

D.B.S. MEMORANDUM

Dominion Bureau of Statistics, Ottawa, Canada

20-1700

HIGHWAY STATISTICS

CANADA, 1950

The spectacular growth of automotive transportation in Canada over the past quarter century has brought the problem of modern highways sharply into focus. It affects all levels of government and all members of the nation directly or indirectly as taxpayers, travellers or consumers. Canada's ribbon-like coast-to-coast development has placed a terrific financial burden on a relatively small population in order to construct and maintain an efficient national transportation system. In the field of highways alone there were reported some 567,155 miles of road at the end of 1950, mostly under provincial jurisdiction, and with only 50 p.c. surfaced. This represents an increase of 5,808 miles or 1 p.c. over the 1949 total, and of this gain 5,978 miles were newly reported by Newfoundland where all earth roads had not been given for the previous year. Highway mileage for the rest of Canada advanced 1,850 miles during 1950. The modernisation and improvement of Canada's system of highways is best illustrated by the sustained increase in the mileage of surfaced roads which rose 7,699 miles above 1949 to total 169,498 miles. This brought the proportion of surfaced highways up from 28.8 p.c. to nearly 50 p.c. of the total highway mileage. However, highway construction and improvement failed to keep pace with the increase in motor vehicle registrations and the number of motor vehicles per mile of surfaced road advanced from 14.2 in 1949 to 15.3 in 1950. The ambitious program of bituminous surfacing and paving of all main traffic routes and principal access roads scheduled by the provinces showed further excellent progress. Bituminous pavements and surfaces increased by 2,272 miles or 11.1 p.c. to a total length of 22,272 miles. Concrete roads appear in declining favour and at 2,045 miles measured 192 miles less than in 1949.

Table 1

HIGHWAY MILEAGE, 1950

Province	Portland Cement Concrete	Bituminous Pavement	Bituminous Surface	Gravel, Crushed Stone	Other Surfaces	Total Surfaced Road	Improved Earth	Other Earth	Total Mileage
Newfoundland	-	20	101	1,800	-	1,921	440	5,940	6,501
Prince Edward Island	4	-	271	1,516	-	1,791	1,926	-	3,717
Nova Scotia	7	55	1,175	6,908	-	8,125	5,146	5,877	15,146
New Brunswick	-	-	1,556	11,661	-	13,199	1	-	15,200
Quebec	524	5,205	906	20,724	-	27,157	-	14,255	41,412
Ontario	1,612	4,188	4,502	50,842	-	60,944	12,901	-	75,845
Manitoba	72	-	750	8,415	-	9,215	8,055	1/74,184	91,454
Saskatchewan	-	-	754	15,152	57	15,963	1/81,029	2/115,661	212,655
Alberta	-	-	1,195	17,274	-	18,467	1/29,786	1/56,088	84,541
British Columbia	28	1,257	1,104	8,855	-	11,242	10,197	2,020	5/25,459
Yukon - Northwest Territories	-	-	-	1,476	-	1,476	151	-	4/ 1,627
Total	2,045	10,701	12,074	142,622	57	169,498	147,652	250,025	567,155

1/ Includes all road allowances.

2/ Includes 697 miles of gravelled and 110 miles of improved earth roads of the Northwest Highway System.

3/ Includes 59,461 miles unimproved road allowances not in use.

4/ Includes 598 miles Northwest Highway System and 75 miles Atlin road gravelled and 110 miles improved earth roads of the N.W.R.S.

Prepared in the Public Finance and Transportation Division

Total expenditures, including those on bridges, ferries and sidewalks, amounted to \$277.9 millions in 1950, an increase of \$7.7 millions over the 1949 aggregate. Trans-Canada highway construction costs, included in the above total, amounted to \$16 millions and are analysed later in this report. Increases in the amounts spent in Ontario, Alberta and Newfoundland, up \$12.4, \$5.4 and \$2.7 million respectively, more than offset decreases in British Columbia, Quebec and Manitoba down \$8.6, \$5.2 and \$2.3 million respectively. Nova Scotia expenditures eased slightly while those in the other provinces and in the territories were a little higher than in 1949.

