

TRAVEL TO WORK, SCHOOL AND SHOPS



Victoria
October 1994

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**TRAVEL TO WORK, SCHOOL AND SHOPS, VICTORIA
OCTOBER 1994**

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INQUIRIES	<ul style="list-style-type: none"> ● <i>for more information about statistics in this publication, please contact Nick Skondreas on (03) 9615 7362.</i> ● <i>for information about other ABS statistics and services, please contact Information Services on Melbourne (03) 9615 7000 or any ABS State Office.</i>
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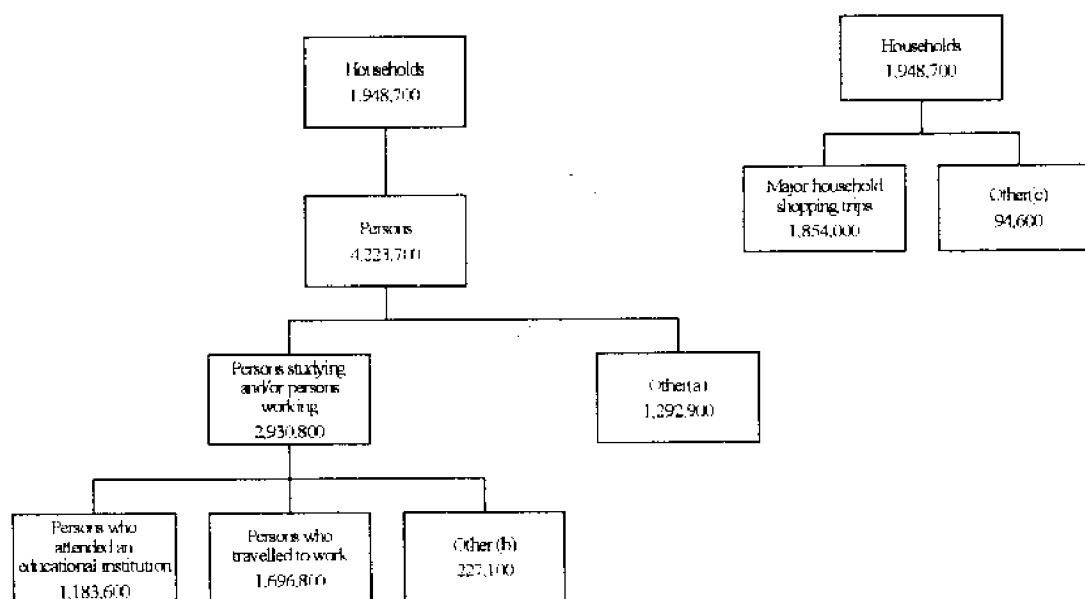


PREFACE

Each year the Australian Bureau of Statistics (ABS) conducts a survey on behalf of the Victorian Government. The topic for 1994 was Travel to Work, School and Shops conducted for the Department of Transport, on behalf of the Public Transport Corporation (PTC).

The survey was conducted to obtain a collection of information on the travel patterns of all Victorians. Where possible, comparisons are made with previous travel surveys to show changes over time (the explanatory notes contain related publication titles). This publication summarises the results of the survey which was conducted throughout Victoria during October 1994 as a supplement to the Australia-wide Monthly Population Survey.

The structure of the populations referred to in this survey are summarised in the following chart.



(a) Persons not in the labour force excluding those who studied. (b) Persons who work at home and persons who drive a vehicle for work eg. taxi drivers. Persons who did not go to an educational institution in the reference week (see explanatory notes) and persons who study at their work location. (c) Households which do the shopping in small amounts each day, when non-household members do the shopping and persons who don't know about their household shopping patterns.

The publication addresses the following travel themes :

- distance travelled
- duration of trip
- time left home
- method of transport used
- reason why public transport is not used to get to work or school
- reason why car is not used to get to work, and
- shopping patterns

Travel to work and school occur at approximately the same time of the day and have been treated together where suitable to provide a holistic view of travel patterns.

The ABS wishes to acknowledge the input provided by the following people - William Taylor (Department of Transport) and Lyndsey Wright (PTC).

This publication was compiled by Nick Skondreas, Mary Yiannis and Janine Lloyd of the Melbourne office of the ABS.

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August 1995



METHOD OF TRAVEL

During October 1994, nearly 1.7 million Victorians travelled from home to work and 1.2 million students travelled from home to a school, university or college.

In the Melbourne Statistical Division (MSD), 11.3 per cent of persons used public transport as their main method of travel to work, with the corresponding figure for the Rest of Victoria (ROV) being only 1.4 per cent.

Over the last 20 years, there has been a continuing decline in the percentage of persons using public transport as their main method of travel to work in Victoria (20.0 per cent in 1974, 12.5 per cent in 1984 and 8.9 per cent in 1994).

In 1994, 84.3 per cent of persons used a car as their main method of travel to work. This has increased since 1984 (78.5 per cent) and 1974 (68.8 per cent).

Of persons within the Melbourne Statistical Division who travelled 20 kilometres or more to work, 87.7 per cent used a car, motor cycle or scooter as their main method of transport and 12.0 per cent travelled by train. A slightly higher proportion of workers travelled to work by car in the ROV (87.4 per cent) compared to the MSD (84.1 per cent). 141,000 persons from the Inner Melbourne region travelled to work mainly by bus, tram, light rail or taxi; this is over one quarter of all Victorians using bus, tram, light rail or taxi as their main method of travel to work.

There was a continuing decline in the percentage of persons who walked to work as their main method of travel (8.6 per cent in 1974, compared to 5.2 per cent in 1984 and 3.9 per cent in 1994).

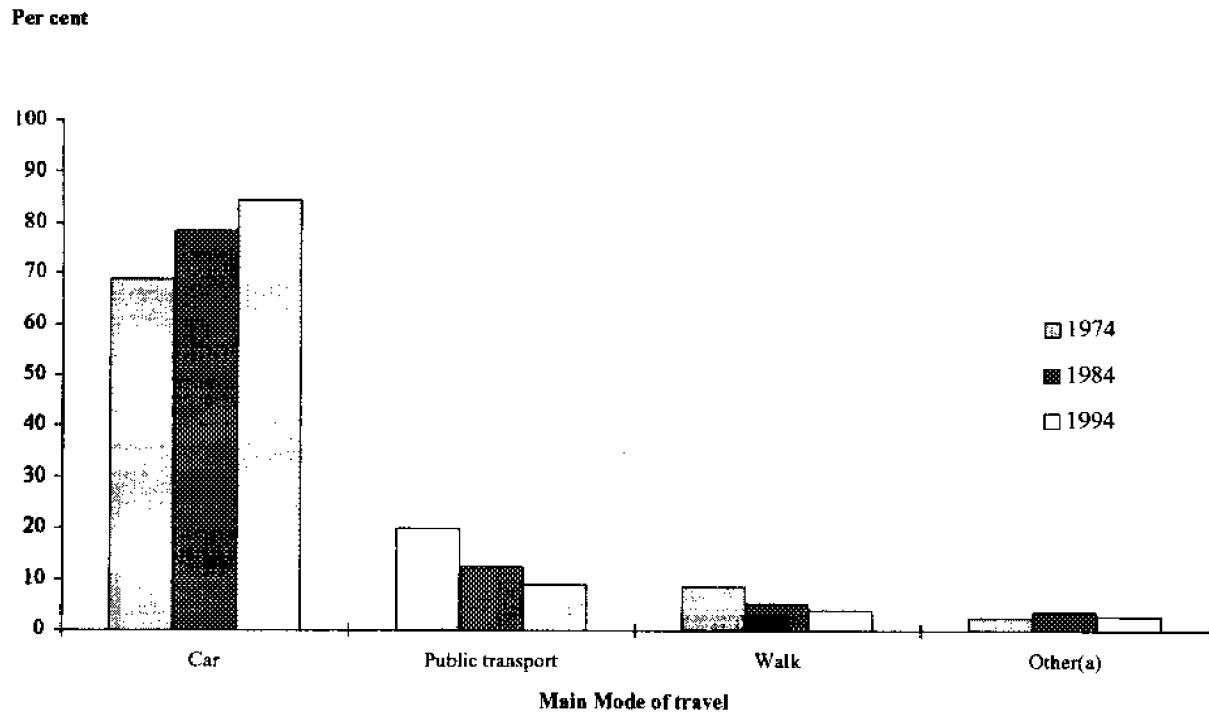
Walking was the third most commonly used main method of travel to an educational institution (20.3 per cent). This has decreased since 1984 from 31.7 per cent.

Public transport was used by 22.8 per cent of students, compared to 20.3 per cent who walked. More students used public transport as their main method of travel after school (24.8 per cent) than used public transport to get to school (22.8 per cent). 613,800 students travelled to school by car of whom only 561,400 left school by car, 21,600 left school by public transport and 36,200 walked home from school (unpublished). 75.8 per cent of students travelling to an educational institution by car were passengers.

TABLE 1. PERSONS WHO TRAVELLED TO WORK: MAIN METHOD OF TRAVEL TO WORK

Main method of travel to work	August 1974 (a)		October 1984		October 1994	
	Number ('000)	Per cent	Number ('000)	Per cent	Number ('000)	Per cent
Train	132.7	10.2	108.5	8.1	98.5	5.8
Bus	68.0	5.3	31.1	2.3	25.9	0.5
Tram/light rail	58.2	4.5	27.8	2.1	26.3	1.6
Car - as driver	726.1	56.1	922.4	69.1	1,289.6	76.0
Car - as passenger	164.0	12.7	125.4	9.4	141.5	8.3
Motor cycle/scooter	9.8	0.8	13.7	1.0	10.1	0.6
Bicycle	14.0	1.1	27.6	2.1	24.2	1.4
Walk	112.0	8.6	69.9	5.2	66.7	3.9
Other	10.0	0.8	8.5	0.6	8.9	0.5
Taxi	n.a.	n.a.	3.7	0.3	*2.9	*0.2
Varied	n.a.	n.a.	n.a.	n.a.	*2.1	*0.1
Total	1,294.8	100.0	1,334.9	100.0	1,696.8	100.0

(a) Estimates for August 1974 are based on benchmarks derived from results of the 1971 Census.

