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Karavasta Lagoon -
Wetland Management Project

Carrying Capacity Report

September 1996

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The Authors

The *"Carrying Capacity Report"* is the product of a team of foreign and albanian Experts. The major contributors to the work are listed below. The Expert H.J. Goodwin who has prepared the report is shown in boldface.

Foreign Experts : **H.J. Goodwin**

Albanian Experts : A. Vaso
I. Mati

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Carrying Capacity Report

Produced in September 1996 by
Ecotourism Ltd., Create Centre, Smeaton Road, Bristol, BS1 6XN, UK
telephone: +44 117 927 3049 – fax: +44 117 930 0076
e-mail:ecotourism@gn.apc.org

Project Management - Technital S.p.A., Italia - 20129 Milano - Via Caviglia n.11
in association with Tour du Valat (France) and Ecotourism Ltd. (England)

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Executive summary

Methodology

The following steps were undertaken.

Tangible resource limitations
Road survey to count vehicles and determine beach visitation, traffic densities and origins of day visitors.

Tolerance by the host population and their aspirations for tourism
Participatory rural appraisal

Visitor satisfaction survey
Beach sample survey conducted over 27 days in July and August 1995.

Tourism impact on biodiversity
Field survey and interviews with local experts.

Results

Estimated total annual beach visitors

300,000 per year with peaks of up to 8,000 visitors per day.

Means of transport to the beach (see Appendix 1)

	% of total people departing	Number departing	Ave. no. people/vehicle
Car	24%	4809	4.01
Minibuses	21%	1193	14.16
Coaches	7%	759	50.18

The average travelling time to the beach amongst the sample of 461 visitors surveyed on the beach was 2.4 hours.

Tourism facilities

There are very few facilities for tourists outside of Divjaka and the beach zone.

Tourism facilities in Divjaka

The PRA reports that there are 28 houses in Divjaka equipped and wishing to receive visitors with about 100 rooms used to receive visitors. Six houses have received foreign visitors. The PRA also reports 150 houses equipped with flush toilets, but that the owners are not interested in receiving visitors.

The PRA reports 15 bar/cafes and 2 restaurants in Divjaka. In summer 25% of turn over comes from visitors and in winter 10%. The electricity supply is regarded as inadequate.

Mosquitoes have not been controlled for some years and the number of insects is increasing (by four to five times over the last few years). This is understood to be disadvantageous to tourism.

Tourism facilities at the beach

48 Apartments

80 Cabins
10 Tents (on average at peak season)
1 Hotel, 70 rooms, 190-200 beds 1994 2,000 guests/year
1995 3,000 guests/year
Average stay, 7-10 days
1 Government Villa, 8-10 people

The vast majority of the foreigners staying in the region of the Karavasta Lagoon stay in the hotel. There were 930 foreigners in the 1995 season. However only a handful of these could be identified as non-consumptive international tourists - 150 Italian hunters were the only significant group of international tourists.

Roads

Traffic to the beach causes considerable road congestion on summer weekends.

The PRA reports that local people are worried by the traffic on the road in summer and the pollution and accidents which result. They would like to see a ring road built around the town to decrease the number of cars circulating in the town centre.

Roads in the town the roads are unasphalted and the lanes are littered. Concern about this is reported in the PRA along with concern that nobody is dealing with the issue.

The police regard the speed of traffic on the access road to the beach and the national route as a serious problem. They are also concerned about the controlling of traffic on the beach which often moves too fast. There has been one fatality on the on 24 April 1993 a drunk speeding motorist rolled his car on the beach and broke his neck. The incident could have been more serious as there were other people on the beach at the time.

There is some evidence of environmental damage attributable to the cars on the beach. In those areas where the cars go there are having impacts on the habitat and species through compaction, disturbance and attrition. Car access also ensures that tourists are spread more extensively on the beach, with consequent impact, than might otherwise be the case.

Kiosks

We counted 40 kiosks on 16 June 1996. Eight were in the process of being built, but already had concrete foundations. 23 were in the central developed area and, as can be seen from the map, there are kiosks now established to the north and south. It was suggested to us that 20 were licensed and 20 unlicensed.

Visitor satisfaction

There is considerable repeat visiting: of the sample of 461 visitors. 367 (79%) had previously visited the beach. The average number of visits in the previous month was recorded as 5 and the average number in the last year 14.

The respondents were asked what they thought of the quality of the beach. It was rate good by 49%, satisfactory by 33% and bad by only 18%.

Over 90% of people mentioned litter as one of their three dislikes, over 60% the toilet facilities, 45% mentioned the mosquitoes and the approach road. 40% mentioned the absence of showers. Overcrowding and noise were included in our categories but did not provoke complaints.

We asked people about why they came to the beach and received the following responses.

To swim	79%
To enjoy the beach	70%
Because of the forest	38%
To visit the lagoon	1.5%
To go bird watching	0
To go fishing	0

This suggests that visitor pressure on the lagoon is unlikely to increase from the current visitors. Although 38% mention the forest, observation suggests that the forest is used for shade, to park the car and to picnic in. Tourist impact is unlikely to spread beyond a proposed 25m sacrifice zone between the beach and the proposed fence, unless the kind of visitor changes.

There is relatively little tourist use of the southern end of the beach beyond the north channel. In 1995 when the channel was silted and it was possible to drive a car directly on to the beach beyond the channel there was a higher level of tourism impact. The channel has now been dredged and access to the area of mature dunes is now either on foot through the channel or over the bridge. The people walking over on foot are unlikely to cause any significant pressure on the dunes. Car access is a serious threat and there is evidence of car tracks and cycle tracks in the mature dunes.

The tourist beach constitutes a sacrifice zone. Visitor pressure from cars and trampling will preclude the development of significant flora cover. The cleaning of the beach removes vegetation and litter and involves the "ploughing" of significant areas of the central beach.

Conclusions and Recommendations

Visitor numbers

It is clear that the current number of visitors (averaging 5,500 on Sundays) outstrips the facilities and that the carrying capacity of the beach is exceeded.

Traffic

Given the density of cars at the beach there are congestion problems on the approach road and at the beach a parking issue. The road congestion is beyond the scope of the proposed management authority to solve and none of the solutions being canvassed would reduce traffic through Divjaka. The police regard the major traffic safety problem as being on the national road. The narrowness of the approach road to the beach slows the traffic naturally. Congestion causes dissatisfaction to people visiting the beach.

Car parking

There are three options:

Option I

Car park in the field to the right of the road as the road turns towards the beach and reaches the forest. No cars would be permitted beyond a barrier across the road. This option appears to have originated with the German consultants and is favoured by PPNEA.

However:

i) There is no tradition of private beach ownership in Albania and this form of exclusion is likely to cause considerable conflict.

ii) The land in question is currently in private ownership and would need to be purchased.

iii) The car park would need to be guarded.

iv) The car park would be adjacent to the Nature Reserve and the National Park, so a major increase in visitor pressure on the forest could be expected. People would be likely to picnic near their cars and this would necessitate cleaning an extended area.

v) This proposal significantly extends the sacrifice zone and sandwiches the forest between two sacrifice zones.

Option II
Car park opposite the hotel in a clear area in the forest. This option is favoured by the Manager of the Beach. This car park too would need some guarding but this proposal has the advantage of not extending the sacrifice zone.

Option III
Dispersed parking in the central zone, in a new car park opposite the hotel and on the northern and southern beaches within a zone 25m west of the brush and tree line. This allows visitors to beach to have the convenience of easy access to their parked cars, the advantage of shade, the security of being able to watch over their cars and the advantage of keeping cars and other vehicles off those areas of the beach used for sunbathing and games. This parking area could be marked effectively and unobtrusively with a few stakes and the police could enforce parking within it.

Option IV
In the long term, parking may be restricted to Divjaka with consequent development opportunities for the town. However, this option is at least 10 years off.

Garbage and sewage

The management of waste is an urgent priority for the Management Authority and new toilet blocks should be provided.

Water supply

An adequate supply of clean water is an urgent requirement.

