>
Surplus	\$ 250,505,000

Expenditures:

1. Public debt retirements chargeable against ordinary receipts.	\$ 466,000,000
2. Special expenditures, which include interest on the public debt, tax refunds, postal deficiencies, Panama Canal, operations of Shipping Board, War Finance Corporation, and other special accounts, purchase of obligations of foreign governments, investment of trust funds, and other items of similar nature.	1,226,000,000
3. General expenditures, which include the legislative establishment, executive proper, the 10 departments, the Veterans' Bureau, other independent offices and commissions, and the District of Columbia	<u>1,837,000,000</u>
Total	\$3,529,000,000

General expenditures equal 51 plus per cent.

Character of General Expenditures:

1. War and Navy	\$ 708,000,000
2. Veterans' Bureau	385,000,000
3. Pensions	218,000,000
4. All other Federal Depts. and Independent Establishments.	526,000,000

This 4th division is approximately 29.5 per cent of General Expenditures, or - 29.5 per cent of 51 per cent of total equals say 15 per cent of total ordinary, just slightly in excess of one-seventh of total Federal Government expenditures for 1925.

For what purposes - 1925 - warrant basis

Indian affairs	\$ 39,000,000
Highways	105,000,000
District of Columbia	33,000,000
Treasury	128,000,000
All others	221,000,000

Included in this last - All others - are: Legislative establishment, the executive proper, the Civil Service Commission, the Employees' Compensation Commission, the Federal Board for Vocational Education, the Federal Reserve Board, the General Accounting Office, the Interstate Commerce Commission, the Federal Trade Commission, the Tariff Commission, and all activities of the Department of Agriculture (exclusive of good roads), Commerce, Interior (exclusive of pensions and Indian affairs), Justice, Labor and State.

Secretary Mellon in his report, page 21, says: "we still make, as a result of the war, tremendous expenditures for debt retirements, interest on the debt, care of disabled veterans, etc., but these are unavoidable and will be necessary for many years to come. It is the inevitable price which we continue to pay for the war. In this connection it is of interest to point out the proportion of Government expenditures which are due to war. While it is not possible to segregate entirely all expenditures which might fall in this category, if we add

to the disbursements for public debt retirements interest on the debt, War, Navy, Veterans' Bureau, and pensions, other extraordinary expenditures, such as adjusted compensation and the increased outlays by the Treasury, the expenditures which are directly or indirectly attributable to war and the national defense compose over 80 per cent of total Federal expenditures. The amounts spent by this Government in aid of agriculture and business, for science, education, better roads, and other constructive efforts are insignificant when compared with outlays due to war and national defense. This will be the inevitable situation as long as war is the method of settling international disputes. These facts should be faced squarely by those who clamor for reduced Government expenditures and at the same time oppose the world's efforts to devise rational methods for dealing with international questions."

Of the total Federal expenditures, \$3,530,000,000, the combined Federal aid and forest highway payments were \$105,000,000, or approximately 3 per cent of the total. This is the peak and represents neither past or future average. Probably at present rate the average over several years will be about 2.5 per cent or less.

By doing away with the entire Federal road program the taxpayer without dependents on say \$5,000, income tax \$37.50, would save about 88 cents.

Governmental Expenditures		1923
Federal	\$3,648,000,000 (actual)	\$33.20 per capita
State	1,310,000,000 (actual)	11.82 " "
Local	5,142,000,000 (estimated)	46.41
Total	\$10,100,000,000	\$91.40

Estimated Total Highway and Street Expenditure
Compared with Total Expenditures All Purposes

	: Expenditures : for Highways	: Total Expen- : ditures All : Purposes	: Ratio of Highway : Expenditures to : Total Expenditures
Federal Government	: \$ 90,000,000	: \$ 3,648,000,000	: 2.5 per ce
State & Local Governments	: 1,210,000,000	: 6,452,000,000	: 18.7 " "
Total	: \$1,300,000,000	: \$10,100,000,000	: Average 12.9 per ce

Total Income and Funds Available for Highway Purposes
by and under Supervision of State Highway Departments
1924

	Amount	Per cent
State highway bonds and notes	\$101,653,327	18.3
State Tax levied for Highways (T)	13,282,878	3.3
Appropriation by State for Highways (T)	20,084,324	3.6
Miscellaneous State income for Highways (T)	13,349,610	2.4
Motor Vehicle Fees for use on roads	174,816,973	31.4
Gasoline Tax applicable to highways	47,810,615	8.6
Transferred funds from counties, etc. (T)	87,998,486	15.9
Federal Aid	91,400,832	16.5
	\$555,397,045	100.0

The sources of the above funds are:

Funds from Loans	\$101,653,327	18.3
Funds from Taxes (T)	139,715,298	25.2
Funds from Motor Vehicles	222,627,588	40.0
	\$555,397,045	100.0

Highway Expenditures

By and Under Supervision of State Highway Departments

	1924	Per cent
Construction	\$381,080,058	63.0
Maintenance	104,806,557	17.2
Administration and Engineering	27,536,829	4.5
Bonds and notes - payments on principal	17,394,431	2.9
Bonds and notes - payments on interest	21,500,649	3.5
Equipment, machinery and materials	19,793,166	3.4
Miscellaneous	33,553,517	5.5
	\$605,665,207	100.0

Total mileage of State System of Highways 259,721.3 miles

Amount expended per mile of Highway in
State System \$2,331

Roads Built and Surfaced in 1924 by or under
Supervision of State Highway Departments

		<u>Miles</u>
Earth Roads established to grade and drained	-	5,956.6
Surfacing work	Miles	
Sand clay	1,384.8	
Untreated gravel	7,659.8	
Waterbound macadam	467.1	
Surface treated macadam & gravel	999.5	
Bituminous macadam	996.9	
Sheet asphalt	119.9	
Bituminous concrete	564.4	
Cement concrete	4,850.6	
Brick	161.6	
Miscellaneous	<u>2.8</u>	
Total surfaced mileage		<u>17,207.4</u>
Total mileage	-	23,164.0

Roads Built and Surfaced by Counties
and Towns in 1924.

