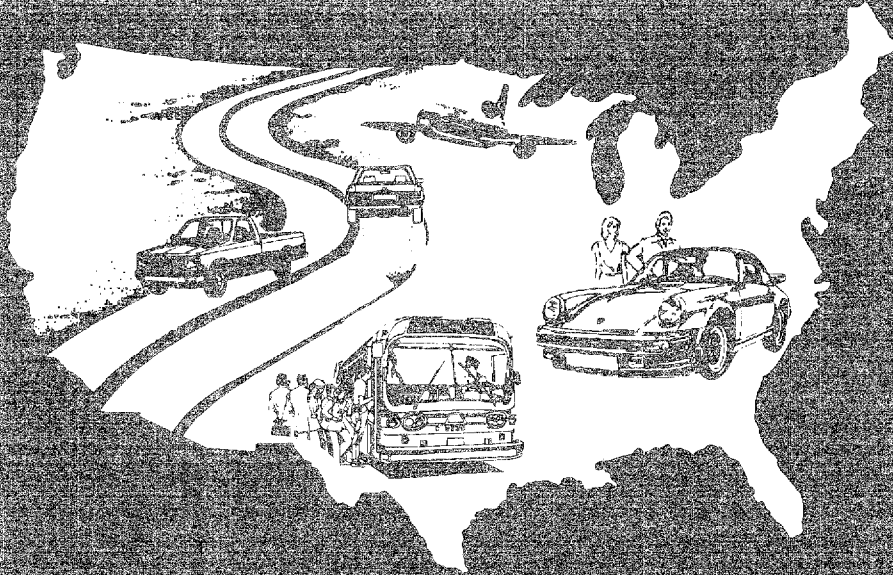




U.S. Department of
Transportation

SUMMARY OF TRAVEL TRENDS



1983 - 1984
NATIONWIDE PERSONAL
TRANSPORTATION STUDY

November 1985

Office of the Secretary
Federal Highway Administration
National Highway Traffic Safety Administration
Urban Mass Transportation Administration

Prepared by COMSIS Corporation, Wheaton, Maryland, for
the U.S. Department of Transportation:

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Printed in the United States of America

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DEFINITIONS AND ABBREVIATIONS

Adult - For this study, an adult is a person 16 years old or older.

Auto Occupancy - The number of persons including driver and passengers in an auto.

Household Trip - One or more household members traveling together in a private vehicle, on public transportation, or by another means, such as walk or bike.

Person Miles of Travel (PMT) - A measure of person travel. When one person travels one mile, one person mile of travel results. Where two or more persons travel together in the same vehicle, each person makes the same number of person miles as the vehicle traveled. Therefore, four persons traveling five miles in the same vehicle, make 4 times 5 vehicle miles or twenty person miles.

Person Trip - A unit of person travel. When two or more persons travel together, each person is counted as making one person trip.

Vehicle - In the 1969 survey, vehicle refers to autos and passenger vans owned or available to the household. In the 1977 and 1983 surveys, the term vehicle also includes pickups and other light trucks, RV's, and motorcycles and mopeds owned or available to the household. The NPTS data shown throughout this publication reflects autos and vans in 1969 and the expanded vehicle definition in 1977 and 1983. For greater comparability, estimates show that in 1969 there were an additional 7.5 million pickups and other light trucks that are not reflected in the 1969 NPTS data.

Vehicle Miles of Travel (VMT) - A unit to measure vehicle travel made by a household vehicle. For example, a vehicle traveling 5 miles accounts for 5 vehicle miles of travel, regardless of the number of persons in the vehicle.

Vehicle Trip - For this study, a vehicle trip is a trip made in a private vehicle regardless of the number of persons in the vehicle.

NOTE: Trips shown in this publication are one-way trips.

INTRODUCTION

The Nationwide Personal Transportation Study (NPTS) contains national data on the nature and characteristics of travel. It addresses a broad range of travel in the United States, providing data on household trips and travel for all purposes and modes of transportation. Only household travel characteristics are depicted by the NPTS; data on freight movement is not collected.

This volume of the 1983/84 NPTS, *Summary of NPTS Trends*, presents trends which can be traced through the 1969, 1977 and 1983/84 series of the NPTS. Included is information on national demographics, household composition, vehicle ownership, household travel, journey to work, vehicle utilization, auto occupancy, mode split, and drivers. Please note that there are different time spans between the 1969, 1977 and 1983/84 surveys (eight and six years respectively). This report does not attempt to depict these differences in its graphic presentations. In addition to this document, a full report on the 1983/84 NPTS will be published which will provide more detail on transportation trends over time. In the full report special emphasis will be placed on the 1983 data, since it has not previously been published.

The survey provides the information necessary to assist transportation planners and others who need comprehensive data on travel and transportation patterns in the United States. The 1983/84 NPTS is sponsored by several agencies of the U.S. Department of Transportation (DOT). These include the Federal Highway Administration, the Office of the Secretary, the National Highway Traffic Safety Administration and the Urban Mass Transportation Administration. The survey was conducted by the Bureau of Census.

A public use tape and accompanying documentation for the 1983/84 NPTS are available for a fee. A more detailed report of the results of the 1983/84 NPTS will be published in the future.

For more information on NPTS products, contact:

Office of Highway Information Management, HPM-30
Federal Highway Administration
Washington, D.C. 20590
(202) 426-0178

KEY SURVEY INDICATORS

SUMMARY STATISTICS ¹

	1969	1977	1983	Percent Change		
				69-77	77-83	69-83
Households						
All	62,504	75,412	85,371	21	13	37
1 Person	10,980	16,214	19,354	48	19	76
2 Person	18,448	22,925	27,169	24	19	47
3 Person	10,746	13,046	14,756	21	13	37
4+ Person	22,330	23,227	24,092	4	4	8
Persons						
All	197,213	213,141	229,453	8	8	16
Under 16	60,100	54,878	53,728	-9	-2	-11
16-19	14,598	16,528	15,281	13	-8	5
20-34	40,060	52,176	60,839	30	17	52
35-64	62,982	66,890	75,417	6	13	20
65+	19,473	22,358	24,383	15	9	25
Licensed Drivers						
All	102,986	127,552	147,015	24	15	43
Male	57,981	66,199	75,639	14	14	30
Female	45,005	61,353	71,376	36	16	59
Workers						
All	75,758	85,060	103,244	12	21	36
Male	48,487	52,401	58,398	8	11	20
Female	27,271	32,290	44,878	18	39	65
Vehicles ³						
All	72,500	120,098	143,714	66	20	98
Household						
Vehicle Trips ²	87,284	108,826	126,874	25	17	45
Household VMT ²	775,840	907,603	1,002,139	17	10	29
Person Trips ^{2,4}	145,146	211,778	224,385	46	6	55
Person Miles of Travel ^{2,4}	1,404,137	1,879,215	1,946,662	34	4	39