Development within the beach zone

The beach area is intensively used by Albanians from a large area of the country and the beach is highly rated by them for leisure use, primarily for sunbathing and swimming. The beach is not an important conservation zone. The MA would be ill-advised to attempt to restrict the leisure use of the beach which would result in considerable conflict with a large number of local citizens for no conservation gain. There are areas of the beach which should be protected (see below) but they are not areas much frequented by tourists and day visitors.

The provision of toilet blocks with showers and clean toilets would constitute a considerable net gain to the day visitors and would justify the introduction of charges for the use of the beach. In the short term there would be no net gain as capital costs would absorb revenue over the first few years. In the medium term the entrance charges would constitute significant income for the MA.

The failure to manage the development of kiosks since 1990 presents a particular problem and one which is likely to worsen over the summer. The sooner local people are told what steps the MA will take the better. The failure to demolish unlicensed new structures has provided a green light to the development of kiosks towards the northern and southern ends of the beach. There are two storey structures, one of them a four room hotel, at both ends of the "developed" strip (these are marked on the large maps).

The MA must have the licensing powers and must use those powers to control development, dumping and waste disposal.

There should be no development above the tree line and no two storey buildings should be permitted.

Kiosks should be restricted to the central zone, already substantially developed and best regarded as a sacrifice zone.

No trees should be felled either for timber or to clear space for building. Nothing should be built which intrudes above the tree-line or onto the beach.

The leases of the kiosks should require that rubbish is collected by the MA and the kiosks should pay for this service as part of their lease/rent. The kiosks should not be permitted to build toilets, these should be provided only by the MA. Water should be provided by the MA and the kiosks charged for this service. Waste water should be the responsibility of the MA.

The MA should consider demolishing derelict and unused buildings and replacing them with shell-units for hire by traders.

At each end of the beach there are two storey structures which are new this season. At the north end, a two storey structure has been built on top of a bunker. This structure stands out above the tree line and can be seen from the extreme southern end of the beach. At the south end of the beach there is a two storey four room hotel, This development is of a high standard and is attractively built within the tree line. The property adds an element of class to that end of the beach. However, the fact that these properties have been permitted is likely to result in further developments of more than one storey.

The MA must have strong licensing powers to control development on the beach and to regulate what already exists:
i) Development must be limited to one-storey buildings.
ii) There must be no development west of the tree line.
iii) There must be no tree felling - this will constrain development.

The rules which the MA intends to enforce should be made clear as soon as possible. Buildings that are erected after a published date and that breach these regulations should be subject to demolition.

Licences should also specify rules for waste disposal, water extraction and the cleaning of an area of the beach around the building.

Water supply

The Mayor of Divjaka has suggested that the town's old source of supply should be diverted to the beach when the town's new supply comes on stream.

In the meantime:
1) Wells with potable water should be clearly marked.
2) The wells should be cleaned and sealed and water drawn from them by electric or hand pumps.
3) The water quality of the wells should be tested weekly.
4) Urgent measures should be taken to counter the risk of pollution of the ground water by sewage.

The Management Authority will need to take responsibility for the provision of water. Demand for water will increase if good quality supplies are made available. On the other hand if nothing is done about the water supply, there is a significant risk of disease as visitor numbers increase. The visitor satisfaction survey shows that there is dissatisfaction with failure to provide showers.

Accommodation

The beach has developed into one used primarily by day-trippers and this should be encouraged. Day-trippers do not cause as much impact as overnight tourists.

In order to accommodate some growth in tourist numbers and to ensure the management of the area of derelict forest marked at A on the large maps and on Map C in the proposed management plan, consideration should be given to developing a 125 pitch campsite at the south end of the central zone of the beach, just beyond the two storey hotel. This development would preclude the development of permanent structures at this end of the beach, provide flexible overnight accommodation and ensure that this area of the forest is managed. The MA should lease out this concession to a private entrepreneur but take responsibility for building and running two additional facilities blocks

Traffic management and revenue

The new Management Authority may wish to consider securing a revenue stream from visitors to the beach. This could be achieved by charging cars for access to the beach. The access/parking fee would be charged on the approach road and should be charged per vehicle. A different scale of tariffs could apply to cars, minibuses and coaches. People staying at the beach or with licensed businesses there could be charged discounted day rates.

The cost of administering the charging scheme would be significantly less if the fees were charged to vehicles as they arrived, rather than individuals. Corruption would be less likely as vehicles would be expected to display the daily "licence to be on the beach or in the beach area" and the licences could be number with counterfoils. Vehicles not displaying valid licences could be subject to spot fines.

It is desirable to encourage people to come by coach or minibus to the beach and this can be achieved by charging proportionately lower visitor entrance/fees for coaches and minibuses. These differences in charges would be reflected in the relative costs of visiting.

The charges can be made acceptable by being reasonable and by being used to provide facilities blocks and to remove garbage and clean the beach - tackling those characteristics of the beach which current users perceive as unacceptable.

The improvement of the access road from the national highway is not a current priority. Congestion slows traffic and does not contribute to accidents. Congestion on the approach road will have some effect in restricting visiting at peak periods.

On the beaches and within the forest a "walking pace" speed limit should be imposed by the MA and enforced by the police.

Parking should be permitted in the areas marked on Map C and in the controlled development zone. The other options may be premature and likely to cause conflict with current users at a time when the MA needs to win allies for its management of the Ramsar Site. Option III (described above) with parking restricted to the 15m line along the beach will enable people to enjoy the advantages of picnicking from the car while enjoying a car-free beach.

Visitor numbers

The number of visitors is currently beyond the carrying capacity of the beach. However, there is no conflict between the development of the beach for more intensive use by tourists and day visitors provided that the physical carrying capacity issues of water, waste and garbage are dealt with and managed by the MA. The current users do not regard the beach as overcrowded and indeed continue to rate it highly. Visitors and tourists should be encouraged to remain on the beach and in the central and development zones.

Specific recommendations for each zone are made in the report.

1. Tangible resource limitations

1.1 Road survey

1.1.1 Road count

A count was made of the number of vehicles and people leaving the Divjaka beach between 14.00 and 17.00 on 25 days in July and August 1995. The results show that estimates of the number of visitors have previously been low. It was decided to count the departing visitors as observation showed that this was the easiest way to catch the largest percentage of the total visitors in one short counting period. We did not have the resources to count all day or on more days. It is estimated that the figures under-record day visitors by 10-15%. This has not been corrected in the estimates which follow in order to ensure that the figures are conservative.

Road count data abstracted from data in Appendix 1.

	People	Cars	% of people departing by car	Total vehicles (incl. cars)	Veh's/hr
Saturdays					
08/07	1036	78	28.6	123	41
15/07	2417	134	23.5	199	66
22/07	4494	209	23.2	304	101
29/07	4812	203	19.9	309	103
05/08	3856	164	19.9	253	84
12/08	4856	173	18.3	287	96
19/08	2321	127	25.6	176	59
26/08	1130	87	36.9	114	38
Sundays					
09/07	3843	252	32.9	369	123
16/07	5410	315	27.2	453	151
23/07	7401	354	24.0	523	174
30/07	3046	137	21.6	215	72
06/08	6771	356	26.4	503	167
13/08	8060	585	18.3	762	254
20/08	1595	93	31.3	130	43
27/08	2045	151	37.6	198	66
Monday					
10/07	1507	110	31.4	150	50
14/08	3683	150	19.7	250	83
Tuesday					
18/07	1397	75	22.1	118	39
22/08	2005	93	22.1	136	45
Wednesday					
26/07	2178	136	27.7	187	62
30/08	1104	70	31.3	103	34
Thursday					
03/08	1388	79	22.5	115	38
31/08	319	30	43.3	37	12
Friday					
11/08	3816	148	18.8	247	82
	80490	4809	24.0	6761	

There is considerable variation in the flows of vehicles and visitors. On Sundays and some Saturdays there is considerable congestion.

1.1.2 Means of transport to the beach

[See Appendix 1]

	% total people departing	No	People/Vehicle
Car	24%	4809	4
Minibuses	21%	1193	14
Coaches	47%	759	50

The number of passengers in each vehicle was estimated as it passed by.

Only 122 people from Divjaka and 39 from elsewhere were counted walking to the beach. A total of 161 or 0.20% of the total people counted were walking.