CHART 1. PERSONS WHO TRAVELLED TO WORK: MAIN METHOD OF TRAVEL TO WORK

(a) 'Other' may include 'taxi', 'motorcycle/scooter', 'bicycle' and 'varied'.

**TABLE 2. PERSONS WHO ATTENDED AN EDUCATIONAL INSTITUTION:
MAIN METHOD OF TRAVEL TO THE EDUCATIONAL INSTITUTION
BY TYPE OF INSTITUTION**
(^{'000})

Main method of travel	Primary/Secondary school		Higher education		Other		Total	
	Melbourne Statistical Division	Rest of Victoria	Melbourne Statistical Division	Rest of Victoria	Melbourne Statistical Division	Rest of Victoria	Melbourne Statistical Division	Rest of Victoria
Train	28.7	**	22.4	0.3	7.4	0.3	58.5	0.7
School Bus	34.7	105.7	**	0.3	**	0.3	34.7	106.3
Other Bus	29.7	5.3	5.3	1.0	5.4	0.7	40.4	7.0
Tram/light rail	9.0	**	8.5	**	3.8	**	21.3	**
Car	334.5	120.2	73.0	17.8	51.7	16.6	459.2	154.6
Walk	171.3	53.4	10.4	2.0	2.5	0.6	184.2	56.1
Other	28.4	26.9	3.4	**	1.0	0.9	32.8	27.8
Total	636.3	311.5	123.1	21.4	71.7	19.5	831.1	352.5

TABLE 3. MAIN METHOD OF TRAVEL

Main method of travel used	Persons who worked		Persons who attended an educational institution		Household shopping trip	
	Number ('000)	Per cent	Number ('000)	Per cent	Number ('000)	Per cent
Train	98.5	5.8	59.2	5.0	6.5	0.4
Bus/tram/light rail/taxi	55.0	3.2	69.0	5.8	51.6	2.8
School bus	n.a.	n.a.	141.1	11.9	n.a.	n.a.
Community bus	n.a.	n.a.	n.a.	n.a.	4.0	0.2
Car/motor cycle/scooter	1,441.3	85.0	615.4	52.0	1,616.3	87.2
Bicycle	24.2	1.4	57.1	4.8	4.1	0.2
Walk	66.7	4.0	240.2	20.3	161.3	8.7
Other	11.0	0.6	1.6	0.1	10.1	0.5
Total	1,696.8	100.0	1,183.6	100.0	1,854.0	100.0

TABLE 4. PERSONS WHO TRAVELLED TO WORK: LABOUR FORCE REGION OF HOME BY MAIN METHOD OF TRAVEL TO WORK ('000)

Labour force region	Bus/tram/light rail/taxi		Car/motor cycle/scooter		Bicycle	Walk	Other	Total
	Train							
Melbourne Statistical Division								
Inner Melbourne	6.2	14.1	56.8	*2.5	12.5	**		92.4
Southern Melbourne	17.7	6.6	110.1	*2.8	3.8	*1.3		142.3
Inner Eastern Melbourne	13.4	10.8	157.9	*1.2	*1.6	*0.9		185.8
North Eastern Melbourne	15.0	6.0	147.3	**	4.4	**		173.7
North Western Melbourne	4.1	5.9	70.5	**	*1.9	**		82.7
Outer Western Melbourne	14.9	5.7	151.0	*1.5	6.5	*1.5		181.1
Mornington Peninsula	*2.1	**	73.6	**	*1.3	**		78.6
Outer Eastern Melbourne	13.5	*2.8	174.3	**	*2.7	**		194.5
South Eastern Melbourne	6.6	*1.0	133.6	*2.2	*3.1	**		147.0
Total	93.6	53.5	1,075.1	12.1	37.6	6.2		1278.0
Rest of Victoria								
Barwon-Western District	*2.9	*1.2	113.2	4.6	7.6	**		129.6
Central Highlands-Wimmera	*1.0	**	47.9	*1.0	4.8	**		55.8
Loddon-Campaspe-Mallee	**	**	69.4	*2.7	8.8	*2.2		83.2
Goulburn-Ovens-Murray	**	**	66.6	*2.2	*3.2	**		73.0
All Gippsland	**	**	69.0	*1.6	4.7	*1.3		77.3
Total	4.9	1.5	366.4	12.2	29.1	4.9		418.8
Total Victoria	98.5	55.0	1,441.3	24.2	66.7	11.0		1,696.8

DISTANCE TRAVELLED

Within the Melbourne Statistical Division (MSD)

Of the 1.7 million Victorians travelling to work 1.3 million (75 per cent) lived within the MSD. Over one quarter of persons travelling to work travelled between 10 and 20 kilometres, with 21.5 per cent travelling between 5 and 10 kilometres. 831,100 students travelled to an educational institution in October 1994 and nearly half of them travelled less than 2 kilometres. Workers needed to travel further than students with only 9.1 per cent travelling less than 2 kilometres to work.

Within the MSD, 16.4 per cent of persons who used public transport as their main method of travel to work travelled 20 kilometres or more. Of the car travellers, 12.8 per cent travelled 20 kilometres or more to work.

Rest of Victoria (ROV)

For those workers travelling between 5 and 10 kilometres, the most frequent means of travel was by car (91.3 per cent), followed by 4.0 per cent who walked to work.

A higher proportion of students within the Rest of Victoria travelled more than 20 kilometres to school (10.9 per cent) compared to students within the MSD (4.2 per cent).

TABLE 5. PERSONS WHO TRAVELLED TO WORK: HOME REGION BY MAIN METHOD OF TRAVEL TO WORK BY DISTANCE TRAVELLED
(000)

<i>Main method of travel</i>	<i>Less than 500 metres</i>	<i>500 metres to less than 1 km</i>	<i>1 km to less than 2 km</i>	<i>2 km to less than 5 km</i>	<i>5 km to less than 10 km</i>	<i>10 km to less than 20 km</i>	<i>20 km or more</i>	<i>Not applicable (a)</i>	<i>Total</i>
Melbourne Statistical Division									
Train	**	**	**	5.6	19.4	40.5	23.5	4.3	93.6
Bus/tram/light rail/taxi	**	**	*1.7	17.7	18.3	8.1	**	6.8	53.5
Car/motor cycle/scooter	7.9	25.1	46.1	178.2	235.2	273.2	172.3	137.1	1,075.1
Bicycle	*1.2	*1.2	*1.6	4.4	*1.2	*1.2	**	*1.2	12.1
Walk	9.4	13.0	8.1	4.0	**	**	**	*2.2	37.6
Other	**	**	**	**	**	*1.0	**	3.3	6.2
Total	18.5	39.6	58.1	210.2	275.1	325.1	196.5	154.9	1,278.0
Rest of Victoria									
Train	**	**	**	**	**	**	4.3	**	4.9
Bus/tram/light rail/taxi	**	**	**	**	**	**	**	**	*1.5
Car/motor cycle/scooter	21.6	21.7	46.3	73.0	50.3	48.5	62.7	42.0	366.4
Bicycle	*0.9	*2.6	3.9	*2.8	*1.3	**	**	**	12.2
Walk	11.0	8.8	3.6	*1.5	*2.2	**	**	*1.9	29.1
Other	**	**	**	**	**	**	*1.4	*1.8	4.9
Total	33.8	33.5	54.8	77.7	55.1	49.2	68.4	46.4	418.8

(a) Includes persons who worked interstate, persons whose work location was not given by the respondent and persons who worked in various locations and persons who travelled to work with significant detours along the way.

**TABLE 6. PERSONS WHO ATTENDED AN EDUCATIONAL INSTITUTION: HOME REGION
BY MAIN METHOD OF TRAVEL TO AN EDUCATIONAL INSTITUTION
BY DISTANCE TRAVELLED**
(^{'000})

<i>Main method of travel</i>	<i>Less than 500 metres</i>	<i>500 metres to less than 1 km</i>	<i>1 km to less than 2 km</i>	<i>2 km to less than 5 km</i>	<i>5 km to less than 10 km</i>	<i>10 km to less than 20 km</i>	<i>20 km or more</i>	<i>Not applic- able (a)</i>	<i>Total</i>
Melbourne Statistical Division									
Train	**	**	**	8.1	14.2	19.9	12.6	*2.8	58.5
Bus/tram/light rail/taxi	**	*0.9	5.3	27.7	16.4	8.0	**	*3.2	62.0
School bus	**	**	*2.5	12.1	11.1	7.9	**	**	34.7
Car/motor cycle/scooter	21.1	80.1	89.3	108	57.1	42.6	21.5	40.5	460.1
Bicycle	*2.7	8.3	8.7	8.1	*1.2	**	**	**	30.0
Walk	61.6	73.5	33.5	9.3	**	**	**	5.9	184.2
Other	*1.2	**	**	**	**	**	**	**	*1.6
Total	86.7	163.5	139.9	173.5	100.3	79.0	35.3	53.0	831.1
Rest of Victoria									
Train	**	**	**	**	**	**	**	**	**
Bus/tram/light rail/taxi	**	**	**	*2.5	*2.0	**	*1.1	**	7.0
School bus	8.6	*2.9	9.2	9.9	16.4	32.4	24.6	*2.4	106.3
Car/motor cycle/scooter	17.5	21.1	33.5	31.9	15.7	12.9	11.4	10.9	155.3
Bicycle	4.9	6.5	5.0	5.7	3.6	**	**	**	27.1
Walk	19.6	19.7	13.6	*2.1	**	**	**	*1.0	56.1
Other	**	**	**	**	**	**	**	**	**
Total	50.7	50.2	62.1	52.0	37.7	46.3	38.5	14.6	352.5

(a) Includes persons who studied interstate, persons whose educational institution location was not given by the respondent and persons who studied in various locations.

Victorians travel further to get to work than they do to get to educational institutions or for their main shopping trip. Over 15 per cent of workers travelled 20 kilometres or more to get to work compared to only 6.2 per cent of students who travelled 20 kilometres or more to get to an educational institution. Only 5.2 per cent of shoppers travelled 20 kilometres or more for their main shopping trip.