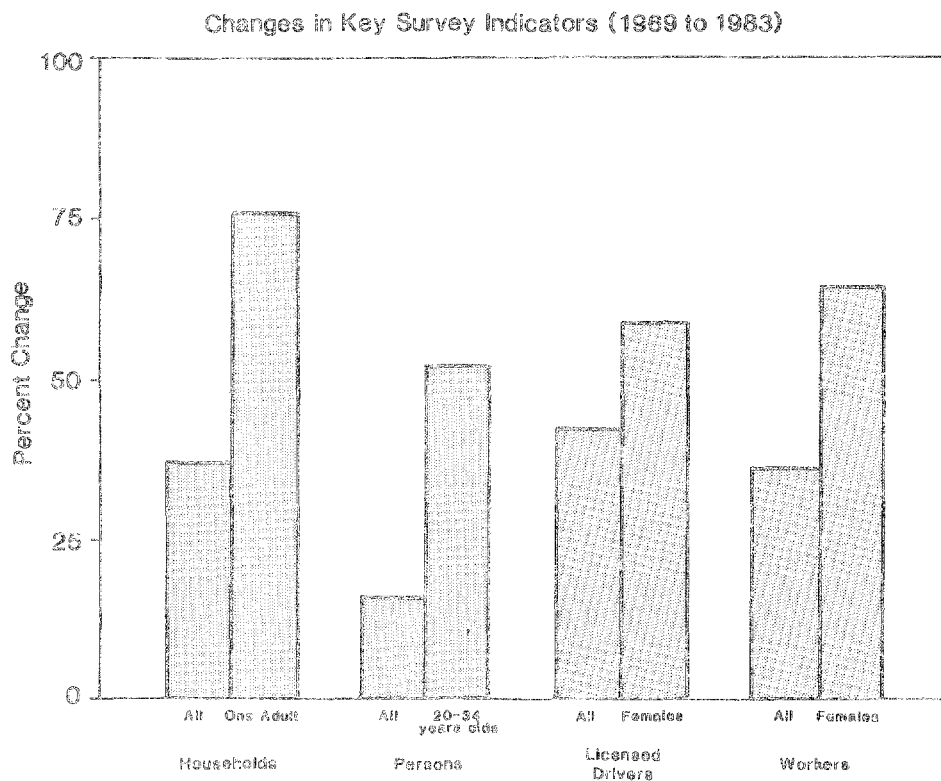
¹ All numbers in thousands except where noted.

² in millions

³ 1969 survey includes only automobiles, station wagons, and vans/buses/minibuses as household vehicles.

⁴ 1969 survey does not include walk and bicycle trips and trips made by persons under 5 years old.

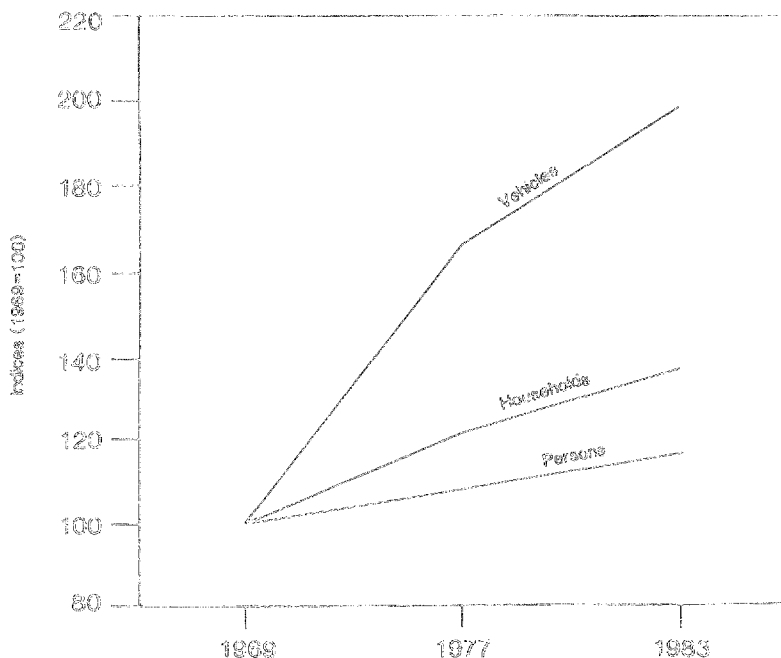
KEY SURVEY INDICATORS



KEY SURVEY INDICATORS

The number of household vehicles is increasing at a faster rate than number of households, and both of these are increasing faster than the number of people. This means that over time, households are owning more vehicles, with more individuals having a vehicle at their personal disposal.

Changes in Number of Households, Persons, and Vehicles



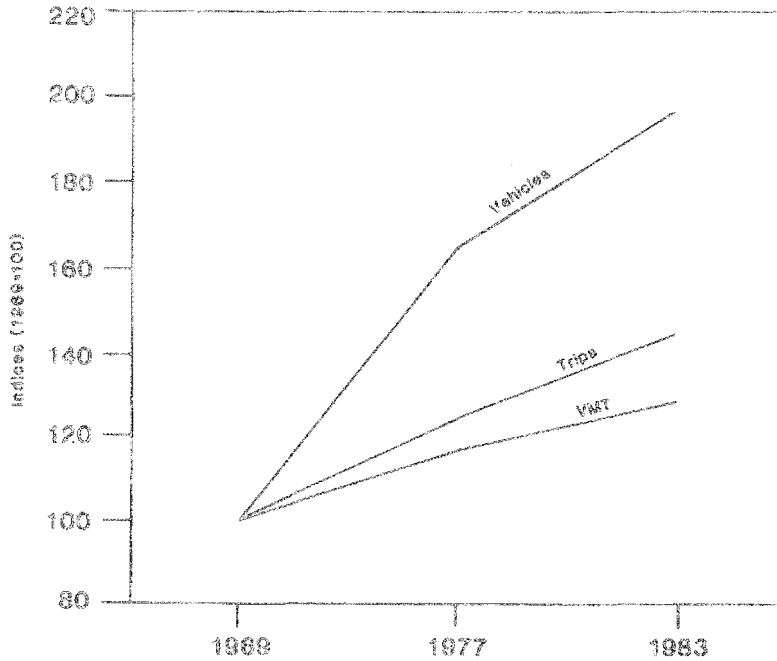
KEY SURVEY INDICATIONS

The number of household vehicles is increasing at a faster rate than household trips, and both of these are increasing faster than VMT. This indicates that Americans own more vehicles, but are driving each of them less.