It is likely that the number of motor vehicles will continue to grow (at about 10% /annum) although the rate of growth is likely to decrease in the medium term. With 25% unemployment and considerable underemployment, leisure time is likely to remain readily available and the beach offers cheap leisure activity for the family. It seems unlikely that attractive and affordable alternatives will emerge in the medium term. In these circumstances growth in visitor numbers can be expected to maintain 10-15% per annum in the medium term. (Although we have earlier data we have no idea of its reliability and we cannot therefore use it to plot a trend.)

1.2 Transport

The beach survey in July and August revealed that the average travelling time to the beach amongst the sample of 461 visitors surveyed on the beach was 2.4 hours. 27% of the sample had travelled to the beach by bus or coach; 11% by minibus and 61% by car. A quarter of people in the beach survey had travelled from Lushnje. However, over 10% were from each of Berati, Fieri, Tirana and Elbasan (see Appendix 2 ii - iv and Appendix 3 for a list of car licence origins). Divjaka is clearly a regional tourist and day visitor attraction.

Car ownership in Albania has greatly increased over the last four years and it is to be expected that for the foreseeable future the car will be central to leisure activities and that people will want to use their car to access the beach.

There is considerable variation from day to day in the forms of transport used to access the beach (see Appendix 4). The summary graph (Appendix 5) masks considerable daily variation. However, it is clear that coaches are much to be preferred in that they bring large numbers of people to the beach but few vehicles.

4,809 cars bring 19,308 people.	4 people per car
1,193 minibuses bring 16,896 people	14 people per minibus
759 coaches bring 38,090 people	50 people per coach

(Figures from traffic survey, Appendix 1.)

1.3 Visitor numbers

1.3.1 Participatory rural appraisal (PRA)

There are significant numbers of tourists reported only in Divjaka and at the Divjaka Beach. The PRA refers to 40 foreigners visiting Divjaka in 1995 and 1000 visitors per day visiting the beach. In the same report Mr J Voda is referenced as saying that there were, in a 15 day period, 50 foreigners who came to enjoy the beach, for business, to make studies (consultants!) and for hunting. They stayed between 1 and 10 days. Elsewhere in the PRA the number of

tourists in a single night [turn] is referred to as 40-50 people, with 200-250 people in a season. Each summer 700-800 Albanians arrive to stay with relatives in Divjaka. The PRA reports 500 to 1000 day visitors to the beach at peak times.

1.3.2 Observation

Families predominantly use the dune areas furthest from the sea. This area is separated from the clay/sand area used by young people for beach games, including volleyball and football, by a "road".

1.3.3 1995 road count data

In July and August the beach accommodation is full so it is necessary to add for the hotel 200 people per day, cabins 400 per day, and for the apartments 280, say 1,000 in total.

It is difficult to estimate accurately numbers of visitors to the beach over a year from a sample taken over only two months, particularly when there is such variation in the number of visitors. There are peaks on Sundays and Saturdays and numbers are affected by weather (see Appendix 6). Resources prohibited any more representative sample being taken given what was known about the concentration of visitors at weekends in the summer months. The results are summarised from Appendix 1. An estimate can be arrived at as follows:

Add 1,000 per night resident in July-August:

July - August

	Observed	Average	(Average + 1000)x8
Saturdays	24,922 (8)	3,115	33,000
Sundays	38,171 (8)	4,771	46,000
Mondays	5,190 (2)	2,595	29,000
Tuesdays	3,402 (2)	1,701	22,000
Wednesdays	3,282 (2)	1,641	21,000
Thursday	1,707 (2)	853	15,000
Friday	3,816 (1)	3,816	39,000

Estimate for July - August	205,000
Assume for June 50% of this	51,000
Assume for September 45%	46,000
For the remainder of the year	4,000
Total annual beach visitors	300,000

(This is a conservative estimate.)

It is clear that the current numbers of visitors averaging 5,500 on Sundays far outstrips the facilities and that the carrying capacity of the beach is far exceeded.

1.3.4 1996 beach density surveys

A count was made of the number of people in the beach area on Sunday 16 June 1996. This was the first summer Sunday and the beginning of the season. Further counts will be undertaken throughout the season and will be available in the autumn. The beach is divided into three areas South, Central and Northern. The area between the Hotel and the last kiosk behind the beach is counted as the Beach Zone.

	South	Central	Northern	BZ	Totals
Cars	117	73	38	91	319
Minibuses	12	16	4	14	46
Vans	8	8	6	7	29
Buses			1	28	29
People	651	2351	450	540	3992
People/ Vehicle	4.7	24.2	9.18	3.8	9.0

In addition there were two cars and 35 people beyond the northern channel to the south of the tourist beach.

The total number of vehicles was 425, of which 75 were buses or minibuses. There were also a number of buses running back and forth from local communities. However, from these figures it is reasonable to estimate that there were roughly 9 people per vehicle. The people/vehicle row shows the different characteristics of visitor use of the different zones of the beach. The southern end of the beach is predominantly used by car dependent visitors.

1.4 Accommodation

1.4.1 Divjaka

Recently recognised as a town.
Population increase 1992-1995 14.17%
Population:

1992	5,829	
1993	5,983	Increase 2.64%
1994	6,100	Increase 1.95%
1995	6,655	Increase 9.09%

There has been significant inward migration and more is expected as the land around Divjaka is resettled following privatisation.

There are cafes in the town and accommodation is offered for tourists. Divjaka may take the control of the beach area from Lushnje. Llazar Gjermeni estimated 25 bars/cafes and 35 houses in September. The Mayor estimated 15-20 houses which take in tourists with space for 5-6 in each. There is no register.

The PRA reports that there are 28 houses in Divjaka equipped and wishing to receive visitors with about 100 rooms used to receive visitors. Six houses have received foreign visitors. The PRA also reports 150 houses equipped with flush toilets, but that the owners are not interested in receiving visitors.

The PRA reports that the houses receiving tourists are "optimistic to increase" their numbers of visitors in the future. Divjaka is reported to be able to receive 100 tourists per night.

The PRA reports 15 bar/cafes and 2 restaurants in Divjaka. In summer 25% of turn over comes from visitors and in winter 10%. The electricity supply is regarded as inadequate.

Mosquitoes have not been controlled for some years and the number of insects is increasing (by four to five times over the last few years). This is understood to be disadvantageous to tourism.

1.4.2 Beach

The improvement and maintenance of the quality of the apartments and cabins is a central responsibility of the new beach manager and he is clearly expected to raise standards substantially. Lushnje is reasserting this year its management of the beach area.

1) Apartments (interview with Viktor Xharo)
Built in 1975 there are 4 blocks of apartments, each block has 4 apartments on each of 3 floors, making 48 units. Each apartment has one big room sleeping four, a kitchenette and a bathroom with shower and toilet. In June, July and August the apartments are full with 6 people per apartment paying US$100 (91,000 lek) per fortnight.

Peak season occupancy (48x6) 280. In September approximately 20 apartments are occupied with 3 to 5 in each one. From October to April the apartments are empty. Two blocks of apartments have pumped water, one hour in the morning, two hours in the evening. The other two blocks have to fetch water from the wells.

2) Cabins (interview with Viktor Xharo)
Built in 1961-2 by Lushnje Municipality to which they still belong. There are 80 single room cabins, in addition there are some derelict cabins. The cost to rent from Lushnje Municipality is officially US$70 for two weeks. The cabins are

full in June, July and August with some use in May and September. Occupancy is therefore (80x5) 400 persons/week in peak season.

Macedonians occupied 5 or 6 cabins in 1995.

3) Tents (interview with Viktor Xharo)
Seven years ago there were concrete sites for 580 tents sleeping 5 to 6 people. Now there are only 10 or so tents at any one time with five to six people per tent. These tents are made of plastic sheeting.

4) Hotel (interview with Resul Prishta, Manager)
The Resting House of Divjaka was built in 1974 and is owned by an independent syndicate of trade unions. It is shortly to be privatised. The manager was unwilling to give us copies of the annual statistics for the hotel. The figures which follow are his estimates.