**TABLE 7. PERSONS: DISTANCE TRAVELLED FROM HOME TO WORK, SCHOOL OR
SHOPS**
(^{'000})

	<i>Distance travelled from home to work</i>	<i>Distance travelled from home to school/uni/college</i>	<i>Distance travelled from home to shops</i>
Less than 500 metres	52.3	137.4	146.9
500 metres to less than 1 km	73.1	213.7	270.5
1 km to less than 2 km	112.8	202.0	383.3
2 km to less than 5 km	287.9	225.5	414.1
5 km to less than 10 km	330.2	138.0	138.2
10 km to less than 20 km	374.3	125.3	81.7
20 km or more	264.8	73.9	97.0
Not applicable (a)	201.3	67.6	322.3
Total	1,696.7	1,183.6	1,854.0

(a) Includes persons who worked interstate, persons whose work location was not given by the respondent and persons who worked in various locations.

TABLE 8. PERSONS WHO TRAVELLED TO WORK: DISTANCE TRAVELLED FROM HOME TO WORK

<i>Distance travelled from home to work</i>	<i>October 1984</i>		<i>October 1994</i>	
	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>
Less than 500 metres	64.7	4.9	52.3	3.1
500 metres to less than 1 km	68.9	5.2	73.1	4.3
1 km to less than 2 km	104.9	7.9	112.8	6.7
2 km to less than 5 km	207.7	15.7	287.9	17.0
5 km to less than 10 km	251.1	19.0	330.2	19.5
10 km to less than 20 km	312.5	23.6	374.3	22.1
20 km or more	252.8	19.1	264.8	15.6
Not applicable (a)	61.9	4.7	201.3	11.9
Total	1,324.5	100.0	1,696.7	100.0

(a) 'Not applicable' for 1994 included persons who worked interstate, persons whose work location was not given by the respondent and persons who worked in various locations.

The median distance travelled to work in 1994 (9.9 kilometres) is slightly more than in 1984 (9.3 kilometres).

TABLE 9. PERSONS WHO ATTENDED AN EDUCATIONAL INSTITUTION: HOME REGION BY DISTANCE TRAVELLED BY TYPE OF EDUCATIONAL INSTITUTION ('000)

<i>Distance travelled to the education institution</i>	<i>Primary/Secondary school</i>		<i>Higher education</i>		<i>Other</i>		<i>Total</i>	
	<i>Melbourne</i>		<i>Melbourne</i>		<i>Melbourne</i>		<i>Melbourne</i>	
	<i>Statistical Division</i>	<i>Rest of Victoria</i>	<i>Statistical Division</i>	<i>Rest of Victoria</i>	<i>Statistical Division</i>	<i>Rest of Victoria</i>	<i>Statistical Division</i>	<i>Rest of Victoria</i>
Less than 1 km	239.4	98.6	8.5	**	*2.2	*1.6	250.2	100.9
1 km to less than 2 km	132.3	60.5	3.4	**	4.2	*1.2	139.9	62.1
2 km to less than 5 km	150.5	45.3	13.2	4.4	9.8	*2.3	173.5	52.0
5 km to less than 10 km	63.7	31.4	22.4	3.7	14.2	*2.5	100.3	37.7
10 km to less than 20 km	30.8	39.2	33.6	4.2	14.6	*2.9	79.0	46.3
20 km or more	8.1	30.3	18.6	3.9	8.6	4.3	35.4	38.5
Not applicable	11.6	5.7	23.4	4.3	18.1	4.6	53.0	14.6
Total	636.3	311.5	123.1	21.4	71.7	19.5	831.1	352.5

Within the Melbourne Statistical Division (MSD), 15.1 per cent of students travelled 20 kilometres or more to get to a higher educational institution. Almost 10 per cent of students within the Rest of Victoria travelled more than 20 kilometres to a Primary or Secondary school compared to the 1.3 per cent of Primary or Secondary students within MSD who travelled more than 20 kilometres.

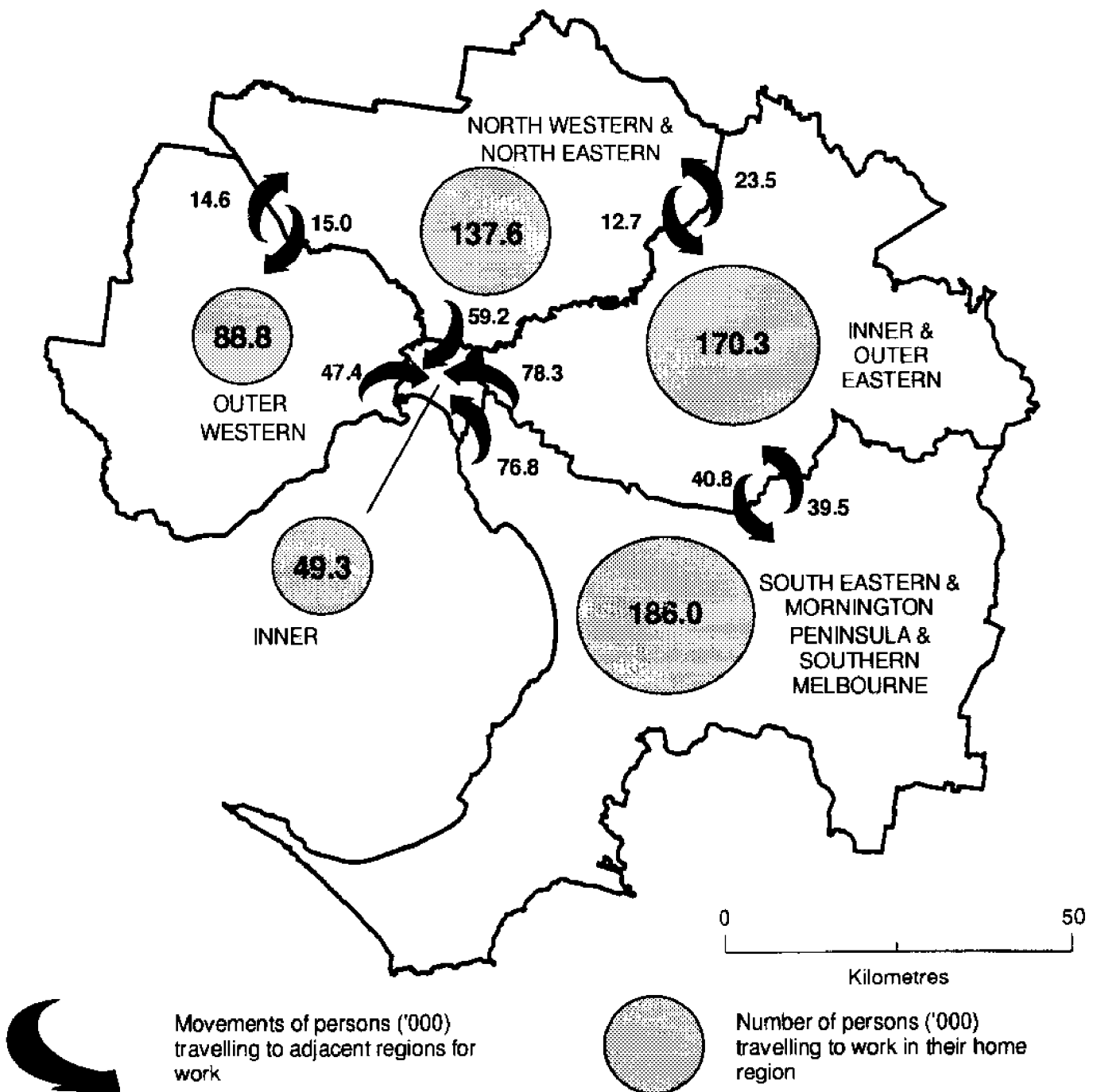
Of persons living and working in the MSD:

Overall, 63.7 per cent of persons live and work in the same region. The percentage of persons living and working in Inner & Outer Eastern and Outer Western is generally lower than other regions, (53.4 per cent and 56.5 per cent respectively).

84.1 per cent of persons working in the Inner region travel from other regions.

The percentage of persons living in a region and travelling to work in another region is lowest in the Inner region (36.0 per cent) and highest in the Inner & Outer Eastern region (46.6 per cent).

**DIAGRAM 1: PERSONS WHO TRAVELLED TO WORK IN THE MELBOURNE STATISTICAL DIVISION:
REGION OF HOME AND WORK**



**TABLE 10. PERSONS WHO LIVE AND WORK IN MSD:
WORK REGION BY HOME REGION**
(^{'000})

Work region	Inner	Outer Western	North Western & North Eastern	Inner & Outer Eastern	South Eastern, Mornington Peninsula & Southern Melbourne	Total
Inner	49.3	47.4	59.2	78.3	76.8	311.0
Outer Western	5.3	88.8	15.0	6.0	6.8	121.9
North Western and North Eastern	5.5	14.6	137.6	23.5	4.1	185.3
Inner and Outer Eastern	5.4	1.9	12.7	170.3	39.5	229.8
South Eastern, Mornington Peninsula and Southern Melbourne	11.5	4.4	2.2	40.8	186.0	244.9
Total	77.0	157.1	226.7	318.9	313.2	1,092.9

Within the Melbourne Statistical Division 17.6 per cent of persons travelling less than 1 kilometre to work were from the Outer Western Melbourne region. More workers from Inner Melbourne travelled between 2 and 5 kilometres to work (35.0 per cent) than other regions, whereas 32.9 per cent of workers in Inner Eastern Melbourne travelled between 10 and 20 kilometres.