SUMMARY DEMOGRAPHIC AND TRAVEL RATES

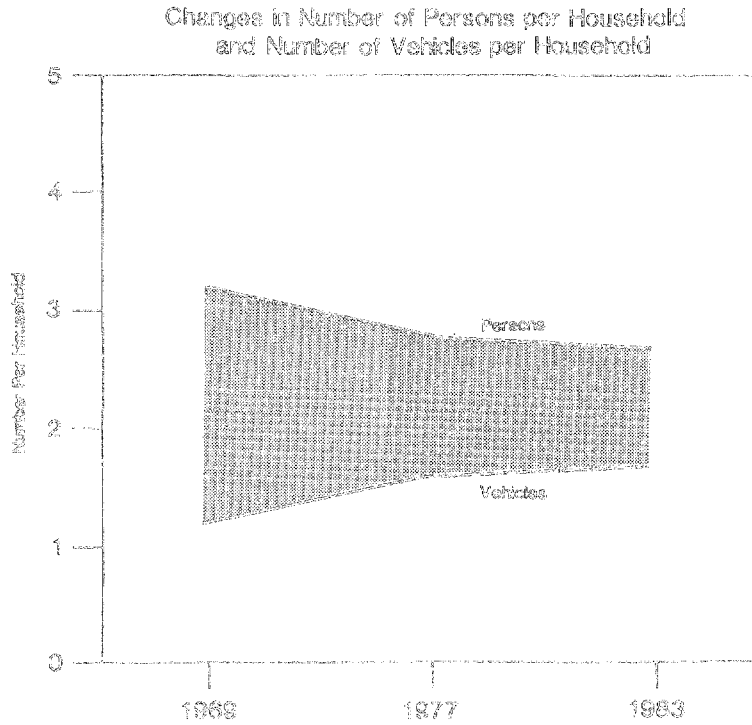
	1969	1977	1983
Persons per Household	3.2	2.8	2.7
Vehicles per Household	1.2	1.6	1.7
Vehicles per Driver	.7	.9	1.0
Vehicles per Worker	1.1	1.4	1.4
Daily Vehicle Trips per Household	3.8	4.0	4.1
Daily VMT per Household	34.0	33.0	32.2
Average Trip Length (Miles)	8.9	8.3	7.9

Changes in Number of Vehicles,
Household Trips, and Household VMT



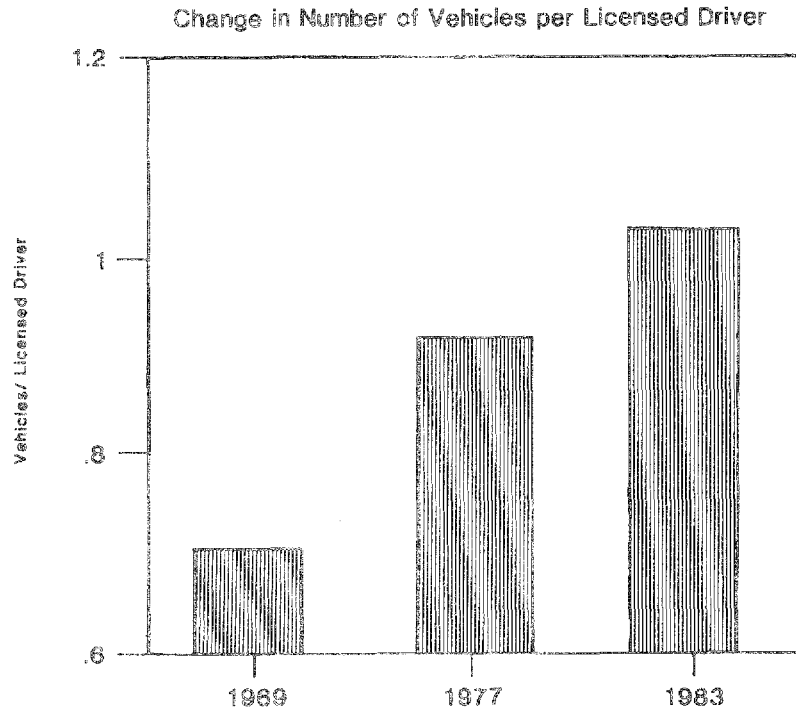
VEHICLE OWNERSHIP

While the number of persons per household has been decreasing over time, the number of vehicles per household has been increasing. The trend is most apparent from 1969 to 1977, but has appeared to stabilize from 1977 to 1983.



VEHICLE OWNERSHIP

Over time the number of household vehicles per driver has been increasing. The trend is towards each driver having at least one vehicle.



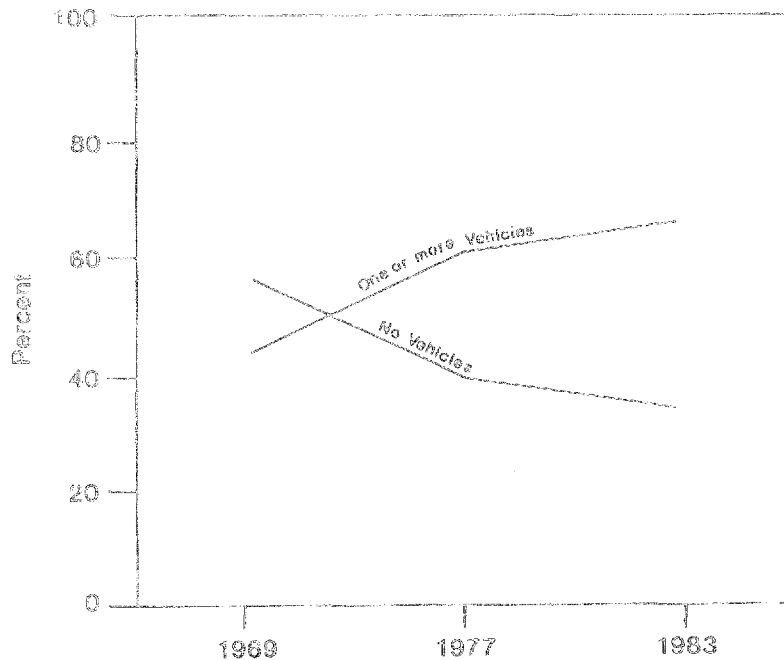
VEHICLE OWNERSHIP

The current trend is toward all adults having at least one vehicle. Over time the number of households with the same or more vehicles than adults has been increasing, with over one half the households owning at least one vehicle per adult in 1983.