70 rooms. 190-200 beds.
There is a refurbishment programme to provide en suite facilities in all rooms. 50% of the rooms now have private bathrooms and toilets.

1994 2,000 guests
1995 3,000 guests
Average stay 7-10 days.

Managers estimates of the numbers of guests 1995

January		200
February		200
March		300-400
April		400-450
May	Full	600
June	Full	600
July	Full	600
August	Full	600
September		300
October		200
November		150
December		100
Approx. Total		4200

Approx. bed occupancy ratio 53%.It is difficult to envisage the season being extended for beach tourism.

Manager's estimates of nationalities

Italians	270	
		150 Hunters
		120 Businessmen and tourists
Germans	40-50	business and seminars
Greeks	80	tourists and business
Hungarian	30	business group
Turkish	30	
Americans	40	business and seminars
Dutch	20	businessmen and tourist agency
Polish	05	businessmen
Algerians	15	tourists
Macedonians	400+	Macedonian Agency (hopes for 600 in 1996)
Approx. total	930	

5) Villa (interview with Resul Prishta, Manager of Hotel)
Owned by Directorate of Government Services, previously the property of the ruling party. It is used mainly by Deputies and their families. It has capacity for 8-10 people.

1.5 Roads

The PRA reports that local people are worried by the traffic on the road in summer and the pollution and accidents which result. They would like to see a ring road built around the town to decrease the number of cars circulating in the town centre.

Roads in the town the roads are unasphalted and the lanes are littered. Concern about this is reported in the PRA along with concern that nobody is dealing with the issue. The beach causes considerable road congestion at weekends.

1.6 Crime

There were 4 police on duty at weekends last year. That has been increased to 6 this year.

The Chief Commander of Divjaka Police reported only three recorded cases of petty thieving since the beginning of the season in May. In 1995 there were two documented cases of thieving and a few drunks.

The Police Commander pointed out that it is not permitted to build a car park in the protected area, nor is it clear who has authority to act to control vehicles. He favours the introduction of a set of rules which his officers can enforce.

1.7 Cars and car parking

There are three primary ways of considering the issue of cars on the beach. There are issues of aesthetics, environmental damage and safety. Aesthetically the beach looks better without cars on it, similarly it looks better without people. However, the primary value of the beach is not as seascape. It is a recreational zone.

The issues of car safety are more serious. The main risk is from irresponsible driving and speed, sometimes under the influence of drink. The beach manager has used the beach cleaning operation to create a large area of soft sand on the central area of the beach which is impassable to cars and people. He has used the opportunity to create some ditches and sand dikes which have restricted traffic movement on the beach. This has been well received by families on the beach and the manager reported many expressions of support and thanks.

The police regard the speed of traffic on the access road to the beach and the national route as a serious problem. They are also concerned about the controlling of traffic on the beach which often moves too fast. There has been one fatality on the on 24 April 1993 a drunk speeding motorist rolled his car over on the beach and broke his neck. The incident could have been more serious as there were other people on the beach at the time.

There is no evidence of particular environmental damage attributable to the cars on the beach.

There is concern in Albania about theft of and from cars. Many of the people using the beach would like to be able to keep their cars in view and certainly car parks would need to be guarded. For families, and others, it is very attractive to be able to drive their vehicle to the beach and to use it as a base for recreational use of the beach for sunbathing and picnicking. Car ownership is a relatively new phenomena and drivers can be expected to react strongly to the denial of the use of the car for recreational activity.

Given the density of cars at the beach there are congestion problems on the approach road and a parking issue at the beach itself. The road congestion is beyond the scope of the proposed management authority to solve and none of the solutions being canvassed would reduce traffic through Divjaka. The police regard the major traffic safety problem as being on the national road. The narrowness of the approach road to the beach slows the traffic naturally. Congestion causes dissatisfaction to people visiting the beach but it is probably best left to limit numbers of visitors and traffic speeds.

There are a number of suggestions being canvassed about car parking. There has been little public discussion and debate.

Option I
Car park in the field to the right of the road as the road turns towards the beach and reaches the forest. No cars would be permitted beyond a barrier across the road. This appears to have originated with the German consultants and is favoured by PPNEA. This was also the initial preference of Mina Stefi and Vasco Naci of the Forestry Department. However, when I asked them about the practicalities they became much less sure.

i) There is no tradition of private beach ownership in Albania and this form of exclusion is likely to cause considerable conflict.

ii) The land in question is currently in private ownership and would need to be purchased.

iii) The car park would need to be guarded.

iv) The car park would be adjacent to the Nature Reserve and the National Park, so a major increase in visitor pressure on the forest could be expected. People would be likely to picnic near their cars and this would necessitate cleaning an extended area.

v) This proposal significantly extends the sacrifice zone and sandwiches the forest between two sacrifice zones.

Option II
Car park opposite the hotel in a clear area in the forest. This option is favoured by the Manager of the Beach. This car park too would need some guarding but this proposal has the advantage of not extending the sacrifice zone.

Option III
Dispersed parking in the central zone, in a new car park opposite the hotel and on the northern and southern beaches within a zone 25m west of the brush and tree line. This allows visitors to beach to have the convenience of easy access to their parked cars, the advantage of shade, the security of being able to watch over their cars and the advantage of keeping cars and other vehicles off those areas of the beach used for sunbathing and games. This parking area could be marked effectively and unobtrusively with a few stakes and the police could enforce parking within it.

Option IV
In the long term, parking may be restricted to Divjaka with consequent development opportunities for the town. However, this option is at least 10 years off.

1.8 Services

The management of water, sewage and garbage is complicated by the fact that Divjaka is pressing to be independent of Lushnje. The situation on the beach and in the forest is also difficult because of the involvement of Ministry of Construction and Tourism, Ministry of Agriculture, General Directorate of Forestry, Ministry of Health and the Territorial Adjustment Committee of the Local Authority. The new beach manager has been appointed to dramatically improve the management of the beach and to be tougher on cleanliness.

1.9 Garbage

Divjaka

The PRA reports that people are "very troubled" about the pollution of the environment by garbage. The Mayor has 3 people assigned to cleaning the public areas and there has been a noticeable improvement since September. It is intended that the rubbish be dumped on the north side of Divjaka, but the site was inaccessible over the winter. It is currently dumped on the southern side of the road to the beach. The Mayor volunteered that it is unacceptable to dump rubbish in the lagoon. Lushnje is not collecting rubbish from Divjaka.

Lushnje

Lushnje dumps its garbage in the southern suburbs, much of it enters a stream, reaches the sea and is swept back on to the beaches.

Beach

The beach is littered with significant quantities of permanent garbage, plastic and glass, much of it broken and a hazard. Only in the central area has any effort been made to clear it.

The garbage areas in the developed beach zone are open concrete bunkers, if the waste is not regularly collected the sea breezes ensure that it is scattered along the beach. In the few days during the visit for this report garbage was collected from the concrete three-sided containers but not from the kiosk dumps. However most of the rubbish is never placed in any receptacle but is dropped on the beach or in the margin of the forest by individual consumers or else dumped behind the kiosks by the proprietors. Every kiosk has its own dump, often in the margin of the forest, these are not cleared as they are regarded as being on private property.

What garbage is collected is transferred by lorry to the forest for dumping, the sites are marked on the map which accompanies this report. There are 4 dump sites currently being used near the bridge over the north channel. Eight tonnes of rubbish had been dumped there during the first week of the clean-up.

The beach was being cleaned for the first time in 5 years. The beach was being raked over and the rubbish collected into piles, burnt and then dumped. The team from Lushnje Municipality has a manager, three administrative officers and 36 manual workers, the latter recruited from Divjaka. The workers have contract for three months mid-June to mid-September. The manager reported that the cleaning of the beach had been enthusiastically received and that he was receiving many expressions of thanks.

At the end of the season the rubbish is collected from the dump sites and transferred to the Lushnje dump in the southern suburbs from whence some of it is washed to the sea by a stream and then washed up again on the beach.

1.10 Sewage

Divjaka

The PRA reports the sewage problem in Divjaka as serious and acute. There was a plan to drain the sewage through channels to the lagoon.