Road construction outlay remained at a high level during 1950 though a minor overall decrease occurred. Six provinces led by Ontario, Alberta and Newfoundland showed increased amounts spent on road construction while British Columbia and Quebec led a four province decline. Steadily increasing costs of construction meant that the slight decrease in expenditures was somewhat magnified in terms of actual work completed.

During 1950 the highway dollar, due to the rise in wage and material costs, produced less than half the 1935-39 average in terms of new construction. This vindicates the wisdom of more extensive highway development, wherever possible, during periods of depression rather than at a time when competition for men, materials and equipment is particularly keen. In 1951 unit construction costs continued to soar despite technological improvements which have been remarkable over the past decade.

Construction of Bridges and Ferries during 1950 required expenditure of some \$21 million, a drop of over \$1 million from the all-time high of \$22,283,000 spent in 1949. Quebec and British Columbia were the provinces showing the heaviest decreases with Ontario leading the increases.

Per capita expenditures continued to be considerable in most provinces and ranged from a low of slightly over \$10 in Manitoba to almost \$34 in Alberta and Nova Scotia. For the other provinces average cost per inhabitant - based on June, 1950 estimates of population - were: Newfoundland \$17; Prince Edward Island \$28; New Brunswick \$33; Quebec \$14; Ontario \$20; Saskatchewan \$12 and British Columbia \$29. Average spent per capita for the whole of Canada was \$20. In the United States the per capita outlay on state highways, county and local roads, including interest on highway debt, was under \$22 in 1950.

The Trans-Canada Highway

The Trans-Canada Highway Act passed by Parliament on December 10, 1949, provided the machinery for agreement between the Federal Government and the Provinces as to the former's contribution towards completion of the national highway. Payments made under the Act cover two different periods of construction. Work done during the years from April 1, 1928 to December 9, 1949 is considered as prior construction. Payments on behalf of this work may be any amount up to but not exceeding 50 p.c. of the cost of construction and will be paid to the provinces when and as the Governor-in-Council determines. The "new construction period" is that extending from December 10, 1949 to December 10, 1956, the date on which the present Act will expire unless extended. Approved new work done in the latter period will bring federal contributions of up to 50 p.c. of the construction costs. The agreement was first signed by six of the provinces and the Government of Canada on April 24, 1950. To date all provinces except Quebec and Nova Scotia have agreed to the terms of the Act and are carrying out programs of work under the agreement.

Table 2-S1, which follows, shows the amounts spent by each of the eight participating provinces during the fiscal year 1950-51. The expenditures given in this table are included in table 2 totals and should not be considered as additional expenditures.

Table 2-S1 Trans-Canada Highway Expenditures

Province	Fiscal Year Ended	Amount Spent	Province	Fiscal Year Ended	Amount Spent
		\$			\$
Newfoundland	March 31, 1951	2,334,676	Saskatchewan	March 31, 1951	850,679
Prince Edward Island	March 31, 1951	358,090	Alberta	March 31, 1951	429,958
New Brunswick	October 31, 1950	1,009,921	British Columbia	March 31, 1951	5,502,544
Ontario	March 31, 1951	7,043,559	National Parks, Alta.	March 31, 1951	13,000
Manitoba	March 31, 1951	538,485	National Parks, B.C.	March 31, 1951	12,029

For purposes of this report, only those contributions covering work done during the 1950-51 fiscal year have been included in the Subsidies, etc., paid by the Federal Government and received by the Provincial Governments as shown in Table 2. This has been done because the payments on behalf of work completed in prior years represent only an adjustment between the amounts spent by provincial and federal authorities during those years but do not add to the total expenditures on roads for past years. Contributions paid by the Federal Government to the participating provinces for work done during the fiscal year 1950-51 are shown in Table 2-S2. No amount for New Brunswick is shown as that province had not submitted its claims in time to be included in the accounts for 1950-51.