DISTRIBUTION OF HOUSEHOLDS BY NUMBER OF ADULTS
AND NUMBER OF VEHICLES

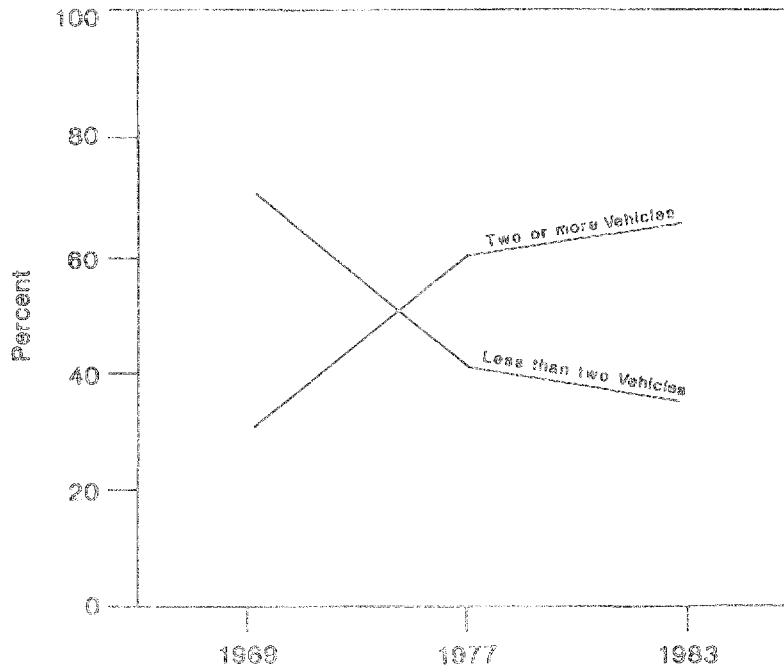
	1969	1977	1983
One Adult Households			
No Vehicle	56.2	39.2	34.0
One Vehicle	42.3	53.2	57.1
Two Vehicles	1.5	5.7	7.1
Three or more Vehicles	.0	1.9	1.8
Two Adult Households			
No Vehicle	12.4	7.5	5.8
One Vehicle	57.3	33.1	29.2
Two Vehicles	29.1	48.2	49.7
Three or more Vehicles	1.2	11.2	15.3
Three or more Adult Households			
No Vehicle	8.2	5.9	5.6
One Vehicle	32.2	15.9	13.5
Two Vehicles	42.5	34.4	27.1
Three or more Vehicles	17.0	43.8	53.8

Change in Vehicle Ownership for One Adult Households

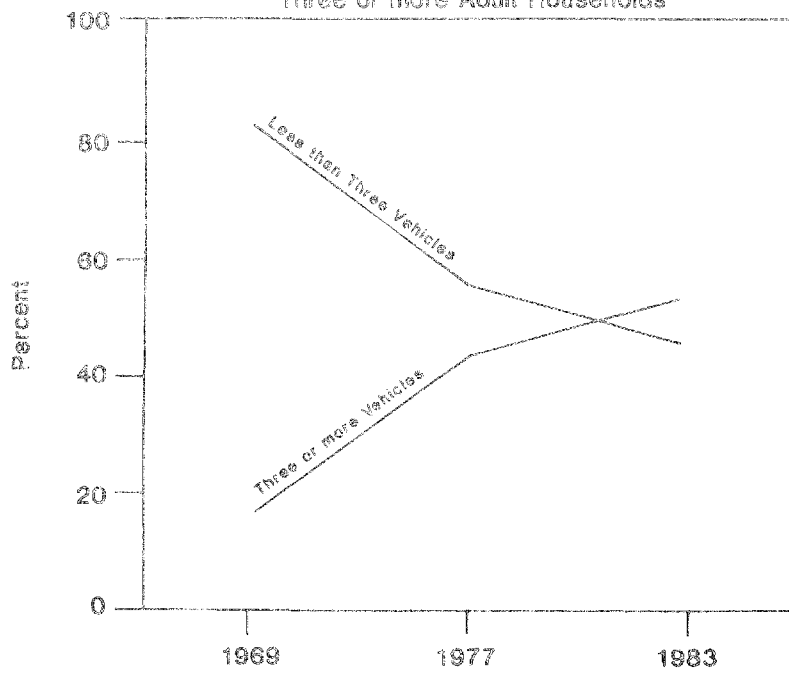


VEHICLE OWNERSHIP

Change in Vehicle Ownership for Two Adult Households

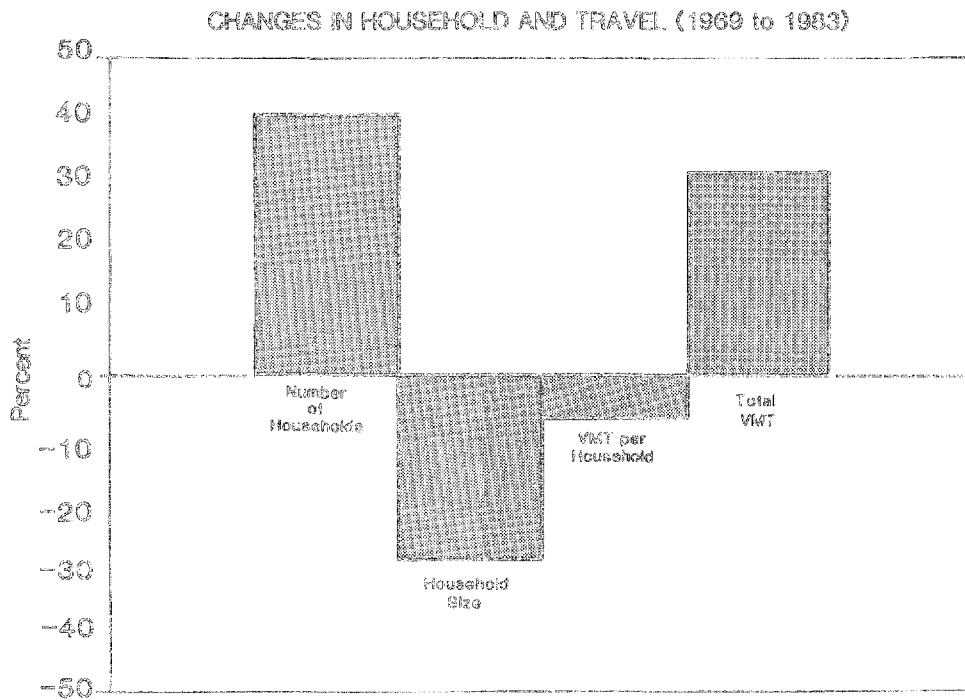


Change in Vehicle Ownership for Three or more Adult Households



HOUSEHOLD TRAVEL

Although there are 23 million more households in 1983 than there were in 1969, the population has only increased by 32 million over the same time. Household size decreased from an average of 3.2 persons in 1969 to 2.7 in 1983. The decrease in household size probably accounts for most of the 6 percent decrease in VMT per household. The total VMT increased by 29 percent, in direct relationship with the increase in households.