The houses use a two pit system, transferring sewage from the septic tank to a second pit for composting before using it as manure. For the larger buildings the tanks are discharged by a local authority tanker, but this does not function regularly. In the PRA it is asserted that the emptying of the septic tanks is not done.

A storm water drainage system has been installed along the main road with German money, however it is prone to blockage by sand. The Mayor recognises that it is not acceptable to discharge sewage into the lagoon.

The Mayor reports that no lorry has come from Lushnje to pump out the cesspits at the apartments for four years. The need to improve the town's sewage system is seen as a high priority but there is a problem about funding.

Beach

The manager told us that the Hotel has reduced its overheads ahead of privatisation by digging a channel (in October/November 1995) from the hotel 500m to the northern end of the lagoon where the sewage is discharged untreated. Mina Stefi showed us the track of the sewage channel which runs 180-200 m from the hotel / 50m from the road where, because it is broken, raw sewage oozes to the surface

The apartments collect sewage into cesspits which are then pumped out once or twice a year. The Lushnje District claimed that they were emptied once a year.

Channels used to run from the cabins to the lagoon carrying sewage, this ceased sometime ago when the water supply was cut off - in two places the concrete lids are broken and the sewage can be seen festering very close to the surface and surrounded by cafe/bars. Two wells are now obviously polluted by sewage and have ceased to be used.

The apartments and the hotel and two kiosks have toilet facilities, Otherwise everyone uses the public toilets or the forest. There are three blocks of public toilets (4 blocks have been destroyed for their bricks in the last two years.) Each block contains 3 squat toilets for women and the same for men.

The public toilets had just been cleaned, by this is meant that the walls had been white-washed. There were still piles of human excrement on the floor and evidence of urine on the walls. Colour slides are available. The new beach manager told us that the toilets were a high priority and that he intended to improve their condition. Doors were being fitted to the cubicles and tanks are being placed in each block for cleaning. Two cleaners have been assigned per block on a morning and afternoon shift system to keep the toilets clean. We did not see the evidence of this system in operation. We were told that lorries will empty the cesspits up to twice a week and take the sewage away for agricultural use.

1.11 Water supply and quality

Divjaka

The drinking water supply comes from Cerma although some suitable for drinking can be found from wells 1.5-2m deep. Drinking water comes only for a few hours each day, water for washing people take from wells near their houses.

The PRA estimated that the current supply meets only 10% of needs. It is reported in the PRA that the construction of a water supply delivering a supply of 50l/sec and capable of supporting a population of 30,000 will be completed in 1997.

The Mayor reports that work on improving the water supply to Divjaka and 8 villages in the lagoon area, started two years ago and that they expect to finish in 1996 (confirmed by Finns working on the project). There will be a 750 cubic metre tank, capable of delivering 24 m3/hr to Divjaka or 100l per day to every household and sufficient for 20,000 inhabitants (current population 7,000).

It is clear that there will be an adequate supply of water in Divjaka in the foreseeable future. The Mayor reports that when the new supply of water comes on stream to the town, the old supply will be diverted to the beach.

Beach

There used to be a piped water supply from Cerma via Divjaka to the beach, but this ceased some time ago. The redundant taps are still visible in the central beach area. These may be used again if and when Divjaka gets its new supply, and the old supply is diverted to the beach.

The Manager of the Beach is responsible for six functioning wells which are maintained and from which water is pumped to two of the four apartment blocks. He has two technicians and six functioning wells under his control and reports that they have all been passed safe to drink by the Public Health Laboratory in Lushnje. He has ordered signs to affix to those wells where the water is potable. He hopes to increase the number of wells available to him to 10 and to pump water to the other two apartment blocks. Only two of the wells have functioning hand pumps. The manager intends to fix electric pumps to all the wells for which he is responsible. There are also some private wells dug within the territory of the kiosks.

There is a problem with water supply in the hotel because of the electricity cuts preventing pumping. The hotel resolves this problem by pumping overnight into its storage tanks. The Hotel Manager estimates that the average water consumption is 100l per room, as more rooms are refurbished and provided with showers and toilets, water consumption will increase.

Two blocks of apartments have water pumped from the wells.

The vast majority of the water is raised in a bucket from wells or pumped by individual kiosks to supply their needs. The water table is very close to the surface, 3-3.5m deep and the sewage is held in septic tanks as close as 10m to the wells. Two wells are now obviously polluted by sewage and have ceased to be used. Many of the wells have some rubbish floating in them. It is not possible to know what rubbish may have sunk in them. The hand pumps from all but one of the wells have been removed.

1.12 Kiosks

Interview with Viktor Xharo in September 1995.

There are 16 kiosks: 13 owned by people from Lushnje, 3 by people from Divjaka. In the winter 3 or 4 remain open.

The waste from the kiosks is disposed of in the forest. I watched the owner of the cafe we were drinking in throwing glass bottles into the forest and enjoying the sound of them breaking. Some kiosks are already abandoned for the winter. The licences are issued by the Lushnje Municipality at between 200,000 lek (US$2,100) and 300,000 lek (US$3,200) (although there are rumours of 1,000,000 (US$10,400) being paid).

The PRA reports 31 licensed kiosks (and 100 people carrying on non-licensed activities) and cafe/restaurants at the beach, 12 built by people from Divjaka the rest by people from Fieri, Berati, Elbasan and Lushnje. Traders should pay turnover taxes: 5% to central government and 1% to local government.

We counted 40 kiosks on 16 June 1996. 8 were in the process of being build and already had concrete foundations, 23 were in the central developed area and, as can be seen from the map, there are kiosks now established to the north and south. It was suggested to us that 20 were licensed and 20 unlicensed.

The licensing authority is the Territorial Adjustment Council of Lushnje District. The District Urban Planning Office carried out a survey in 1995 (I await further details). In 1995 they gave out temporary licences. In 1996 no official licences have been handed out. A building permit costs 2,000 lek ($2).

2. Tolerance by the host population and their aspirations for tourism

This section is based on the reports of the participatory rural appraisal and presents a compilation of the descriptive material from the PRA exercise.

2.1 Divjaka

The PRA reports that local people perceive litter, traffic, water supply and sewage as problems confronting tourists in Divjaka. Water supply and sewage are both seen as major problems for Divjaka. The inhabitants would like to see a ring road around the town to relieve the congestion in the town centre, where the main beach access road forms one side of the town square. The PRA also reports concern about the unasphalted lanes in the town as a "negative and non-attractive factor for foreign tourists who prefer to be installed in houses near the town centre and the principal road".

The residents of Divjaka think that foreign visitors (from western countries) are attracted by virgin nature, and the calmness and the opportunity to enjoy new things. Foreign visitors are perceived to be curious to know a new country and some come a second time to enjoy the nature of the area. The PRA report also notes that the local people consider that the foreign visitors come because the prices are cheaper in comparison to other places.

The tourists are perceived as coming to Divjaka mainly to enjoy the beach and very little for other purposes. Tourists are reported as coming only in the summer time and as being very rare during other periods of the year. The benefits of the beach tourism does not go wholly to the town because the tourists spend most of their time at the beach. It is considered a "positive tendency" if there is an increase in tourism in the near future. Albanian tourists spend their vacations in the homes of close relatives and this does not provide much income to the town.

The beach is under the control of the local authority in Lushnje. The PRA found that local people would like this responsibility to pass to the Divjaka local authority.

The Information Centre is seen as essential ["an absolute necessity"] as a point of contact between the town's people and the tourist.

The PRA reports that foreign visitors are welcomed by Divjaka people and they feel that visitors left "satisfied and leaving their new friends".

2.2 Karavasta

The PRA reports no experience of tourism, but they regard the Lagoon, pure air, silence and the 500 year old church as attractive to foreign visitors. They think that the foreign tourists will come if the road is asphalted. Water supply, sewage and garbage are a problem.

Villagers from Karavasta go to the beach from May to September. About 60% of the population of Karavasta goes to the seaside. The local beach is not exploited like the Divjaka beach, but the absence of forest and of small bars is seen as a negative factor. Italian and English are spoken in the village.