Table 2-S2 Federal Contributions toward Trans-Canada Highway Expenditures, 1950

Recipient Province	Federal Contribution	Recipient Province	Federal Contribution
	\$		\$
Newfoundland	825,603	Manitoba	227,556
Prince Edward Island	134,135	Saskatchewan	389,066
New Brunswick	claims not submitted	Alberta	178,080
Ontario	2,412,156	British Columbia	1,534,228

The following table (2-S3) is prepared to indicate expenditures by New Brunswick and Nova Scotia during the period November 1, 1950 to March 31, 1951, and to December 1, 1950 to March 31, 1951 respectively. This data was provided by the provinces to cover the interim periods indicated. In future, accounts of these two provinces will cover the fiscal year from April 1 to March 31. All authorities whose expenditures are included in table 2 of this report now have fiscal years ending March 31 with the following exceptions:

1. Ontario - The Niagara Falls Parks Commission (fiscal year ends October 31)
2. Ontario - The Municipal Roads Branch (fiscal year ends December 31)
3. Toll Bridges - (Fiscal year of all privately and municipally operated toll bridge companies ends Dec. 31)

Table 2-S3 Expenditures on Highways

Supplementary Table showing Expenditures by Nova Scotia, December 1, 1950 to March 31, 1951 and by New Brunswick, November 1, 1950, to March 31, 1951

Provincial Expenditures	Nova Scotia	New Brunswick
	\$	\$
<u>Roads</u>		
Construction	960,954	498,920
Maintenance	1,388,229	1,870,356
Administration and General	221,717	106,389
Total	2,570,900	2,475,645
<u>Bridges and Ferries</u>		
Construction	434,823	608,378
Maintenance	181,514	234,767
Administration and General	14,908	8,989
Total	631,245	852,134
Footpaths and Sidewalks	-	-
Grand Total	1/ 3,202,145	3,327,779
<u>Total Expenditures</u>		
Construction	1,395,777	2/ 1,107,298
Maintenance	1,569,743	2,105,103
Administration and General	236,625	115,378
<u>Toll Bridges, Ferries and Roads</u>		
Revenues	98,883	-

1/ The sum of \$468 included in this total was received from municipalities for work done.

2/ Includes \$14,595 on the Trans-Canada Highway.

(Concluded on page 8)

TABLE 2 EXPENDITURES ON HIGHWAYS, 1950

	Canada	Newfound- land	Prince Edward Island	Nova Scotia	
	\$	\$	\$	\$	
Roads					
Construction (1) (2)	133,697,410	4,214,063	1,421,239	14,112,712	
Maintenance	101,322,978	1,436,431	946,507	4,992,879	
Administration & General (3)	12,129,686	209,409	53,315	681,625	
Total (1) (2)	247,150,074	5,859,903	2,421,061	19,787,216	
Bridges and Ferries					
Construction	20,973,454	271,291	143,448	1,112,307	
Maintenance	9,129,230	11,255	116,609	1,076,923	
Administration & General	613,446	9,000	-	61,337	
Total	30,716,130	291,546	260,057	2,250,567	
Footpaths and Sidewalks	47,555	-	-	1,581	
Grand Total (1) (2) (3)	277,913,759	6,151,449	2,681,118	22,039,364	
Dominion Expenditures					
Construction	6,543,885	-	6,667	1,020,507	
Maintenance	3,470,561	-	18,801	87,135	
Administration & General (3)	738,519	-	1,351	45,559	
Subsidies and Grants in Aid (Net) (Paid + Received -) (2)	+ 6,416,756	+ 825,603	+ 134,135	-	
Total (2) (3)	17,169,721	825,603	160,954	1,153,201	
Provincial Expenditures					
Construction	138,835,877	4,485,354	1,558,020	14,204,512	
Maintenance	80,666,085	1,447,686	1,044,315	5,983,813	
Administration & General	12,007,415	218,409	51,964	697,838	
Subsidies and Grants in Aid (Net) (Paid + Received -)	+11,514,935	- 825,603	- 134,135	- 114,217	
Total	243,024,312	5,325,846	2,520,164	20,771,946	
Municipal Expenditures					
Construction	8,668,976	-	-	-	
Maintenance	26,331,626	-	-	-	
Administration & General	-	-	-	-	
Subsidies and Grants in Aid (Net) (Paid + Received -)	- 17,808,940	-	-	+114,217	
Total	17,191,667	-	-	114,217	
Expenditures by Others (1)	+ 528,064	-	-	-	
Grand Total (1) (2) (3)	277,913,759	6,151,449	2,681,118	22,039,364	
Total Expenditures					
Construction (1) (2)	154,699,553	4,485,354	1,564,687	15,225,019	
Maintenance	110,468,272	1,447,686	1,063,116	6,070,948	
Administration & General (3)	12,745,934	218,409	53,315	743,397	
Toll Bridges, Ferries & Roads					
Revenues	4,333,343	-	-	151,624	