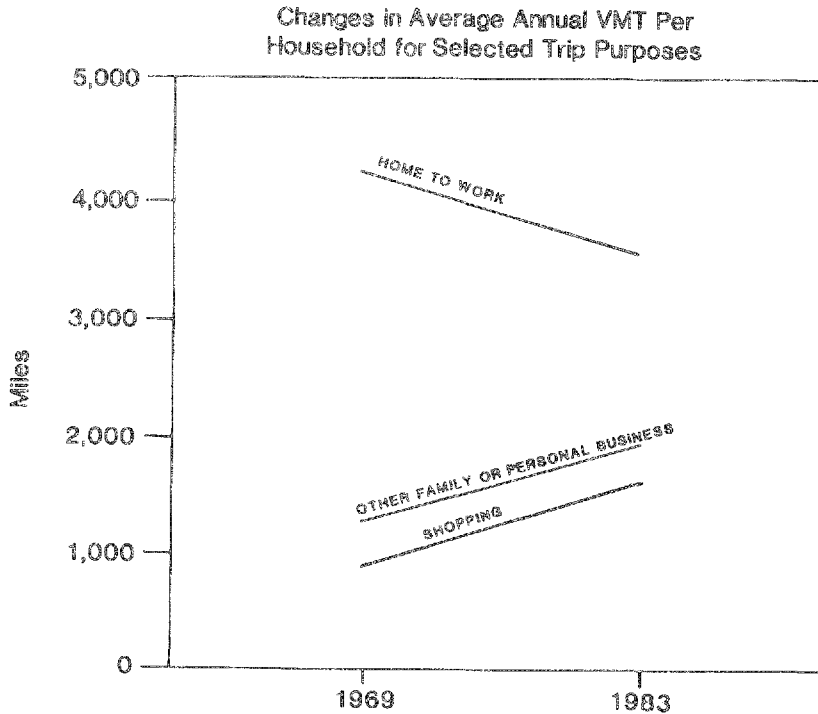


HOUSEHOLD TRAVEL

Although average annual vehicle miles of travel per household has decreased slightly over time, travel for shopping and for other family or personal business has increased. One possible reason is the growth of two income families resulting in increases in disposable income to purchase goods and services. Home to work and social and recreational travel have decreased over time, which may be due to the increase in job opportunities and recreational activities in the suburbs, resulting in shorter trip lengths.

AVERAGE ANNUAL VEHICLE MILES OF TRAVEL
PER HOUSEHOLD FOR SELECTED TRIP PURPOSES

Trip Purpose	1969	1983	Percent Change 69-83
Home to Work	4,183	3,538	-15
Shopping	929	1,567	69
Other Family or Personal Business	1,270	1,816	43
Social and Recreation	4,094	3,534	-14
All Purposes	12,423	11,739	-6



HOUSEHOLD TRAVEL

Over time the typical household trip has become shorter. This may be attributed to the increase in jobs, proliferation of shopping malls, and expansion of personal services in the suburban and exurban areas.

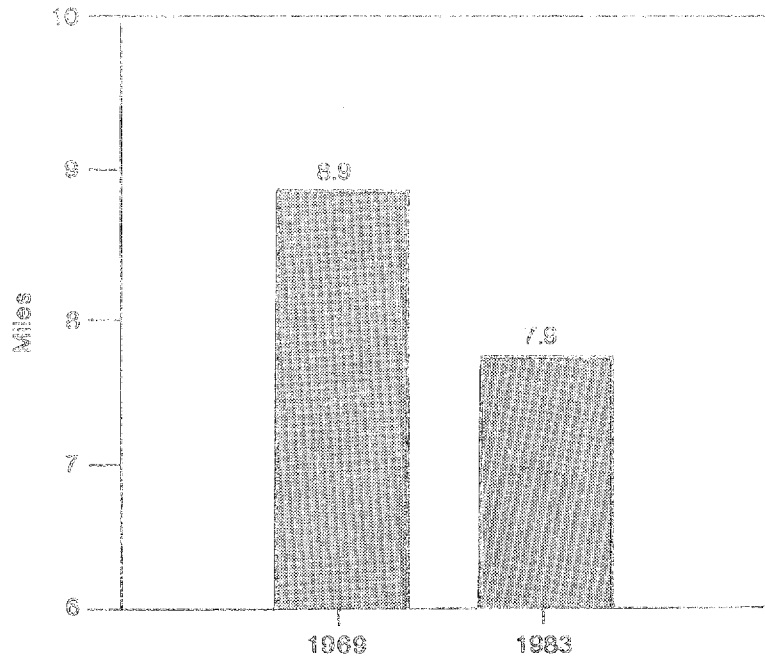
AVERAGE ANNUAL VEHICLE TRIPS AND TRIP LENGTH PER HOUSEHOLD FOR SELECTED TRIP PURPOSES

Trip Purpose	1969	1983	Percent Change 69-83
VEHICLE TRIPS			
Home to Work	445	414	-7
Shopping	213	297	39
Other Family or Personal Business	195	272	40
Social and Recreation	312	335	8
All Purposes	1,396	1,486	6

AVERAGE VEHICLE TRIP LENGTH (MILES)

Home to Work	9.4	8.5	-10
Shopping	4.4	5.3	20
Other Family or Personal Business	6.5	6.7	3
Social and Recreation	13.1	10.6	-19
All Purposes	8.9	7.9	-12

Average Trip Length



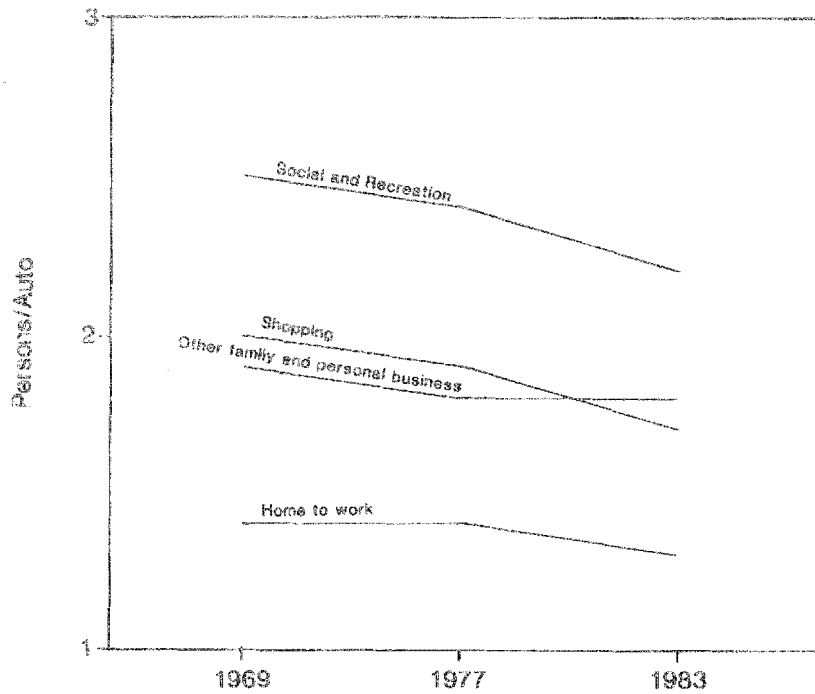
AUTO OCCUPANCY

Since 1977 average vehicle occupancy has decreased slightly. Social and recreational trips continue to have the highest occupancy rate, since people often take such trips in groups, while home to work trips have had the lowest occupancy rate of the trip purposes shown. The trend toward lower occupancy rates is partially the result of increases in vehicle ownership, with the number of vehicles approaching the number of drivers by 1983. In addition, the 76 percent increase in one person households between 1969 and 1983 contributed to lower auto occupancy.