**TABLE 11. PERSONS WHO TRAVELLED TO WORK: LABOUR FORCE REGION OF
HOME BY DISTANCE TRAVELLED TO WORK**
(^{'000})

Labour force region	1 km to Less 1 km	2 km to less 2 km	5 km to less 5 km	10 km to less 10 km	20 km less 20 km	30 km less 30 km or more	Not able (a)	Total	
Melbourne Statistical Division									
Inner Melbourne	9.6	7.6	32.3	16.1	12.7	*1.6	*1.6	10.9	92.4
Southern Melbourne	7.5	8.9	26.4	38.5	38.5	8.4	*1.3	12.8	142.3
Inner Eastern Melbourne	5.7	7.7	28.2	49.0	61.1	14.6	*1.8	17.6	185.8
North Eastern Melbourne	6.9	7.7	22.9	43.2	55.5	13.4	*2.1	21.9	173.7
North Western Melbourne	*1.9	3.7	19.6	19.5	19.9	5.6	*2.2	10.3	82.7
Outer Western Melbourne	10.2	9.1	26.0	35.9	46.5	19.8	12.6	21.0	181.1
Mornington Peninsula	*2.8	*1.6	13.2	13.1	12.7	14.6	11.5	9.1	78.6
Outer Eastern Melbourne	9.5	6.7	22.8	33.1	43.8	31.6	14.5	32.6	194.5
South Eastern Melbourne	4.0	5.1	18.9	26.6	34.3	25.3	13.9	18.8	147.0
Total	58.1	58.1	210.2	275.1	325.1	134.9	61.5	154.9	1278.0
Rest of Victoria									
Barwon-Western District	16.1	16.2	26.8	21.3	18.2	8.4	11.3	11.2	129.6
Central Highlands-Wimmera	12.1	7.4	8.9	6.1	5.7	*2.6	5.5	7.4	55.8
Loddon-Campaspe-Mallee	12.3	14.0	17.4	11.9	4.5	*2.0	11.3	9.9	83.2
Goulburn-Ovens-Murray	10.5	7.5	15.9	7.2	10.0	4.3	7.8	9.7	73.0
All Gippsland	16.3	9.6	8.6	8.7	10.8	7.9	7.2	8.1	77.3
Total	67.3	54.8	77.7	55.1	49.2	25.2	43.1	46.4	418.8
Total Victoria	125.4	112.8	287.9	330.2	374.3	160.2	104.7	201.3	1,696.8

(a) Includes persons who worked interstate, persons whose work location was not given by the respondent, persons who worked in various locations.

DURATION OF TRIP

Within the Melbourne Statistical Division (MSD)

Generally it took workers less time to get to work in 1994 than it did in 1984. Of all trips to work in 1994, 66.1 per cent were of less than 30 minutes duration and 35.5 per cent took less than 15 minutes. The majority of trips to work taking 1 hour or more were by car, motor cycle or scooter (61.4 per cent) followed by train (32.4 per cent).

In 1984, 69.3 per cent of persons who lived in the MSD and travelled to work mainly by car took less than 30 minutes to get to work. In 1994, 64.5 per cent of persons who live in the MSD and travelled to work mainly by car took less than 30 minutes.

Of students who travelled 1 hour or more to get to educational institutions, 48.8 per cent travelled by train, 30.7 per cent by car and 13.7 per cent by bus, tram, light rail or taxi. 51.7 per cent of students travelled over an hour to get to a higher education institution. Of the trips to school from home taking less than 15 minutes, 90 per cent were to a Primary or Secondary school and only 5.5 per cent to a higher educational institution.

Rest of Victoria (ROV)

In the Rest of Victoria, most workers (81.3 per cent) took less than 30 minutes to travel to work and only 5.0 per cent of workers travelled for 1 hour or more.

TABLE 12. PERSONS WHO TRAVELLED TO WORK: TIME TAKEN TO TRAVEL TO WORK

<i>Time taken to travel to work</i>	<i>October 1984</i>		<i>October 1994</i>	
	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>
Less than 15 minutes	301.5	30.0	601.7	35.5
15 minutes to less than 30 minutes	335.9	33.4	519.4	30.6
30 minutes to less than 1 hour	288.7	28.7	381.6	22.5
1 hour to less than 1.5 hours	64.4	6.4	95.1	5.6
1.5 hours or more	9.3	0.9	15.7	0.9
Don't know	6.2	0.6	*2.5	*0.1
Varied	n.a.	n.a.	80.9	4.8
Total	1,006	100.0	1,696.7	100.0

TABLE 13. PERSONS WHO TRAVELLED TO WORK: HOME REGION BY MAIN METHOD OF TRAVEL TO WORK BY TIME TAKEN (a)
(^{'000})

<i>Main method of travel</i>	<i>Less than 15 minutes</i>	<i>15 minutes to less than 30 minutes</i>	<i>30 minutes to less than 1 hour</i>	<i>1 hour or more</i>	<i>Other (b)</i>	<i>Total</i>
Melbourne Statistical Division						
Train	*1.5	16.3	46.6	29.1	**	93.6
Bus/tram/light rail/taxi	5.0	17.8	24.7	5.4	**	53.5
Car/motor cycle/scooter	318.4	375.4	263.9	55.1	62.3	1,075.1
Bicycle	5.4	4.3	*1.8	**	**	12.1
Walk	26.5	7.7	3.4	**	**	37.6
Other	*0.9	*1.2	*1.2	**	*2.4	6.2
Total	357.6	422.9	341.7	89.8	65.9	1,278.0
Rest of Victoria						
Train	**	**	*1.0	3.3	**	4.9
Bus/tram/light rail/taxi	**	**	**	**	**	*1.5
Car/motor cycle/scooter	206.8	90.4	36.8	16.3	15.9	366.2
Bicycle	9.6	*2.2	**	**	**	12.2
Walk	24.9	3.2	*0.9	**	**	29.1
Other	*1.7	**	**	*1.3	*1.3	4.8
Total	244.0	96.5	39.9	20.9	17.5	418.8

(a) Travel time included all methods of transport used to get to work. (b) Included persons whose travel time varied and persons whose travel time was unknown

TABLE 14. PERSONS WHO ATTENDED AN EDUCATIONAL INSTITUTION: HOME REGION BY MAIN METHOD OF TRAVEL TO AN EDUCATIONAL INSTITUTION BY TIME TAKEN (a)
(^{'000})

<i>Main method of travel</i>	<i>Less than 15 minutes</i>	<i>15 minutes to less than 30 minutes</i>	<i>30 minutes to less than 1 hour</i>	<i>1 hour or more</i>	<i>Other (b)</i>	<i>Total (c)</i>
Melbourne Statistical Division						
Train	*3.0	11.0	25.7	18.9	**	58.5
Bus/tram/light rail/taxi	9.2	21.2	26.4	5.3	**	62.0
School bus	4.1	15.4	13.3	*1.9	**	34.7
Car/motor cycle/scooter	315.5	83.8	46.7	11.9	*2.1	460.1
Bicycle	23.0	6.0	*1.0	**	**	30.0
Walk	154.4	26.7	*1.6	**	**	184.2
Other	*1.6	**	**	**	**	*1.6
Total	510.8	164.1	114.6	38.7	*2.9	831.1
Rest of Victoria						
Train	**	**	**	**	**	**
Bus/tram/light rail/taxi	**	3.2	*2.5	**	**	7.0
School bus	22.7	32.0	43.3	7.1	*1.2	106.3
Car/motor cycle/scooter	123.4	19.9	6.9	4.5	**	155.3
Bicycle	24.1	*3.1	**	**	**	27.1
Walk	48.0	7.4	**	**	**	56.1
Other	**	**	**	**	**	**
Total	219.3	65.6	53.3	12.3	*1.9	352.5

(a) Travel time included all methods of transport used to get to school/university/college. (b) Included persons whose travel time varied and persons whose travel time was unknown to the respondent.

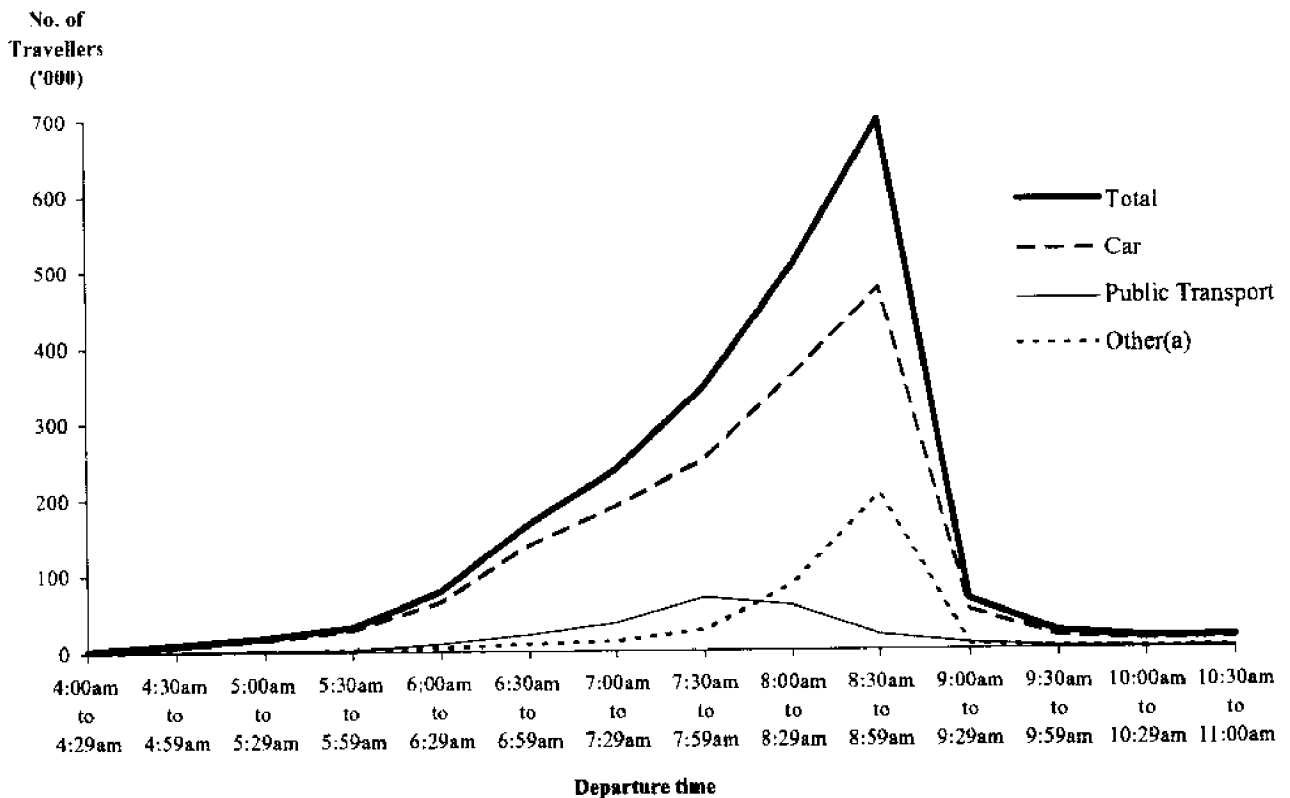
TIME LEFT HOME

Persons who used public transport as their main method of travel spent more time travelling to work and generally left home earlier than persons using a car as their main method of travel. 68.9 per cent of those who used public transport left home before 8 a.m., while 56.2 per cent of persons travelling by car left home before 8 a.m.