		Miles.
Unimproved and earth partially graded		6,407.7
Earth to established grade and drained		7,732.6
Surfacing work		
Sand-clay	1,615.2	
Untreated gravel	8,805.1	
Waterbound macadam	966.1	
Surface treated macadam and gravel	467.7	
Bituminous macadam	903.3	
Sheet asphalt	95.9	
Bituminous concrete	167.0	
Cement concrete	1,229.3	
Brick	25.9	
Miscellaneous	<u>58.2</u>	
Total surfaced mileage		<u>14,333.7</u>
Total mileage		28,474.0

The above figures do not include the following States for which data could not be obtained:

Delaware
Kansas
Nebraska
North Carolina
Ohio
Oklahoma
Oregon
Pennsylvania
Utah
Vermont
Virginia
Washington
West Virginia

calendar year basis	1909	1914	1919	1924	1925
Number of Motor Vehicle Registrations:	312,000	1,711,000	7,565,000	17,592,000	20,100,000
Population of United States	90,691,000	97,927,500	105,003,000	112,079,000	113,494,000
Persons per Vehicle	291.0	57.0	13.9	6.4	5.6

calendar year basis :	1909	1914	1919	1924	1925
Excise Tax (Began 1918):			\$48,834,000	\$139,202,000	\$130,000,000
Motor Vehicle Receipts (Began 1903)	\$943,000	\$12,382,000	64,697,000	225,492,000	256,000,000
Gas Tax Receipts (Began 1919)			751,000	79,987,000	165,000,000
TOTAL	\$943,000	\$12,382,000	114,282,000	\$444,681,000	\$551,000,000
Personal property					100,000,000
Municipal and Local Licenses					10,000,000

ESTIMATED TOTAL

\$561,000,000

Interstate Traffic

The traffic crossing state boundary lines is for the most part a local movement. In Pennsylvania at stations within 16 miles of the state line it was noted that almost half of the passenger cars were foreign cars and about a third of the motor trucks.

The foreign passenger car and motor truck movement noted at interior points in Pennsylvania shows that 12.4 per cent of the passenger cars were foreign cars and 1.8 per cent of the motor trucks. These interior points taken as samples were distant from the state line from 42 to 110 miles. The average distance of these stations from the state line was 62 miles.

A similar study in Ohio shows that at interior points distant on the average 68 miles from the state line the foreign passenger car averaged 16.8 per cent of the total passenger cars and the motor trucks 4.5 per cent. These stations ranged from 41 miles to 120 miles from the state line.

Taking all the stations in Ohio into account we find that the foreign passenger cars amount to 18.6 per cent and the foreign motor trucks 7.4 per cent.

In Pennsylvania the foreign passenger cars were 17.7 per cent and the foreign motor trucks 8.2 per cent.

In Connecticut 21.1 per cent of passenger cars were of foreign registration and 10.9 per cent of the motor trucks were of foreign registration. These foreign vehicles make a proportionately larger use of the highways than the local vehicles. The passenger car mileage of the foreign cars was 43.4 per cent of the total passenger car mileage, - the foreign motor truck ton-mileage was 32.8 per cent of the total motor truck mileage.

Maine On the primary roads of Maine the foreign passenger cars were 23.3 per cent of the total number of passenger cars and the foreign motor trucks only 2.1 per cent.

Comparison of city-owned and farm-owned
passenger cars on the rural highways.

Pennsylvania

On the basis of a small sample it was found that the city-owned cars constituted approximately 95 per cent of the total number of passenger cars on the highways, and the farm-owned cars constituted 5 per cent.

Maine

The summer's survey in Maine showed that the city-owned passenger cars amounted to 94.6 per cent of the passenger car traffic, and the farm-owned passenger cars amounted to 5.4 per cent.

Ohio

On the basis of a number of representative stations it was found that city-owned passenger cars comprised approximately 93 per cent of the passenger-car traffic and the farm-owned cars were 7 per cent.

County Bonds, (Road & Bridge)

Sold During Years 1921-22-23-24, in States Having No State Bonds.

State	Total sold in 4 years 1921-24, incl.
Arizona	\$ 4,907,000
Arkansas	25,809,265
Connecticut	1,157,500
Florida	31,312,143
Georgia	5,348,924
Indiana	55,415,420
Iowa	15,195,831
Kansas	14,626,057
Kentucky	7,305,978
Louisiana	28,038,237
Minnesota	36,304,477
Mississippi	10,020,212
Montana	2,501,800
Nebraska	3,890,769
North Dakota*	- - - - -
Ohio	40,511,219
Oklahoma	15,631,300
South Carolina	22,139,249
Tennessee	10,929,830
Texas	25,278,200
Vermont*	- - - - -
Virginia	9,042,015
Washington	5,273,500
Wisconsin	25,982,237
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Total	\$403,030,162
(24 States)	
Outstanding	
Jan. 1, 1921	\$431,662,500

* No information available.