AVERAGE AUTO OCCUPANCY FOR SELECTED TRIP PURPOSES

	1969	1977	1983	Percent Change		
				69-77	77-83	69-83
Home to work	1.4	1.4	1.3	0	-7	-7
Shopping	2.0	1.9	1.7	-5	-11	-15
Other family or personal business	1.9	1.8	1.8	-5	0	-5
Social and recreation	2.5	2.4	2.2	-4	-8	-12
All Purposes	1.9	1.9	1.8	0	-5	-5

Average Auto Occupancy for Selected Trip Purposes



JOURNEY TO WORK

The average travel time to work has decreased slightly, while the average commute distance is the same as 1969. This may be partially due to the relocation of jobs to suburban and exurban areas, allowing work trips to be made at somewhat greater speeds. Work trips via light trucks have shown a decrease in distance traveled since 1969. This may be attributed to the changing use of light trucks, from a vehicle which hauls materials, to one which is used like an automobile.

DISTRIBUTION OF WORKERS BY USUAL MODE TO WORK*

	1969	1977	1983
Auto	82.7	80.5	77.6
Truck	8.1	12.5	14.8
Public Transit	8.4	4.7	5.8
Other	0.8	2.3	1.8
Total	100.0	100.0	100.0

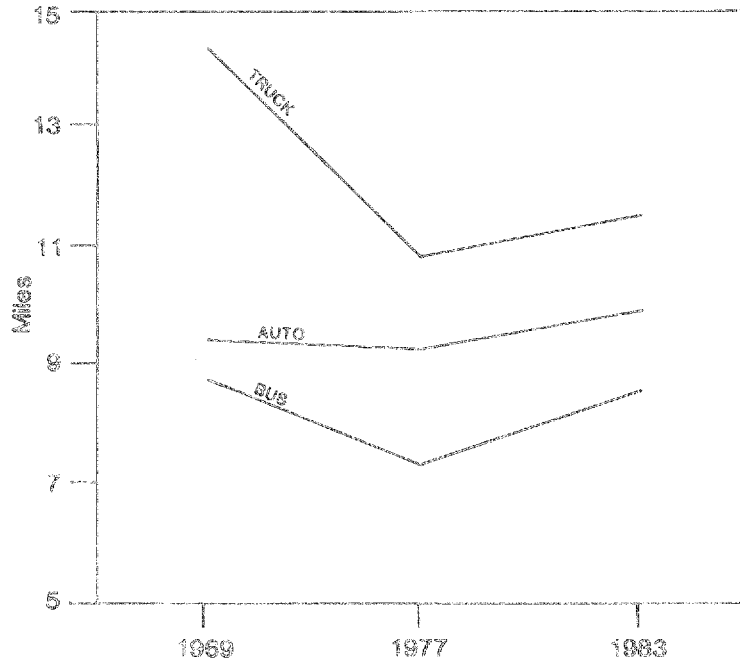
*Excludes walk trips.

COMMUTER TRAVEL PATTERNS BY USUAL MODE TO WORK

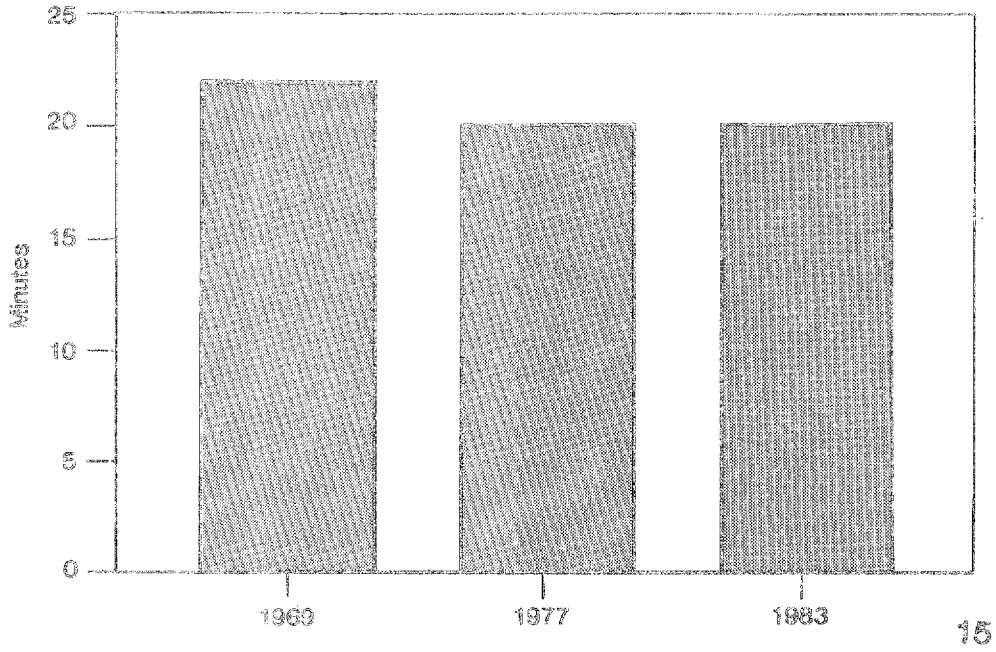
Mode	1969	1977	1983	Percent Change		
				69-77	77-83	69-83
Average Commute Trip Distance (Miles)						
Auto	9.4	9.2	9.9	-2	8	5
Truck	14.2	10.6	11.4	-25	7	-20
Bus	8.7	7.2	8.6	-17	19	-1
All modes	9.9	9.2	9.9	-7	7	0
Average Commute Travel Time (Minutes)						
All modes	22	20.4	20.4	-7	0	-7

JOURNEY TO WORK

Change in Average Commute Trip Distance for Selected Modes



Average Commute Travel Time



VEHICLE UTILIZATION

The average age of household vehicles has increased during the past 15 years. One quarter of the vehicles are ten years or older, compared to only six percent in 1969. As in the past, newer vehicles are being driven a great deal more than older ones.