Departures from home of persons going to work or school mainly by public transport peaked between 7:30 a.m. and 8 a.m. (58,200 persons). For persons going to work or school mainly by car, the peak period for departures was between 8:30 a.m. and 9 a.m. (473,200 persons).

Departures from home of persons going to work peaked between 7 a.m. and 8 a.m. 60,300 of these workers travelled mainly by public transport and 435,000 left home by car.

CHART 2. PERSONS WHO TRAVELLED TO WORK OR SCHOOL: MAIN METHOD OF TRAVEL BY TRAVEL TIME



(a) 'Other' may include 'walk', 'taxi', 'motorcycle/scooter', 'bicycle' and 'varied'.

REASONS WHY PUBLIC TRANSPORT WAS NOT USED AS THE MAIN METHOD OF TRAVEL TO WORK OR SCHOOL

Of workers who did not use public transport as their main method of travel, 358,500 (23.2 per cent) stated that there was none available. The percentage of workers stating that there was no public transport available was lower than in 1984 (27.3 per cent). 9.9 per cent of workers said they did not use public transport because their work was close by and 20.5 per cent stated the time taken to travel by public transport was too long. The percentage of workers not using public transport due to the length of travel time has increased from 17.6 per cent in 1984. The percentage of workers stating the main reason they did not use public transport to get to work was because it was not comfortable has decreased from 4.6 per cent in October 1984 to 2.7 per cent in 1994.

Of workers who stated they did not use public transport as their main method of travel because it was not safe, 91.5 per cent were female. The most frequent reason females did not use public transport to get to work (24.0 per cent) was that none was available, followed by 23.3 per cent who stated the main reason was that the time taken was too long. More males than females stated that their main reason for not using public transport to get to work was that they needed a vehicle or bike for work (14.4 per cent and 5.8 per cent respectively). A higher percentage of females than males stated that they needed a vehicle or bike after work (1.2 per cent and 0.7 per cent respectively).

35.6 per cent of students who did not use public transport said the main reason was that their educational institution was close by. 12.2 per cent of students stated they did not use public transport to get to an educational institution because a car lift was available. A higher percentage of students than workers stated the main reason they did not use public transport was due to it being not safe (4.1 per cent and 0.9 per cent respectively).

TABLE 15. PERSONS WHO DIDN'T USE PUBLIC TRANSPORT TO TRAVEL TO WORK OR SCHOOL: MAIN REASON WHY PUBLIC TRANSPORT WAS NOT USED TO TRAVEL TO WORK OR AN EDUCATIONAL INSTITUTION

	<i>Main reason why public transport was not used to travel to work</i>		<i>Main reason why public transport was not used to travel to an educational institution</i>	
	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>
Not safe	14.1	0.9	37.7	4.1
Time taken too long	317	20.5	101.3	11.1
Too expensive	18.8	1.2	17.1	1.9
None available	358.5	23.2	156.2	17.1
Timetable unsuitable	125.6	8.1	33.1	3.6
Too many methods to use	75.5	4.9	20.4	2.2
Had company/government car	88.1	5.7	*1.9	*0.2
Needed vehicle/bike for work	166.2	10.75	*2.9	*0.3
Needed vehicle/bike after work	14.2	0.9	5.3	0.6
Not as comfortable	40.9	2.7	4.8	0.5
Destination close by	152.5	9.9	325.8	35.6
Car lift available	62.6	4.1	111.3	12.2
Not reliable	17.5	1.1	*3.1	*0.3
Too young	n.a.	n.a.	73.4	8.0
Other	94.6	6.1	20.3	2.2
Total	1,546.1	100.0	906.7	100.0

REASONS WHY CAR WAS NOT USED AS THE MAIN METHOD OF TRAVEL TO WORK

The main reason stated by workers for not using a car to get to work was that there was no car available (27.7 per cent).

More workers in 1994 than in 1984 stated that difficulty with parking was the main reason they did not drive to work (23.3 per cent and 18.3 per cent respectively).

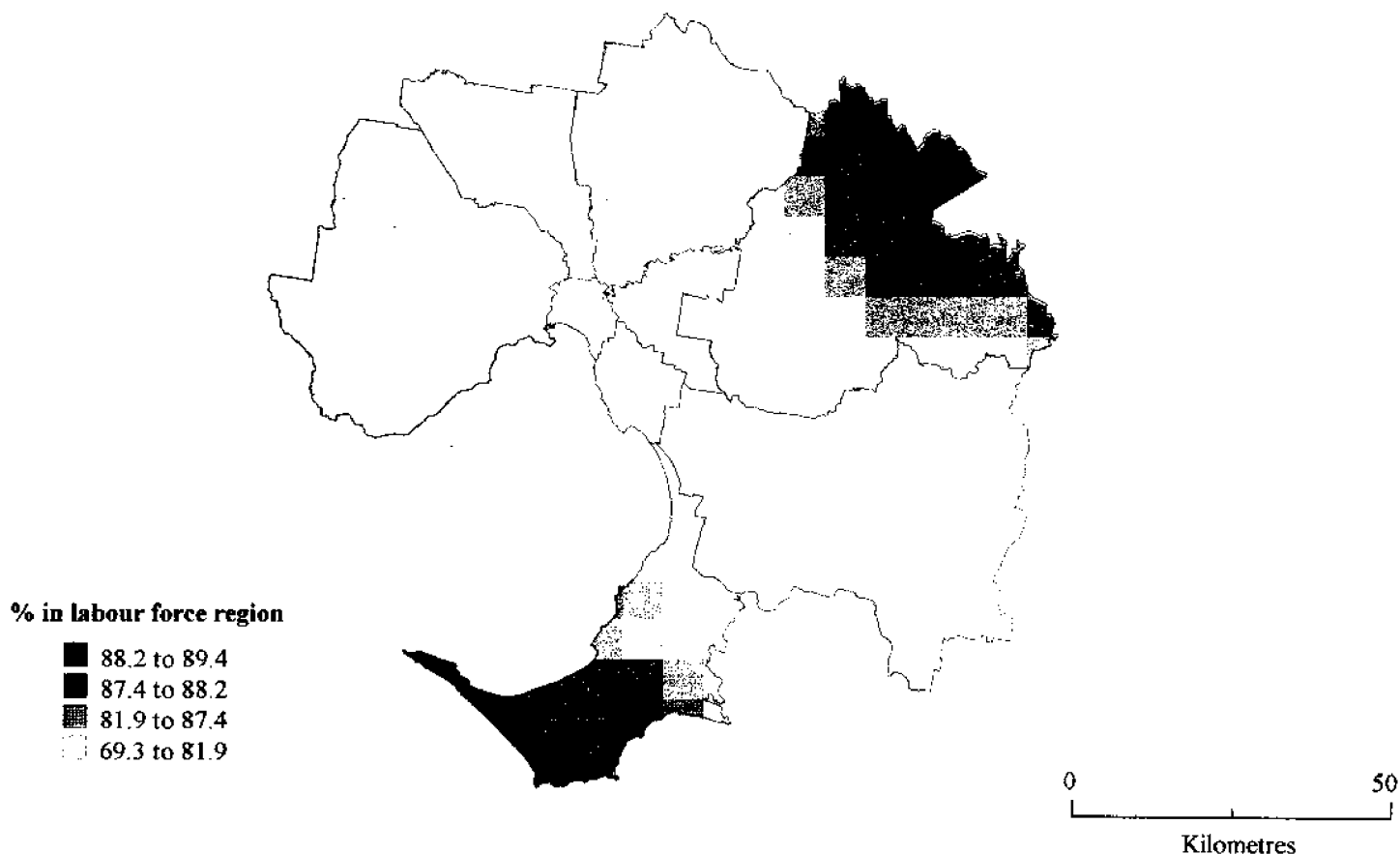
TABLE 17. PERSONS WHO USED PUBLIC TRANSPORT TO TRAVEL TO WORK: MAIN REASONS WHY CAR WAS NOT USED AS THE MAIN METHOD OF TRAVEL

<i>Main reason why car was not used</i>	<i>October 1984</i>		<i>October 1994</i>	
	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>
No car available	46.2	27.6	41.8	27.7
No licence/do not drive	38.6	23.1	30.6	20.3
Difficulty with parking	30.7	18.3	35.1	23.3
Do not like driving in heavy traffic	12.8	7.7	9.7	6.4
Too expensive	17.0	10.2	16.6	11.0
Too far to drive	3.7	2.2	3.1	2.1
Other	7.4	4.4	12.2	8.1
Total	167.4	100.0	150.7	100.0

Car licence

The highest proportion of persons aged 18 years and over having a motor-car licence occurs in the eastern areas of the Melbourne Statistical Division.

CHART 3. PERSONS AGED 18 YEARS AND OVER: LABOUR FORCE REGIONS IN THE MSD BY WHETHER HAVE A MOTORCAR LICENCE



HOUSEHOLD SHOPPING

More people walked to the shops for their main shopping trip than used public transport (8.7 per cent compared to 3.3 per cent respectively).

Within the Melbourne Statistical Division (MSD) 85.5 per cent of shoppers drove to the shops and 9.7 per cent walked to the shops.

One in three shopping trips occurred during weekday mornings. Over one quarter of a million persons within the MSD did their main shopping during a weekday afternoon.

For all labour force regions, most people took less than 15 minutes to travel to the shops. Of all the regions in Victoria, the Goulburn-Ovens-Murray region had the highest percentage of shoppers who travelled for 1 hour or more (1.9 per cent), as well as the highest percentage travelling for between 30 mins and 1 hour (14.1 per cent).