2.3 Kamenica

The villagers have no tourist experience, but the farmers want to have tourists in their homes. The Lagoon and the forest are perceived as attractive to visitors, but they do not yet have the facilities to attract visitors. They cite the absence of bathrooms, toilets and running water as problems preventing the development of tourism. 4 people speak Italian, one French and one English.

20% of the Kamenica population frequents the Divjaka beach, mainly young people and parents. They mainly use the beach in July and August. In June and September they are busy with agriculture.

2.4 Xengu

Tourism is unimportant to the economy of the village although 15 families have the facilities to receive visitors. The main obstacles to the development of tourism are perceived as infrastructural: the road, drinking water and telecommunications. Visitors come in the period June to September and stay 15 days. They would like the information centre to have representatives in the villages. The PRA reports that villagers want the Information Centre to "control the number of visitors".

The beach season is June to September, when nearly 70% of the inhabitants visit the beach for periods of 3-5 days. Albanian tourists come to visit the beach and to participate in family ceremonies like weddings and engagements.

2.5 Miza

Tourism is presently of no economic importance to the villagers. The main obstacles to its development are perceived as infrastructural: roads, electricity, drinking water and telecommunications. Visitors are usually relatives who come during the summer to spend holidays. Agricultural activity prevents much visiting of the beach. The PRA estimate is that 25% of the village, children and parents, visit the beach for a few days. They felt that the visitor centre should be in Divjaka and that it should advertise the ecosystem and accommodation. It should have links with all the villages around the lagoon.

2.6 Sektori Ri

There are water supply problems in summer and because of the low altitude, 1 m above sea level, there is a problem with surface sewage pollution. The villagers use their local beach which has good quality sand, but sewage pollution is a problem along with effluent from factories in Lushnje. Most of the tourists are from elsewhere in Albania but since 1994 there have been foreigners coming to use the beach and to hunt. In summer every family receives around 10 family visitors who come for family celebrations or to use the beach. They see the visitor centre in Divjaka as a means of providing information to visitors about what is available in the villages.

2.7 Bedat/New Karavasta

The inhabitants have no tourist experience but would like very much to receive foreign tourists. They think that the Lagoon and the beach are the attractive objects for foreign tourists. Two foreigners have come by personal boat to the beach, stayed all day and left at nightfall. Four families are disposed to receive foreign visitors and consider themselves equipped to do, save that they do not have flushing toilets.

Villagers use the Sektori Ri beach which has better sand and a cleaner beach than Divjaka beach. The Sektori Ri beach lacks vegetation and cafes. About 15% of the villagers frequent the beach from June to August.

2.8 Zharnec

The villagers use the Divjaka beach which is only 10km from Zharnec. If the road were better more would visit. For 15 days during the summer a bus ran between the village and Divjaka beach and more villagers went to the beach. The village does receive some visitors from the beach. Most visitors come to participate in family feasts or to visit relatives. The village also attracts visitors from neighbouring or nearby villages who come to frequent the seaside and who prefer the fresh air, the sea, the calmness, the freshness of the forest, the diversity of the fruits and vegetables. There is criticism of the road. The village is visited by foreign and Albanian hunters who go both to the forest and to the Lagoon coast. There are two families which are equipped to receive foreign visitors and this number is expected to increase soon.

2.9 Mucias

The villagers like the foreign visitors who come to the village for fishing and hunting. The visitors like to be told about the history of the village and its culture, habits and folklore. Tourism is considered a source of income by the villagers. Ten people in the village speak Italian and then more are learning foreign languages. The villagers expect that the tourists will want guides and translators. The tourists are "received with pleasure" in people's homes. Transport is seen as a limiting factor and the local people would like to see better coordination between national and local authorities in the development of tourism. Roads, water, sewage and electricity are all considered to be problems.

The villagers prefer the Sektori Ri beach because it is a better quality, nearer and cleaner than the beach at Divjaka. The villagers mostly use the beach in July and August. The villagers would like pines to be planted on the beach and are concerned about pollution from Fieri which arrives in the river.

2.10 Guri

There have been no foreign visitors in the village, although the villagers like visitors and would welcome them. The villagers see tourists as an economic resource for them. The regard their tourist assets as the hills, the forest , the pure air and the beach "which are a good combination". They regard the possibility of receiving visitors as some way off because of the poor economic situation of the village, but for the future they think that there are good possibilities. They would welcome the information centre, a touristic agency "and generally the touristic activity".

The villagers use both Divjaka and Sektori Ri beaches from mid May to mid September each year, but the preferred period is July.

2.11 Kryekuq

Visitors come mainly during the summer for family celebrations and stay with relatives. None of the families in the village has the facilities necessary to accommodate a foreign tourist. Tourism does not provide a source of income to the residents of Kryekuq. They favour the information centre in Divjaka and hope that it will have links with Kryekuq because they think that "very soon" the village will have the possibilities and the families which can satisfy the standards needed to be able to receive foreign or Albanian visitors.

2.12 Remas

The farmers have no experience of receiving foreign visitors but they were positive about the possibility. The villagers use both Divjaka and Sektori Ri beaches, but prefer Sektori Ri because it is nearer and more tranquil, although the pollution from the plastics factory in Lushnje is a problem. The young people going to Divjaka beach because of the bars and cafes. The beaches are used most frequently in July and August.

2.13 Summary

The similarities in the PRA reports are striking. The villagers identify a range of infrastructural reasons why it is currently difficult to attract domestic and international tourists: litter/garbage; traffic (Divjaka); telecommunications (due to improve in 1997); lack of asphalt roads; water supplies; sewage; electricity and the availability of flush toilets. It is clear that substantial numbers of households have equipped themselves to receive tourists.

The PRA uniformly reports the perceived economic benefits of tourism and the villagers are reported as being unanimously in favour of tourism development.

The Park Information Centre/Visitor Centre in Divjaka is seen as an important marketing tool for the villagers who see the Centre as an important source of bookings.

3. Visitor satisfaction

In July and August 1995, 461 people were interviewed (against a target of 500) on 27 days. The sampling frame was designed to ensure that interviews were carried out in all sections of the beach. Appendix 7 shows the distribution of the surveying. Although the surveying was not evenly distributed, it reflected the concentrations of visitors.

The sample was 51% female and 49% male. The 461 interviewees were asked how many others were present in their group that day. The total was 1,753, meaning that the average group size was 3.8. The average age of the interviewees was 34 years.

The sample was probably skewed towards non-domestic visitors with only 87% of the surveyed groups being domestic. There was considerable repeat visiting: 367 (79%) had previously visited the beach. The average number of visits in the previous month was recorded as 5 and the average number in the last year 14. The figures show considerable repeat visitation.

The average length of visit on the beach was 7.5 hours (with a standard deviation of 2.4). 25% of groups were staying close to the beach. For those staying at or near the beach, the average duration of stay was 9 nights.

The respondents were asked what they thought about the quality of the beach (see Appendix 8)

Good	49%
Satisfactory	33%
Bad	18%

This suggests a high degree of satisfaction with the beach and this is reflected in the answers we received to the question about what people disliked about the beach. We asked if there was anything which people disliked about the beach and recorded no more than three items per answer.

Over 90% of people mentioned litter as one of their three dislikes, over 60% the toilet facilities: 45% mentioned the mosquitoes, 45% mentioned the approach road, and 40% mentioned the absence of showers (see Appendix 9). Dislike of the approach road closely correlates with congestion (see Appendix 10) and dislike of mosquitoes correlates with their activity (see Appendix 11). There was no marked variation in frequency for litter, toilets and showers. Overcrowding and noise did not cause significant complaints.

We also asked the visitors why they came to beach and recorded the two most important reasons in each case (see Appendix 12). The options they were given were:

To swim	79%
To enjoy the beach	70%
Because of the forest	38%
To visit the lagoon	1.5%
To go bird watching	0
To go fishing	0

This suggests that visitor pressure on the lagoon is unlikely to increase from the current visitors. Although 38% mention the forest, observation suggests that the forest is used for shade, to park the car and to picnic in. Tourist impact is unlikely to spread beyond a 25m sacrifice zone between the beach and the proposed fence, unless the kind of visitor changes.