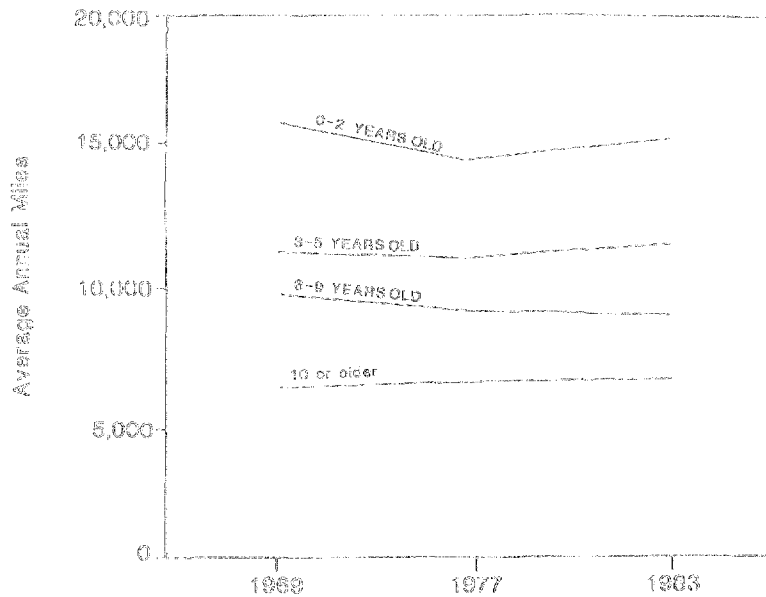
DISTRIBUTION OF VEHICLES BY AGE

Age (Years)	1969	1977	1983
0-2	41.8	27.8	19.2
3-5	31.9	29.6	27.6
6-9	20.1	25.7	26.9
10 or more	6.2	16.9	26.3
Total	100.0	100.0	100.0
Average Age (Years)	5.1	5.6	6.9

AVERAGE ESTIMATED ANNUAL MILES PER VEHICLE BY VEHICLE AGE

Vehicle Age (Years)	1969	1977	1983	Percent Change		
				69-77	77-83	69-83
0-2	15,700	14,460	15,292	-8	6	-3
3-5	11,200	11,074	11,902	-1	7	6
6-9	9,700	9,199	9,253	5	1	-5
10 or more	6,500	6,755	7,023	4	4	8
Average	11,600	10,368	10,315	-11	-1	-11

Change in Average Estimated Annual Miles Per Vehicle by Vehicle Age



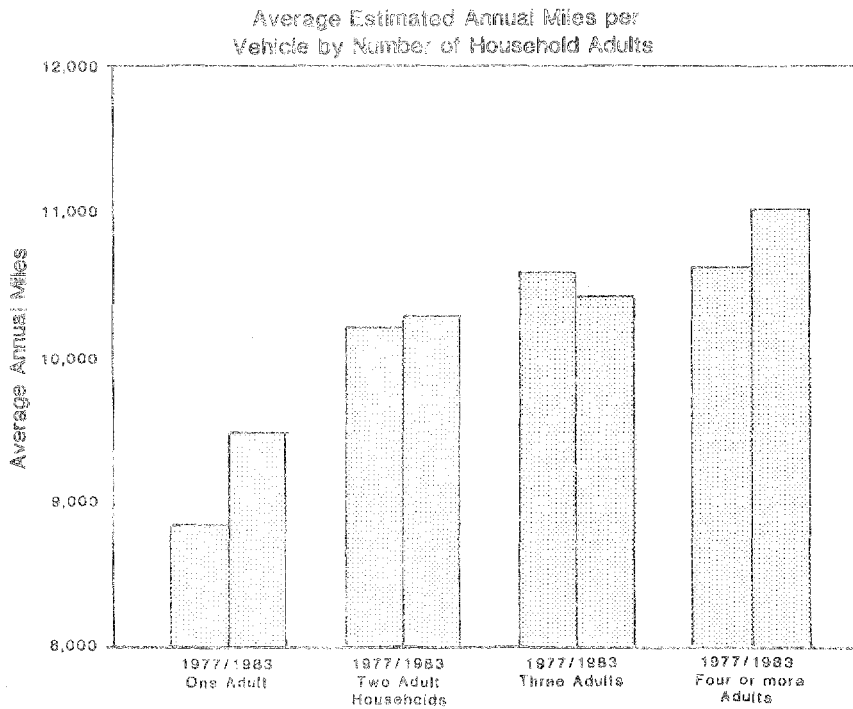
VEHICLE UTILIZATION

AVERAGE ESTIMATED ANNUAL MILES PER VEHICLE
BY NUMBER OF VEHICLES OWNED

Number of Vehicles	1969	1977	1983	Percent Change		
				69-77	77-83	69-83
One	10,800	9,759	10,257	-10	5	-5
Two	12,000	10,557	10,854	-12	3	-10
Three or more	12,800	10,477	9,793	-18	-7	-23
Total	11,600	10,368	10,315	-11	-1	-11

AVERAGE ESTIMATED ANNUAL MILES PER VEHICLE
BY NUMBER OF HOUSEHOLD ADULTS

Number of Adults	1977	1983	Percent Change 77-83
One	8,835	9,517	8
Two	10,223	10,303	1
Three	10,602	10,432	-2
Four or more	10,622	11,034	4
Total	10,368	10,315	-1



MODE SPLIT

The share of person trips made by auto has decreased slightly over time (from 85 percent to 82 percent), while the share of trips made by light trucks has doubled since 1969. This indicates a change in the use of trucks from special purpose to personal use vehicles. The proportion of school bus trips has decreased slightly over time due to the decrease in the percent of the school age population. The proportion of transit trips has also been decreasing, probably due to the increased availability of vehicles for individual use.

DISTRIBUTION OF PERSON TRIPS* BY MEANS OF TRANSPORTATION

	1969	1977	1983
Auto	85.1	82.5	81.5
Truck	5.6	9.7	11.6
School Bus	4.9	3.3	3.0
Public Transit	3.4	2.7	2.6
Other	1.0	1.8	1.3
Total	100.0	100.0	100.0

*Excludes walking and bicycle trips and trips made by persons under 5 years old.