TABLE 18. MAJOR HOUSEHOLD SHOPPING TRIP BY MSD HOUSEHOLDS: DISTANCE TRAVELLED FROM HOME TO SHOPS AND DURATION OF TRIP BY LABOUR FORCE REGION OF HOME
(000)

	<i>Inner Melbourne</i>	<i>Southern Melbourne</i>	<i>Inner Eastern Melbourne</i>	<i>North Eastern Melbourne</i>	<i>North Western Melbourne</i>	<i>Outer Western Melbourne</i>	<i>Mornington Peninsula</i>	<i>Outer Eastern Melbourne</i>	<i>South Eastern Melbourne</i>	<i>Total</i>
Distance travelled from home to shops										
Less than 500 m	12.2	18.0	9.3	10.0	14.1	10.8	3.3	14.7	9.4	101.6
500 m to less than 1 km	22.4	24.9	25.5	26.8	20.7	33.1	10.5	24.0	22.4	210.3
1 km to less than 2 km	24.6	30.0	50.0	43.0	16.3	49.1	19.2	31.9	35.0	299.1
2 km to less than 5 km	12.7	36.0	46.2	46.4	26.2	54.1	26.5	55.7	35.2	339.1
5 km to less than 10 km	*2.6	3.8	5.2	14.6	7.1	17.5	11.9	15.1	16.6	94.4
10 km to less than 20 km	**0.3	6.6	*2.4	*2.9	*1.4	3.7	*1.4	10.9	4.6	34.2
More than 20 km	**	**	**	**	*0.9	3.9	3.3	4.1	**0.8	13.0
Not applicable (a)	17.5	27.6	25.6	23.8	16.9	21.5	16.3	30.4	24.3	203.9
Total	92.3	146.9	164.2	167.6	103.5	193.7	92.3	186.8	148.4	1,295.6
Time taken to get to shops										
Less than 15 minutes	75.1	122.6	146.6	138.8	82.7	156.7	78.9	148.9	126.5	1,076.8
15 minutes to less than 30 minutes	13.4	18.0	12.6	22.7	17.8	28.9	9.3	25.2	16.8	164.7
30 minutes to less than 1 hour	*1.6	3.4	3.2	3.2	*2.0	3.4	*2.2	8.9	*2.7	30.5
1 hour or more	**	**0.4	**	*1.5	**	*1.3	**	*1.7	*1.0	5.9
Other	*2.2	*2.4	*1.9	*1.3	*1.0	3.4	*1.9	*2.1	*1.4	17.7
Total	92.3	146.9	164.2	167.6	103.5	193.7	92.3	186.8	148.4	1,295.6

(a) Includes household shopping interstate, when the household shopping location was not given by the respondent, household shopping in various locations.

**TABLE 19. MAJOR HOUSEHOLD SHOPPING TRIPS BY ROV HOUSEHOLDS:
DISTANCE TRAVELLED FROM HOME TO SHOPS AND DURATION OF TRIP BY
LABOUR FORCE**

	('000)					
	<i>Barwon Western District</i>	<i>Central Highlands Wimmera</i>	<i>Loddon Campaspe Mallee</i>	<i>Goulburn Ovens Murray</i>	<i>All Gippsland</i>	<i>Total</i>
Distance travelled from home to shops						
Less than 500 m	14.9	8.3	6.0	10.0	6.1	45.2
500 m to less than 1 km	17.8	10.5	10.2	6.2	15.6	60.2
1 km to less than 2 km	24.0	10.4	24.7	12.7	12.3	84.2
2 km to less than 5 km	24.0	8.4	12.7	20.2	9.7	75.0
5 km to less than 10 km	17.0	3.7	11.9	4.0	7.1	43.8
10 km to less than 20 km	7.5	8.2	4.1	16.3	11.5	47.6
More than 20 km	21.5	12.1	13.8	15.9	20.6	84.0
Not applicable (a)	23.6	16.2	31.0	24.0	23.6	118.4
Total	150.2	77.9	114.5	109.3	106.5	558.4
Time taken to get to shops						
Less than 15 minutes	104.5	47.5	80.5	71.7	61.5	365.7
15 minutes to less than 30 minutes	34.8	19.7	19.2	17.5	31.5	122.6
30 minutes to less than 1 hour	7.8	8.4	9.3	15.4	12.1	52.9
1 hour or more	*1.3	*1.0	*1.7	*2.1	**0.8	6.9
Other	*2.0	*1.3	4.0	*2.5	**0.6	10.3
Total	150.2	77.9	114.5	109.3	106.5	558.4

(a) Includes household shopping interstate, when the household shopping location was not given by the respondent, household shopping in various locations.

TABLE 20. MAJOR HOUSEHOLD SHOPPING TRIPS: MAIN METHOD OF TRAVEL TO SHOPS BY REGION OF HOME

<i>Main method of travel to shops</i>	<i>Melbourne Statistical Division</i>		<i>Rest of Victoria</i>		<i>Total (a)</i>	
	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>
Public transport	42.5	3.3	3.2	0.6	45.7	2.5
Car	1,107.3	85.5	508.1	91.0	1,615.4	87.1
Walk	125.5	9.7	35.9	6.4	161.3	8.7
Other	20.4	1.6	11.2	2.0	31.6	1.7
Total	1,295.6	100.0	558.4	100.0	1,854.0	100.0

(a) Did not include households that shopped a small amount each day and when non-household members did the shopping.

TABLE 21. MAJOR HOUSEHOLD SHOPPING TRIPS: WHEN MAIN SHOPPING IS USUALLY DONE BY REGION OF HOME

<i>When main shopping is usually done</i>	<i>Melbourne Statistical Division</i>		<i>Rest of Victoria</i>		<i>Total (a)</i>	
	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>
Weekday morning	404.6	31.2	210.8	37.6	615.4	33.2
Weekday afternoon	277.5	21.4	153.1	27.4	430.5	23.2
Friday evening	85.8	6.6	28.5	5.1	114.3	6.2
Weekday evening (excluding Friday evening)	150.9	11.7	48.2	8.6	199.1	10.7
Saturday	184.9	14.3	30.3	5.4	215.2	11.6
Varies	182.8	14.1	80.8	14.5	263.5	14.2
Other	9.1	0.7	6.8	1.2	15.9	0.9
Total	1,295.6	100.0	558.4	100.0	1,854.0	100.0

(a) Did not include households that shopped a small amount each day and when non-household members did the shopping.

During the main shopping trip, over half of all shoppers also visited a bank/credit union/teller machine and 33.0 per cent visited a Post office.

TABLE 22. MAJOR HOUSEHOLD SHOPPING TRIPS: MAIN METHOD OF TRANSPORT TO SHOPS BY OTHER PLACES VISITED WHILE SHOPPING

<i>Other places visited while shopping</i>	<i>Public transport</i>		<i>Car</i>		<i>Walk</i>		<i>Total (a)</i>	
	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>	<i>Number ('000)</i>	<i>Per cent</i>
Library	*3.0	*0.2	144.0	8.9	17.2	10.7	165.1	8.9
Post Office	19.6	42.9	517.2	32.0	66.6	41.3	612.4	33.0
CES	**	**	29.2	1.8	*2.2	*1.4	31.7	1.7
Council Offices	*1.3	*2.8	24.7	1.5	3.6	2.2	30.0	1.6
Welfare/Medical Centre	**	**	46.2	2.9	7.0	4.3	54.2	2.9
Bank/Credit Union/Teller	24.7	54.1	805.6	49.9	89	55.2	937.1	50.5
Community Centre	**	**	12.9	0.8	*2.0	*1.2	15.6	0.8
No places visited	17.7	38.7	696.8	43.1	58.2	36.1	785.4	42.4
Other	*1.0	*2.2	67.0	4.2	5.3	3.3	73.6	4.0
Total (b)	45.7	100.0	1,615.4	100.0	161.3	100.0	1,854.0	100.0

(a) Includes other methods of transport that are not shown. (b) Components may not add to the total as more than one place may have been visited.

Introduction

1. This publication summarises the results of a Survey of *Travel to Work, School and Shops* that was conducted throughout Victoria during October 1994 as a supplement to the Australia-wide Monthly Population Survey.

Monthly Population Survey

Survey design

2. The Monthly Population Survey is based on a multi-stage sample of private and non-private dwellings. Private dwellings include houses, flats, home units, tents, and any other structures used as private residences at the time of the survey. Special dwellings include hotels, caravan parks, hospitals, flop-houses, etc.

3. The sample covers about two-thirds of one per cent of the civilian population of Australia and includes about one-half of one per cent of Victoria's population. Information is obtained from the occupants of selected dwellings by personal interview.

4. The Monthly Population Survey comprises the Labour Force Survey and for most months of the year, an additional supplementary topic. The main emphasis is on the regular collection of specific data on demographic and labour force characteristics of the population and for this reason, this component is usually referred to as the Labour Force Survey. Supplementary surveys are carried out on a wide variety of topics.

Scope

5. All persons aged 15 years and over are included in the Labour Force Survey except:

- (a) certain diplomatic personnel of overseas governments customarily excluded from census and estimated populations;
- (b) overseas visitors holidaying in Australia;
- (c) members of the permanent defence forces; and
- (d) members of non-Australian defence forces (and their dependants) stationed in Australia.

Supplementary survey

Survey design

6. The Supplementary Survey was conducted using the sample of private dwellings in Victoria that were included in the Monthly Population Survey. This provided a sample of approximately 6,500 households where a full response was obtained. Special dwellings were excluded from the Supplementary Survey. Information was collected by personal interview of an adult in the

household for usual residents aged 5 to 65 years inclusive. Respondents were asked about their usual travel patterns to work and school in the week prior to the survey. (Between 2nd and 8th October)

Definitions

7. *Employed:* Persons aged 15 and over who, during the reference week:

- (a) worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (comprising employees, employers and self employed persons); or
- (b) worked for one hour or more without pay in a family business or on a farm (i.e. unpaid family helpers); or
- (c) were employees who had a job but were not at work and were: on paid leave; on leave without pay for less than four weeks up to the end of the reference week; stood down without pay because of bad weather or plant breakdown at their place of employment for less than four weeks up to the end of the reference week; on strike or locked out; on workers' compensation and expecting to be returning to their job; or receiving wages or salary while undertaking full time study; or
- (d) were employers, self employed persons or unpaid family helpers who had a job, business or farm, but were not at work.

8. *Full-time workers:* Employed persons who usually worked 35 hours or more a week (in all jobs) and others who, although usually working less than 35 hours a week, worked 35 hours or more during the reference week.

9. *Part-time workers:* Employed persons who usually worked for less than 35 hours a week and who did so during the reference week.