4. Tourism impact on biodiversity

It was agreed that the issue of consumptive tourism would not be covered in this report. In my view, carefully regulated consumptive tourism is the best option for securing revenue from tourism for conservation to compensate local people for their loss of harvesting access to the lagoon.

4.1 Introduction

There is a significant area of old-growth coastal forest and mature dunes with good species diversity, but few charismatic species. For the non-specialist ecotourist the main interest would be the pelicans and the tortoises. Sea turtles are caught in the sea but, according to the fishermen, have not been seen on the beach.

4.2 Road from Divjaka to beach

A transect survey in September 1995 at five entrance points to the forest along the side of the road showed considerable evidence of tourist use and consequent pollution including human excrement and picnic refuse. Heavy rain a few days before the field visit had washed away the majority of the tyre tracks, but it is clear that vehicles are penetrating as much as a kilometre from the road.

The boundary of the Reserve prevents intrusion by tourists and local people but there is evidence of the breaking and repair of the fence, although there are clear paths from the fence into the Reserve.

Further down the road the bunkers provide a partial barrier to vehicular access but in a number of places it is possible for vehicles to cross this barrier and continue into the woods for picnicking.

The September storm left evidence of early gullying erosion on the tracks used by vehicles. The sand and dune structures are relatively unstable and easily damaged by vehicles and trampling. Levels of litter pollution are very high. It is possible to gain access to the northern part of the beach from the road going past the Godulles krip Lagoon.

4.3 Northern hunting area

Kulari is located between the Terbufi Canal (dug to drain the marsh in 1946-48) and the Shkumbini River. It consists of mixed coniferous and broad-leaved forest. Excessive consumptive tourism is reported to have depleted the numbers and variety of wildfowl.

4.4 Fenced Divjaka Reserve (IUCN Categ. IV)

The 675 hectare Reserve is fenced and protected by a permanent force of wardens. Its boundaries are delineated by the road and the Terbufi canal. It is now only open to visiting scientists. There are two Forest Inspectors and one Forest Guard for this area.

There was an Italian sawmill. The logging tracks remain and provide good walking routes.

Within the Mediterranean pine forest (*Pinus pinea* and *Pinus halepensis*), one tree is estimated to be 150 year old. There are also fairly impenetrable shrubs (*Smilax aspera*, *Clematis viticella* and *Periploca graeca*). The many "oozes" contain broad-leaved species: ash, oaks, elms.

The reserve has a good network of well drained access paths, sandy with pine needle covering. There is very little litter. There is good insect life and many tortoises. There is sufficient diversity of fungi for this to be of interest. There are horses. Amongst the larger animals of tourist interest are deer and feral cattle. I did not see either. Escorted guided walks would be possible in this area.

The last timber was taken from here in 1992, as fallen wood. Within the reserve is a derelict pheasant farm which had an annual production of 3,400 birds just prior to its closure in 1992. The snow caused the cages to collapse and the birds escaped. In the late nineteen eighties production of 10-12,000 birds is reported. The birds were exported live to Italy.

Fauna: Roe deer (*Capreolus capreolus*), beach marten (*Martes fiona*), otter (*Lutra lutra*), badger (*Meles meles*), red fox (*Vulpes vulpes*), weasel, feral cattle (about 170 in number), tortoises and snakes. There is also a good variety of insect species.

Avifauna: Wildfowl, passerines (*Passeriformes*), woodpeckers (*Piciformes*) and raptors. Godulles krip Lagoon (100 hectares), varies in size according to rainfall. This is an important tourist site for bird viewing in the winter.

Mina Stefi reports that there are no problems with the tourists and visitors in breaching the integrity of this reserve.

4.5 Divjaka Forest National Park (1966) IUCN Categ. II

The Divjaka Forest National Park covers 780 ha (8km x 0.5km) and is located between the sea and the inner Karavasta Lagoon. The forest (*Pinus nalepensis* and *P. pinea*) is less dense and more disturbed by human impact (there are paths for walking, hiking, riding etc.). Motorised access is permitted. Public access for recreation and education is encouraged. There is no protecting fence.

There are apparently two "endemism islets" [*Aster albanicus* subsp. *paparistoi*, *Orchis albanicus* and *Orchis x paparisiti*] one close to Divjaka and the second close to first channel linking the sea to the lagoon. I did not have access to a habitat map.

4.6 Beach beyond northern channel

There is relatively little tourist use of the southern end of the beach beyond the north channel. In 1995, when the channel was silted and it was possible to drive a car directly on to the beach beyond the channel, there was a higher level of tourism impact. The channel has now been dredged and access to the area of mature dunes is now either on foot through the channel or over the bridge. The people walking over on foot are unlikely to cause any significant pressure on the dunes. Car access is a serious threat and there is evidence of car tracks and cycle tracks in the mature dunes.

Little Terns, Oyster Catchers and Kentish Plovers are reported to have been displaced from their nesting sites on the coast south of the mature dunes by tourist pressure.

4.7 Tourist beach

Located between pine Mediterranean forest and Adriatic, this is a sandy belt of 15km x 0.5 km, rising to 1-2 m. While dunes are sandy, the beach closer to the sea contains significant amounts of clay and sub-clay. The beach north of the Shkumbini River may be of better sand quality

15-20 m from the shore, pioneer species *Cakile maritima, Salsola kali* are replaced by dune species mostly *Agropyrum junceum* and sometimes *Ammophila arenaria*. Dune vegetation is absent where the beach suffers most impact from tourists. Outside the hotel there is *Juniperus oxycedrus* subsp. *macrocarpa*.

This area constitutes a sacrifice zone. Visitor pressure from cars and trampling will preclude the development of significant flora cover. The cleaning of the beach removes vegetation and litter and involves the "ploughing" of significant areas of the central beach.

4.8 Fire

There was one major fire in 1995, south of the north channel. It destroyed 7000m^2 and was attributed to unlicensed anglers. Fire is a constant risk particularly from discarded matches and cigarettes. There are 5 or 6 small fires each year.

5. Recommendations

At the time of writing the report, information was not available about the endemism islands. It may be that these areas need to be additionally fenced or that the walking trails I have suggested need to be amended.

Similarly I was unable to determine the location of the endemic plants: Aster albanicus paparistoi *and* Orchis paparistoi *and the hybrid* Orchis x paparistoi *(*Orchis albanica x O. coriophora*). It may be necessary to fence these sites and/or to divert the paths.*

5.1 Introduction

The Management Authority should have powers to enable the Forest guards to levy spot fines for infringements of the administrative rules of the Authority relating to parking, litter, and inappropriate use. Traffic offences and other crimes should be dealt with by the police.

5.2 Sacrifice zone

The beach area is intensively used by Albanians from a large area of the country and the beach is highly rated by them for leisure use, primarily for sunbathing and swimming. The beach is not an important conservation zone. The MA would be ill-advised to attempt to restrict the leisure use of the beach which would result in considerable conflict with a large number of local citizens for no conservation gain. There are areas of the beach which should be protected (see below) but they are not areas much frequented by tourists and day visitors.

The MA may be tempted to fence out the beach and to leave its management to a private entrepreneur or entrepreneurs or to the local authority, either Lushnje or Divjaka. This is not a viable option given the impact which large numbers of people, sewage and waste will exert on the lagoon and the forest.

The beach is the only area of the Karavasta lagoon which has significant numbers of tourists or day visitors and it therefore represents one of the few sources of income to the authority.

5.3 Charging

Significant revenue is attainable from tourism to the beach - from leases and rents, from the direct provision of services and from admission charges. The MA will need to raise revenue in order to manage the lagoon and one of the most lucrative sources would be an admission charge. This could be justified as a means of producing revenue to cover the costs of cleaning the beach, providing toilets, water and showers and managing human waste and garbage.

The administrative cost of collecting admission fees from individuals would be prohibitive. It would be cheaper to collect a levy on every vehicle passing checkpoint at the edge of the forest on the approach road to the beach. The initial charge would be 100 or 200 lek per car (and a larger levy per coach or minibus).

The provision of toilet blocks with showers and clean toilets would constitute a considerable net gain to the day visitors and would justify the introduction of charges for the use of the beach. in the short term there would be no net gain as capital costs would absorb revenue over the first few years. in the medium term the entrance charges would constitute significant income for the MA.