ANNUAL PERSON TRIPS* (MILLIONS) BY MEANS OF TRANSPORTATION

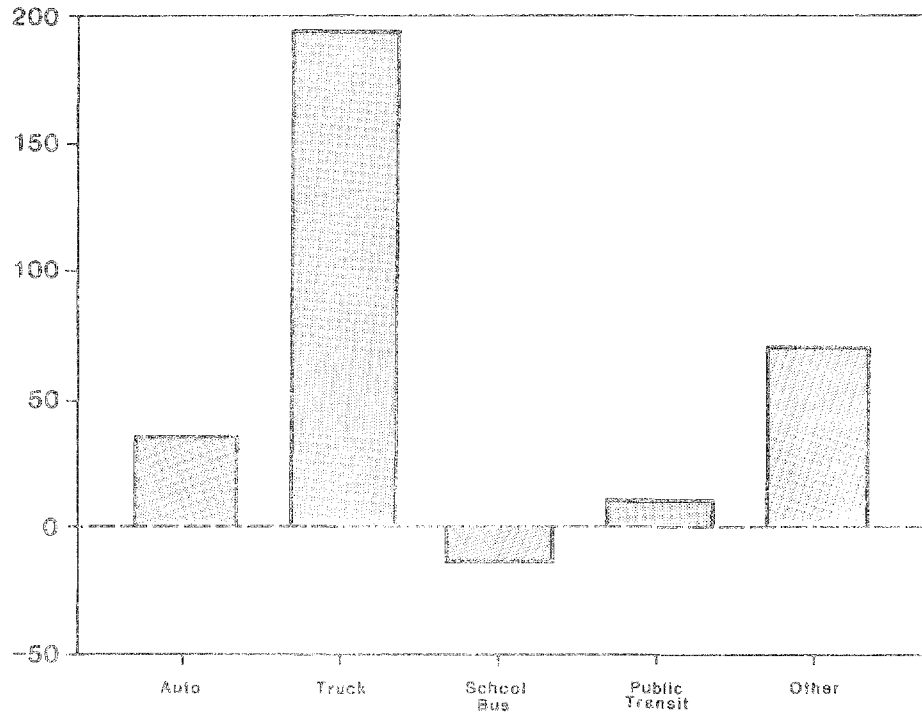
	1969	1977	1983	Percent Change		
				69-77	77-83	69-83
Auto	123,519	149,597	167,736	21	12	36
Truck	8,128	17,589	23,874	116	36	194
School Bus	7,112	5,984	6,174	-16	3	-13
Public Transit	4,935	4,896	5,531	-1	13	12
Other**	1,451	3,264	2,496	125	-24	72
Total	145,146	181,330	205,311	25	14	42

*Excludes walking and bicycle trips and trips made by persons under 5 years old.

**Other includes trips made by motorcycle, moped, other private vehicle, and taxi.

MODE SPLIT

Change in Annual Person Trips by Means of Transportation (1969 to 1983)



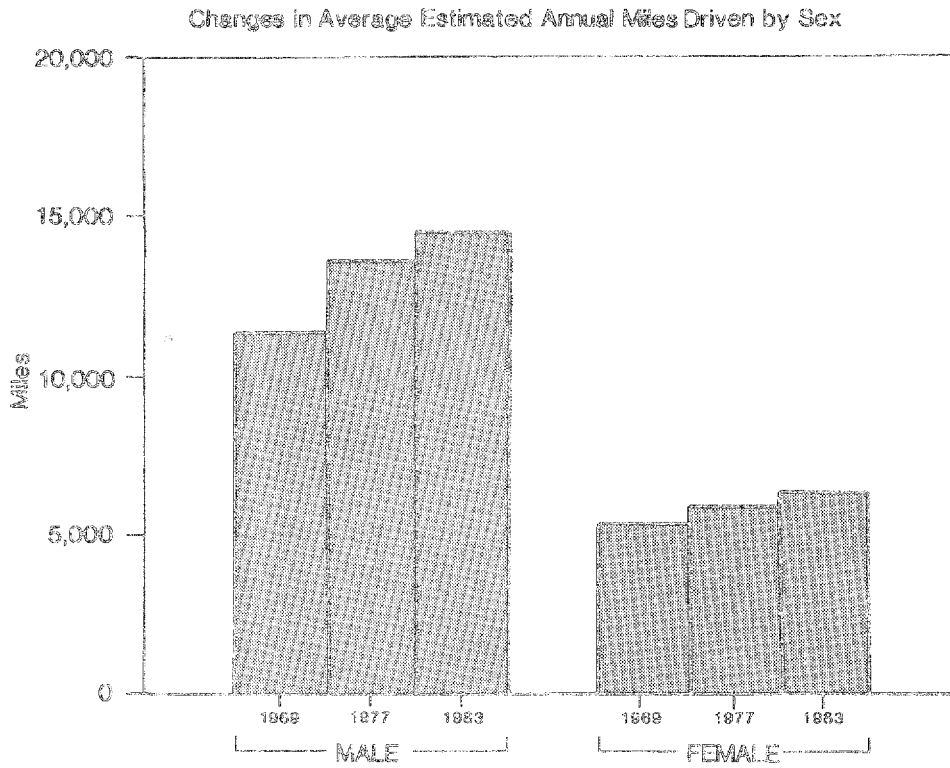
DRIVERS

Both male and female drivers have increased the average mileage driven annually. Men still drive approximately twice as many miles a year as do women. However, the percentage of total VMT driven by women has risen over time. A factor contributing to this trend could be the greater number of women working and their increased access to automobiles.

AVERAGE ESTIMATED ANNUAL MILES DRIVEN PER LICENSED DRIVER
BY DRIVER AGE AND SEX

	Age	1969	1977	1983	Percent Change		
					69-77	77-83	69-83
Male	16-19	5,461	7,045	5,908	29	-16	8
	20-34	13,133	15,222	15,844	16	4	21
	35-54	12,841	16,097	17,898	25	11	39
	55-64	10,696	12,455	13,431	16	8	25
	65+	5,919	6,795	7,198	15	6	22
	Average	11,352	13,575	14,480	20	7	28
Female	16-19	3,586	4,038	3,874	13	-4	8
	20-34	5,512	6,571	7,121	19	8	29
	35-54	6,003	6,534	7,347	9	12	22
	55-64	5,375	5,097	5,432	-5	6	1
	65+	3,664	3,572	3,308	-2	-8	-10
	Average	5,411	5,940	6,382	10	7	18

DRIVERS



DISTRIBUTION OF ESTIMATED ANNUAL MILES DRIVEN
BY DRIVER AGE AND SEX

	Age	1969	1977	1983
Male	16-19	3.1	3.2	2.0
	20-34	27.0	29.7	28.6
	35-54	30.1	27.2	27.0
	55-64	9.3	8.5	9.3
	65+	3.7	3.7	3.8
	Total		73.2	72.3
Female	16-19	1.5	1.6	1.1
	20-34	9.9	11.9	12.4
	35-54	11.3	10.1	10.9
	55-64	2.9	2.8	3.4
	65+	1.2	1.3	1.5
	Total		26.8	27.7

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