10. *Unemployed:* Persons aged 15 and over who were not employed during the reference week and:

- (a) had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and:
 - (i) were available for work in the reference week, or would have been available except for temporary illness (i.e. lasting for less than four weeks to the end of the reference week); or
 - (ii) were waiting to start a new job within four weeks from the end of the reference week

and would have started in the reference week if the job had been available then; or

- (b) were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks up to the end of the reference week (including the whole of the reference week) for reasons other than bad weather or plant breakdown.

11. *Not in the labour force:* Persons who were not in the categories employed or unemployed as defined.

12. *Unemployment rate:* In any group, the number of unemployed persons expressed as a percentage of the labour force in the same group.

13. *Labour force:* All persons who, during the reference week, were employed or unemployed.

14. *Labour force status:* A classification of the civilian population aged 15 years and over into employed, unemployed or not in the labour force, as defined. The definitions conform closely to the international standard definitions adopted by the International Conferences of Labour Statisticians.

15. *Educational Institution:*

(a) *Higher education* included Universities, University Colleges, Universities of Technology, Institutes of Arts or Dramatic Arts and others such as, Australian Defence Force Academy and Australian Film, Television and Radio Institute.

(b) *Other* included TAFE colleges, Business Colleges and Industry Skills Centres.

16. *Persons who travelled to work:* Persons who travelled to work in the reference week. Excludes persons who worked at home and persons who drove a vehicle for work such as taxi and truck drivers.

17. *Persons who attended an educational institution:* Persons who attended an educational institution in the reference week. Excludes persons who studied at their work location.

18. *Distances travelled to work, school and shops:* These distances were obtained using a method that was developed by the *Public Transport Corporation*. Addresses of place of work, school and shops were obtained from respondents and converted to Melway references using computer programs. The Melway references were then converted to latitude/longitude references which were used to calculate the distances travelled. They are direct distances and do not take the specific route of the journey into account. Distances were not calculated if the respondent

reported that the journey to work, school or shops included a significant detour along the way.

19. *Major household shopping trip:* The shopping trip in which the value of food and groceries was the greatest. It did not include households that shopped a small amount each day or when non-household members did the shopping.

Related publications and information

20. The ABS produces a wide range of publications relating to the Monthly Labour Force Survey. Some of these are:

The Labour Force, Australia (6203.0)

The Labour Force, Victoria (6202.2)

A Guide to Labour Statistics (6102.0)

Labour Force Experience, Australia (6206.0)

Working Population Community Profile (2722.2)

Journey to work data from the Population Census

Current publications produced by the ABS are listed in the Catalogue of Publications, Australia (1101.0), which is available from any ABS office.

Previous State Supplementary Surveys

21. Users may be interested in reading past Victorian State Supplementary Survey publications. These have included:

1993: *Retrenched Workers and Workers Who Accepted Redundancy Packages, Victoria* (6266.2)

1992: *Safety in the Home, Victoria* (4387.2)

1991: *Work Patterns of Women, Victoria* (6204.2)

1990: *Community Participation in Energy Conservation, Victoria* (4120.2)

1989: *Sports Participation, Victoria* (4118.2)

1988: *Type and Conditions of Part-time Employment, Victoria* (6304.2)

1987: *Crime and Crime Prevention, Victoria* (4507.2)

1986: *Water Using Appliances, Victoria* (8709.2)

1985: *Domiciliary Services, Victoria* (4402.2)

1984: *Travel to Work, School and Shops, Victoria* (9201.2)

Symbols and other usages

* estimate is subject to a relative standard error of between 25 and 50 per cent.

** estimate is subject to sampling variability too high for most practical purposes (more than 50 per cent).

Refer to the Technical Notes on page 20.

n.a. not applicable.

STUART JACKSON
Deputy Commonwealth Statistician

1. The figures contained in this publication are estimates based on a sample of approximately 6,500 households in Victoria in October 1994.

Reliability of the estimates

2. The estimates provided in this publication may be subject to two types of error:

Sampling error

3. This is the difference which would be expected between the estimate and the corresponding figure that would have been obtained from a collection based on the whole population, using the same questionnaires and procedures. Estimates of sampling error are illustrated below.

Non-sampling error

4. Inaccuracies may occur because of imperfections in reporting by respondents and interviewers, and errors made in coding and processing the data. These errors can occur whether the estimates are derived from a sample or a complete enumeration. Every effort is made to reduce non-sampling error to a minimum by careful design of questionnaires, intensive training and supervision of interviewers and efficient operating procedures.

Interpretation of results

5. Since the estimates in this publication are based on information obtained from occupants of a sample of dwellings both of the above types of errors must be taken into account.

Estimates of sampling error

6. One measure of the likely difference which would be expected between the estimate based on a sample and the figure that would have been obtained from a complete collection is the standard error (Table A).

7. There are about two chances in three (67 per cent) that an estimate will differ by less than one standard error from that which would have been obtained if all households had been included in the survey. There are about nineteen chances in twenty (95 per cent) that the difference will be less than two standard errors.

8. A standard error expressed as a percentage of the estimate is known as the 'relative standard error'. For example, if an estimate of 4,500 persons has a standard error of 1,125, then the estimate has a relative standard error of $1,125/4,500 \times 100 = 25$ per cent. The relative standard error is a useful measure in that it provides an immediate indication of the percentage errors likely to have occurred due to sampling.

9. Estimates below 900 persons are excluded from this publication and are replaced with two asterisks (***) because they are subject to high relative standard error (more than 50 per cent). Although figures for these small components can in some cases be derived by subtraction they should not be regarded as reliable.

10. Estimates between 900 and 3,200 persons have been included in this publication preceded by an asterisk, e.g. *2.6. This is to highlight the need for care in using the data because of the high relative standard error (between 25 and 50 per cent).

11. An example of the calculation on use of standard errors is as follows. From Table A we see that a population estimate of 5,000 persons (column 1) has a standard error (S.E.) of 1,000 (column 2). Therefore, there are two chances in three that the number which would result if all persons were included in the survey lies in the range 4,000 to 6,000 (one S.E. either side of the estimate, column 4). There are 19 chances in 20 that the true number lies in the range 3,000 to 7,000 (2 S.E.s either side of the estimate, column 5).

12. A more detailed explanation of standard errors can be found in the technical notes of the *Labour Force, Australia*, (6203.0)(monthly).

**TABLE A. STANDARD ERRORS OF ESTIMATES (a)
TRAVEL TO WORK, SCHOOL AND SHOPS,
VICTORIA, OCTOBER 1994**

Size of estimate ('000)	Standard error of estimate ('000)	Relative standard error (Per cent)	There are about two chances in three that the actual population figure will fall in the range (b) ('000)		There are about nineteen chances in twenty that the actual population figure will fall in the range (b) ('000)	
0.5	0.3	66.9	0.2	- 0.8	0.0	- 1.2
0.6	0.4	60.4	0.2	- 1.0	0.0	- 1.3
0.7	0.4	55.4	0.3	- 1.1	0.0	- 1.5
0.8	0.4	51.5	0.4	- 1.2	0.0	- 1.6
0.9	0.4	48.3	0.5	- 1.3	0.0	- 1.8
1.0	0.5	45.6	0.5	- 1.5	0.1	- 1.9
1.1	0.5	43.4	0.6	- 1.6	0.1	- 2.1
1.2	0.5	41.4	0.7	- 1.7	0.2	- 2.2
1.3	0.5	39.7	0.8	- 1.8	0.3	- 2.3
1.4	0.5	38.1	0.9	- 1.9	0.3	- 2.5
1.5	0.6	36.8	0.9	- 2.1	0.4	- 2.6
1.6	0.6	35.6	1.0	- 2.2	0.5	- 2.7
1.7	0.6	34.4	1.1	- 2.3	0.5	- 2.9
1.8	0.6	33.4	1.2	- 2.4	0.6	- 3.0
1.9	0.6	32.5	1.3	- 2.5	0.7	- 3.1
2.0	0.6	31.7	1.4	- 2.6	0.7	- 3.3
2.1	0.6	30.9	1.5	- 2.7	0.8	- 3.4
2.2	0.7	30.2	1.5	- 2.9	0.9	- 3.5
2.3	0.7	29.5	1.6	- 3.0	0.9	- 3.7
2.4	0.7	28.8	1.7	- 3.1	1.0	- 3.8
2.5	0.7	28.3	1.8	- 3.2	1.1	- 3.9
3.0	0.8	25.8	2.2	- 3.8	1.5	- 4.5
3.5	0.8	23.9	2.7	- 4.3	1.8	- 5.2
4.0	0.9	22.4	3.1	- 4.9	2.2	- 5.8
4.5	1.0	21.1	3.5	- 5.5	2.6	- 6.4
5.0	1.0	20.1	4.0	- 6.0	3.0	- 7.0
6.0	1.1	18.4	4.9	- 7.1	3.8	- 8.2
8.0	1.3	16.1	6.7	- 9.3	5.4	- 10.6
10.0	1.5	14.5	8.5	- 11.5	7.1	- 12.9
20.0	2.1	10.7	17.9	- 22.1	15.7	- 24.3
30.0	2.7	9.0	27.3	- 32.7	24.6	- 35.4
40.0	3.2	8.0	36.8	- 43.2	33.6	- 46.4
50.0	3.7	7.3	46.3	- 53.7	42.7	- 57.3
100.0	5.6	5.6	94.4	- 105.6	88.8	- 111.2
200.0	8.7	4.4	191.3	- 208.7	182.5	- 217.5
300.0	11.4	3.8	288.6	- 311.4	277.1	- 322.9
400.0	13.9	3.5	386.1	- 413.9	372.3	- 427.7
500.0	16.2	3.2	483.8	- 516.2	467.7	- 532.3
1000.0	26.3	2.6	973.7	- 1026.3	947.5	- 1052.5
2000.0	43.4	2.2	1956.6	- 2043.4	1913.2	- 2086.8

(a) These figures have been rounded to the nearest 100. (b) These figures have been calculated using the actual figures.

TRAVEL TO WORK, SCHOOL AND SHOPS

Victoria
October 1994

Need additional data?

The survey includes a comprehensive collection of information on the travel patterns of Victorians. A customised service is now available to meet special data requirements.