- (1) Includes \$227,484 paid by railways on railway grade crossings - not allocated by Provinces.
 (2) Includes \$302,021 contributed from Railway Grade Crossing Fund and \$121,310 contributed from Federal Government toward grade separations etc. on the Trans-Canada Highway - not allocated by Provinces.
 (3) Includes \$175,398 Federal administrative costs re Trans-Canada Highway - not allocated by Provinces.

EXPENDITURES ON HIGHWAYS, 1950

	New Brunswick	Quebec (6)	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Yukon- Northwest Territories
	\$	\$	\$	\$	\$	\$	\$	\$
	9,293,780	26,252,820	34,347,003	4,556,345	5,791,055	14,864,918	15,830,782	2,361,878
	5,281,310	18,569,411	43,114,681	2,091,237	3,103,182	12,227,188	8,346,599	1,213,553
	228,621	1,628,616	4,343,658	620,886	238,544	104,028	3,675,057	170,529
	14,803,711	46,450,847	81,805,342	7,268,468	9,132,781	27,196,134	27,852,438	3,745,960
	1,266,231	5,072,339	6,855,799	804,823	885,391	1,634,369	2,768,268	159,188
	881,650	2,191,762	1,604,416	50,837	165,368	1,151,519	1,819,290	59,601
	46,088	448,379	-	100	-	8,754	19,894	13,894
	2,193,969	7,712,480	8,460,215	855,760	1,050,759	2,794,642	4,607,452	238,683
	-	-	17,334	1,433	1,777	20,552	4,878	-
	16,997,680	54,163,327	90,282,891	8,125,661	10,185,317	30,011,328	32,464,768	3,984,643
	451,405	18,124	600,606	35,624	30,068	809,470	1,050,348	2,521,066
	16,108	90,310	495,547	45,747	29,307	371,868	1,042,584	1,273,154
	13,704	-	41,911	3,113	7,197	114,693	145,170	190,423
	-	-	+2,350,828	+ 572,568	+ 397,983	+ 178,080	+ 1,534,228	-
	481,217	108,434	3,488,892	657,052	464,555	1,474,111	3,772,330	3,984,643
	10,108,606	31,307,035	31,950,554	5,325,544	6,647,819	15,699,731	17,548,702	-
	6,126,398	20,670,863	24,176,258	2,097,660	3,239,579	6,751,686	9,127,827	-
	261,005	2,076,995	4,301,747	617,973	231,347	(5)	3,550,137	-
	- 1,481	- 331,653	+13,516,965	- 739,560	(4) - 403,730	+ 2,082,577	- 1,534,228	-
	16,494,528	53,723,240	73,945,524	7,301,617	9,715,015	24,533,994	28,692,438	-
	-	-	8,668,976	-	-	-	-	-
	20,154	-	20,047,292	-	-	6,263,880	-	-
	-	-	(5)	-	-	(5)	-	-
	- 20,454	+ 220,000	-15,867,793	-	+ 5,747	- 2,260,657	-	-
	-	220,000	12,848,475	-	5,747	4,003,223	-	-
	+ 21,935	+ 111,653	-	+ 166,992	-	-	-	-
	16,997,680	54,163,327	90,282,891	8,125,661	10,185,317	30,011,328	32,464,768	3,984,643
	10,560,011	31,325,159	41,220,136	5,361,168	6,677,887	16,509,201	18,599,050	2,521,066
	6,162,960	20,761,173	44,719,097	2,143,407	3,268,886	13,387,434	10,170,411	1,273,154
	274,709	2,076,995	4,343,658	621,086	238,544	114,693	3,695,307	190,423
	-	1,751,706	-	-	-	-	2,430,013	-