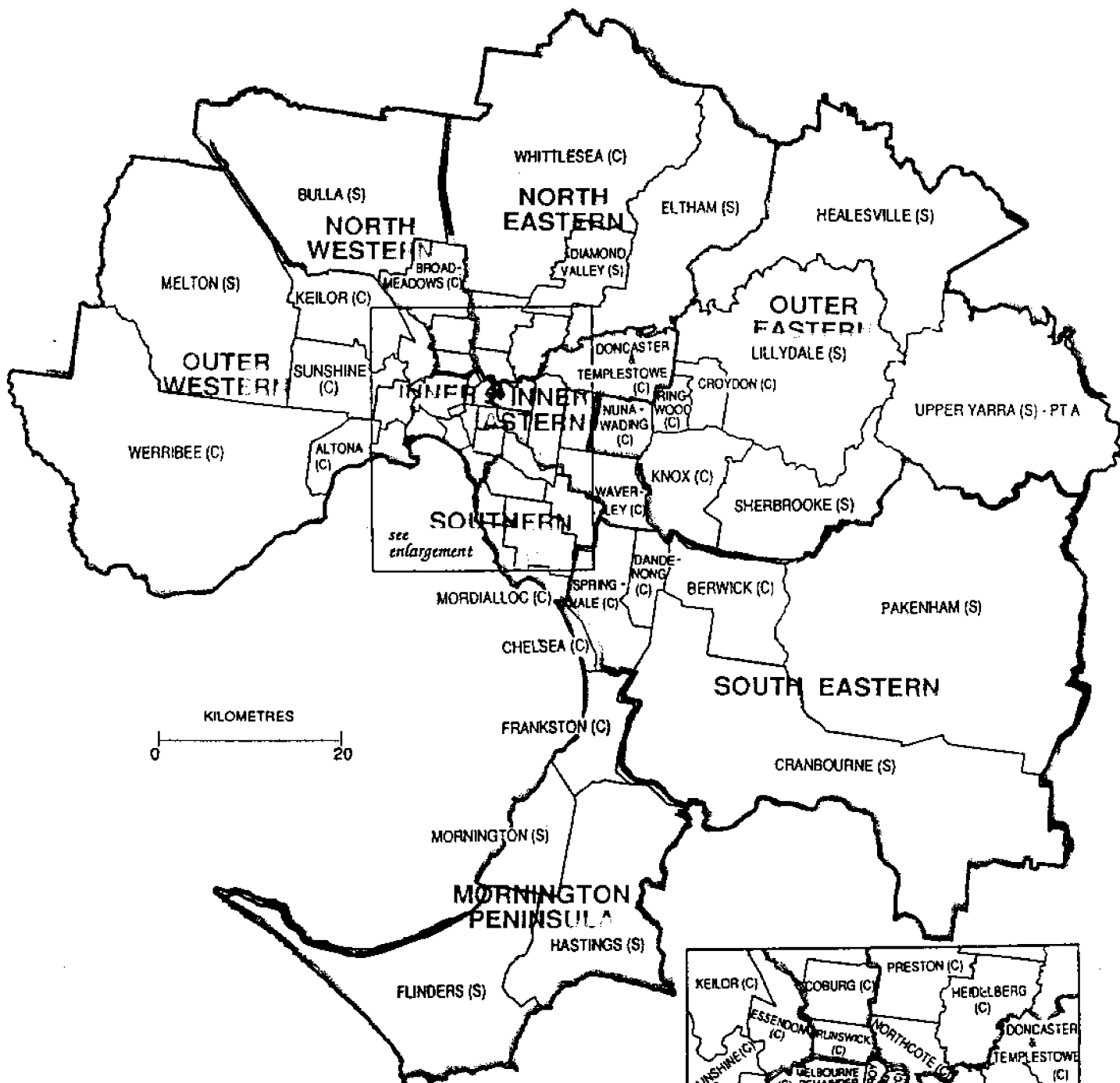
Topics covered by the survey include:

- . All modes of travel
- . Main method of travel to work
- . Main method of travel to school
- . Number of persons walking to work
- . Length of time taken to travel to work, school or shops
- . Reasons for not using public transport to travel to work
- . Peak travelling time to work, school and shops
- . Distance travelled to work, school and shops
- . Reasons for not using car to travel to work
- . Number of registered motor vehicles per household
- . Number of persons who work from home
- . Whether licensed to drive a car or motorcycle
- . When household shopping is usually done
- . Main method of transport used for household shopping
- . Whether work trip is undertaken directly or with detours along the way
- . Whether main shopping trip is done from home or after work
- . Number of public transport users within each household

Data can be classified by the following variables:

- . Age
- . Sex
- . Labour Force Status
- . Family type
- . Labour Force Region of usual residence
- . Labour Force Region of place of work
- . Labour Force Region of school
- . Labour Force Region of shops

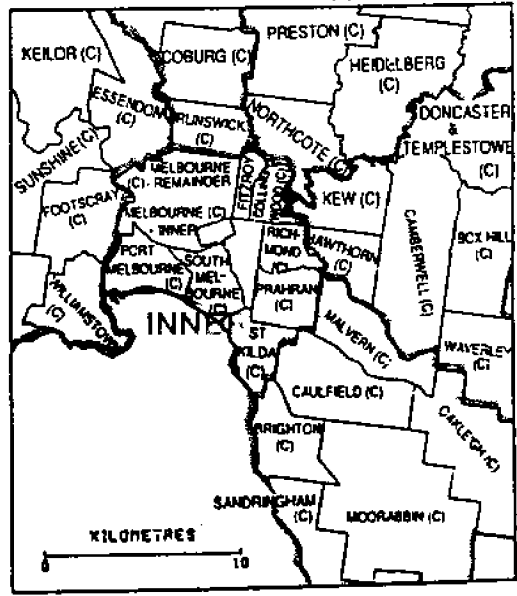
To discuss your data requirements from *Travel To Work, School and Shops* or for further information regarding this survey please contact **Nick Skondreas on (03) 9615 7362**



**MELBOURNE
STATISTICAL DIVISION**

**Statistical Local Areas
LABOUR FORCE REGIONS**

As at September 1992
City (C) Shire (S)



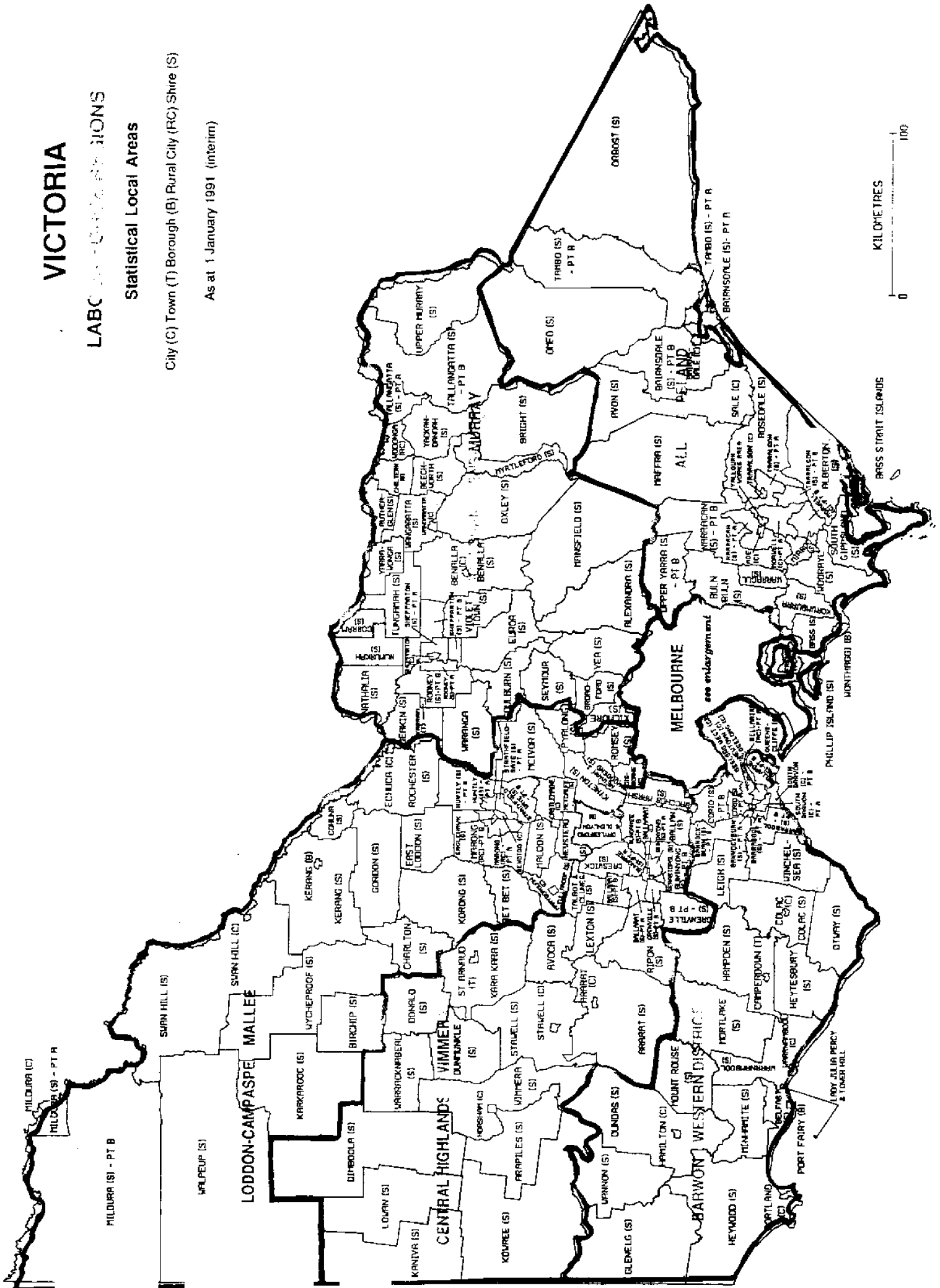
VICTORIA

LABOUR COUNCIL OF AUSTRALIA REGIONS

Statistical Local Areas

City (C) Town (T) Borough (B) Rural City (RC) Shire (S)

As at 1 January 1991 (interim)



KILOMETRES

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