- (4) \$5,827 was paid to Saskatchewan by Alberta towards the maintenance of Highway 17 and the Lloydminster Ferry; thus amount is included in Alberta expenditures but is not shown in the grants paid by Alberta or received by Saskatchewan.
 (5) Not segregated.
 (6) Provincial data taken from Public Accounts.

Table 3 1/ STATISTICS ON URBAN STREETS, SIDEWALKS, BRIDGES AND CULVERTS
IN CITIES AND LARGE TOWNS, 1950

Expenditures	Canada	Newfound- land	Prince Edward Island	Nova Scotia		New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia
	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$	\$
New Construction	23,599,520		50,100	875,102		560,296	7,666,023	5,682,818	1,210,317	777,331	4,299,293	2,478,240
Major Improvements, widening, etc.	5,262,605		14,400	600,547		123,240	711,869	2,531,079	191,459	47,595	57,961	984,455
Maintenance repairs and minor improvements	10,764,485		79,672	565,197		298,920	1,827,438	4,572,010	575,316	374,280	723,530	1,748,122
Cleaning, snow clearing, sanding, etc.	10,823,269		17,887	205,280		191,609	5,184,145	3,919,846	288,973	131,775	328,014	555,740
Administration and General expenses	2,667,037		5,019	116,134		278,217	1,060,025	464,828	167,451	45,629	231,677	298,057
Total	53,116,916		167,078	2,362,260		1,452,282	16,449,500	17,170,581	2,433,516	1,376,610	5,640,475	6,064,614
Construction /	30,405,612		66,497	1,551,946		845,513	8,954,960	8,442,444	1,505,360	853,206	4,543,889	3,641,797
Maintenance /	22,711,304		100,581	810,314		606,769	7,494,540	8,728,137	928,156	523,404	1,096,586	2,422,817
Total Expenditures on roads	42,573,420		132,787	1,747,910		1,265,142	12,895,131	14,088,782	2,179,906	1,047,586	4,505,573	4,710,603
Total Expenditures on bridges and ferries	2,991,142		-	25,761		119,138	1,151,442	789,954	80,005	5,007	259,955	559,880
Total Expenditures on footpaths and sidewalks	7,502,848		34,291	588,589		68,002	2,381,497	2,278,088	173,605	317,652	874,947	786,177
Undistributed amounts shown in expenditures	49,506		-	-		-	21,430	13,757	-	6,365	-	7,954
Subsidies and Amounts Collectable												
From Dominion Government	-		-	-		-	-	-	-	-	-	-
From Provincial Government	4,003,323		1,152	12,640		143,121	48,415	3,672,905	9,467	5,000	17,464	93,159
From County, Township, etc.	27,999		-	-		-	-	27,092	907	-	-	-
From Other Sources	38,685		100	-		-	9,705	22,628	-	-	-	6,252
Total	4,070,007		1,252	12,640		143,121	58,120	3,722,625	10,374	5,000	17,464	99,411
Net Expenditures (total expenditures less subsidies)	49,046,909		165,826	2,349,620		1,309,161	16,391,380	13,447,956	2,423,142	1,371,610	5,623,011	5,965,203
Class of Road												
	Miles		Miles	Miles		Miles	Miles	Miles	Miles	Miles	Miles	Miles
Concrete (Portland Cement)	857.66		7.31	26.12		21.17	122.42	411.00	164.92	2.75	10.70	91.27
Bituminous Pavements	3,899.42		25.55	190.47		158.71	979.08	1,711.47	208.95	126.82	226.04	272.33
Bituminous Surfaces	2,606.60		3.75	160.76		32.80	477.32	920.96	64.44	100.14	197.21	649.22
Gravel (traffic bound gravel or crushed stone and stabilized gravel or stone, not surface treated) ..	3,436.22		28.62	145.13		108.12	283.07	812.99	545.44	300.96	747.53	464.36
Other Surfaces - brick, granite block, wood block, etc.	122.10		-	-		-	28.04	39.64	0.96	3.68	3.25	46.53
Total Mileage of Surfaced Roads	10,922.00		65.23	522.48		320.80	1,889.93	3,896.06	984.71	534.35	1,184.73	1,523.71
Improved earth roads (graded and drained)	2,708.08		11.50	170.46		30.02	182.67	548.60	502.37	603.55	493.53	165.38
Other earth roads	831.92		11.57	25.10		-	218.22	164.24	24.00	146.56	110.01	132.22
Total Mileage of all roads	14,462.00		88.30	718.04		350.82	2,290.82	4,608.90	1,511.08	1,284.46	1,788.27	1,821.31

/ Includes proportion of Administration and General Expenses and undistributed items.

1/ These statistics are for all Cities and towns of 2,000 population and up in Nova Scotia and New Brunswick.
4,000 " " " " Quebec & Ontario.
1,000 " " " " the four Western Provinces.
all urban municipalities in Prince Edward Island.

1/ STATISTICS ON URBAN STREETS, SIDEWALKS, BRIDGES AND CULVERTS
IN CITIES AND LARGE TOWNS, 1950

Toll Bridges, Ferries and Roads

Provincially operated toll ferries exist in Nova Scotia and in British Columbia which also maintains one toll road. The National Harbours Board operates bridges collecting tolls at Montreal and Vancouver. Toll bridges owned privately and municipally are in operation in Nova Scotia, Quebec and British Columbia. Total revenues increased from \$3.8 million in 1949 to \$4.3 million in 1950. It should be noted that these statistics do not include the revenues of privately operated ferry companies nor of "International Bridge, Tunnel and Ferry Companies". Annual statistics of the latter firms are published separately by this division in the report of that name.

Urban Streets, Sidewalks, Bridges and Culverts

Expenditure and mileage data on urban streets, etc., are given in Table 3. The statistics are based on reports received from municipalities having populations as indicated in the footnote to the table. Newfoundland expenditure data was not forthcoming and the total probably exceeded \$600,000. Total expenditures by the reporting places amounted to \$53,116,916 during 1950 compared with \$48,671,122 in the same nine provinces during 1949, an increase of 9.1 p.c. or \$4,445,794. The continued growth of suburban areas and new housing developments with their necessary facilities required considerable outlay on new streets, sidewalks and sewers. The limits of several cities were expanded during the year; Ottawa's area, for example, increased from 6,109 acres in 1949 to 27,226 acres, while her road and street mileage advanced from 172 to 361 miles.

The total mileage of all surfaced roads and streets for the reporting municipalities amounted to 10,922 miles for 1950 compared with 10,708 miles (ex Newfoundland) in 1949, a gain of 214 miles, principally in bituminous treated roadways. The grand total mileage under supervision was 14,462 miles, a reduction from 1949, due mainly to the lack of Newfoundland data and the removal of considerable mileage of other earth roads and lanes formerly reported by such places as Vancouver, Edmonton and Grand Forks.