5.4 Kiosks

The failure to manage the development of kiosks since 1990 presents a particular problem and one which is likely to worsen over the summer. The sooner local people are told what steps the MA will take the better. The failure to demolish unlicensed new structures has provided a green light to the development of kiosks towards the northern and southern ends of the beach. There are two storey structures, one of them a four room hotel, at both ends of the "developed" strip (these are marked on the large maps).

The MA must have the licensing powers and must use those powers to control development, dumping and waste disposal.

There should be no development above the tree line and no two storey buildings should be permitted.

Kiosks should be restricted to the central zone, already substantially developed and best regarded as a sacrifice zone. No development should be permitted outside the central zone, the development zone marked in green on Map C and the 25m forest strip along the beach which runs between the most northerly and most southerly two storey kiosks marked on Map C.

No trees should be felled either for timber or to clear space for building. Nothing should be built which intrudes above the tree-line or onto the beach.

The leases of the kiosks should require that rubbish is collected by the MA and the kiosks should pay for this service as part of their lease/rent. The kiosks should not be permitted to build toilets, these should be provided only by the MA. Water should be provided by the MA and the kiosks charged for this service. Waste water should be the responsibility of the MA.

The MA should consider demolishing derelict and unused buildings and replacing them with shell-units for hire by traders.

At each end of the beach there are two storey structures which are new this season. At the north end, a two storey structure has been built on top of a bunker. This structure stands out above the tree line and can be seen from the extreme southern end of the beach. At the south end of the beach there is a two storey four room hotel, This development is of a high standard and is attractively built within the tree line. The property adds an element of class to that end of the beach. However, the fact that these properties have been permitted is likely to result in further developments of more than one storey.

The MA must have strong licensing powers to control development on the beach and to regulate what already exists:
i) Development must be limited to one-storey buildings.
ii) There must be no development west of the tree line.
iii) There must be no tree felling - this will constrain development.

The rules which the MA intends to enforce should be made clear as soon as possible. Buildings that are erected after a published date and that breach these regulations should be subject to demolition.

Licences should also specify rules for waste disposal, water extraction and the cleaning of an area of the beach around the building.

5.5 Toilets and water

Given the numbers of people using the beach through the summer, the current provision of toilets and fresh water is unsatisfactory. In an area where the water table is only 3-3.5 m deep and the cesspits are old and of uncertain construction there is real risk of contamination of the ground water supply.

There used to be a piped water supply which came via Divjaka. Once Divjaka has its new supply in place, urgent consideration should be given to providing a piped supply at the beach again. On a summer Sunday the population of the beach can be half that of Divjaka. The Mayor of Divjaka has suggested that the town's old source of supply should be diverted to the beach when the town's new supply comes on stream.

In the meantime:
1) Wells with potable water should be clearly marked.
2) The wells should be cleaned and sealed and water drawn from them by electric or hand pumps.
3) The water quality of the wells should be tested weekly.
4) Urgent measures should be taken to counter the risk of pollution of the ground water by sewage.

The Management Authority will need to take responsibility for the provision of water. Demand for water will increase if good quality supplies are made available. On the other hand if nothing is done about the water supply there is a significant risk of disease as visitor numbers increase. The visitor satisfaction survey shows that there is dissatisfaction with failure to provide showers.

Hotel

Half the rooms now have flush toilets and the refurbishing programme continues. Given the privatisation of the hotel and the premium guests are prepared to pay for flushing toilets it is to be expected that the hotel will soon become fully en suite. The current situation is that raw sewage is surfacing some 200m from the hotel and beginning to form a surface sewage lake. The septic tank system has been abandoned in favour of a channel to the lagoon. It is only a breach in the channel which avoids the sewage being discharged into the lagoon and causing further eutrophication.

Urgent steps must be taken to contain this discharge and to ensure that the hotel properly manages its sewage.

Apartments

The water supply is irregular and the residents prefer to use the public toilets. It is not clear that the cesspits are regularly emptied and they may leak. However, the Beach Manager intends to improve the water supply to the apartments and this is likely to lead to a larger proportion of the residents using the toilets in the apartment blocks. This will increase considerably the pressure on the existing cesspits. There is a serious risk of contamination of the water table and of consequent disease.

The provision of new toilets built and maintained to high standard and draining into new septic tanks is a matter of the utmost urgency. Toilets should be provided in the western margin of the forest and in the developed Central Zone and should offer drinking water, changing rooms and showers as well as toilet facilities. These service blocks should also provide facilities for dumping garbage. These new blocks would go a long way to changing public perceptions of the beach and to cleaning it up. These facilities would justify the car parking and access fees which would fund the ongoing maintenance of the forest and lagoon.

Two new facility blocks should be provided immediately in the central zone, each with 12 closets for women and urinals and four closets for men. They should provide external showers. One block should be provided on the northern beach and two on the southern beach, in each case located in the forest margin.

The old toilet blocks should be demolished.

5.6 Waste management

The MA should take responsibility for dealing with sewage through a new system of septic tanks which the MA would also empty in order to ensure control over the final destination of the pumped waste.

The MA should also collect garbage regularly and take responsibility for recycling, burning and dumping this waste safely.

The costs of these services should be met from kiosk rents.

5.7 Accommodation

The beach has developed into one used primarily by day-trippers and this should be encouraged. Day-trippers do not cause as much impact as overnight tourists.

In order to accommodate some growth in tourist numbers and to ensure the management of the area of derelict forest marked at A on the large maps and on Map C, consideration should be given to developing a 125 pitch campsite at the south end of the central zone of the beach, just beyond the two storey hotel. This development would preclude the development of permanent structures at this end of the beach, provide flexible overnight accommodation and ensure that this area of the forest is managed. The MA should lease out this concession to a private entrepreneur but take responsibility for building and running two additional facilities blocks as described above.

No further development of accommodation should be permitted except in the proposed development zone. In this area the MA should develop a plan as a matter of urgency.

5.8 Transport and parking

The new Management Authority may wish to consider securing a revenue stream from visitors to the beach. This could be achieved by charging cars for access to the beach. The access/parking fee would be charged on the approach road and should be charged per vehicle. A different scale of tariffs could apply to cars, minibuses and coaches. People staying at the beach or with licensed businesses there could be charged discounted day rates.

Charging fees to arriving vehicles would be an efficient way of collecting revenue. Corruption would be unlikely as vehicles would be expected to display the daily "licence to be on the beach or in the beach area" and the licences could be numbered with counterfoils. Vehicles not displaying valid licences could be subject to spot fines.

It is desirable to encourage people to come by coach or minibus to the beach and this can be achieved by charging proportionately lower visitor entrance/fees for coaches and minibuses.

The charges can be made acceptable by being reasonable and by being used to provide facilities blocks and to remove garbage and clean the beach - this tackles those characteristics of the beach which current users perceive as unacceptable.

The improvement of the access road from the national highway is not a current priority. Congestion slows traffic and does not contribute to accidents. Congestion on the approach road will have some effect in restricting visiting at peak periods.

On the beaches and within the forest a "walking pace" speed limit should be imposed by the MA and enforced by the police.

Parking should be permitted in the areas marked on Map C and in the controlled development zone. The other options may be premature and likely to cause conflict with current users at a time when the MA needs to win allies for its management of the Ramsar Site. Option III (described above) with parking restricted to the 15m line along the beach will enable people to enjoy the advantages of picnicking form the car while enjoying a car-free beach.

5.9 Visitor numbers

The number of visitors is currently beyond the carrying capacity of the beach. However, there is no conflict between the development of the beach for more intensive use by tourists and day visitors provided that the physical carrying capacity issues of water, waste and garbage are dealt with and managed by the MA. The current users do not regard the beach as overcrowded and indeed continue to rate it highly. Visitors and tourists should be encouraged not to wander beyond the beach and in the central and development zones.

5.10 Visitor management

5.10.1 Road from Divjaka

All vehicular access to the National Park should be prohibited and this will require the blocking of access to the north and south of the beach access road. A range of methods can be used as appropriate from ditches to concrete blocks. This will require continuous adaptive management responding to new incursions as they occur. Access to the north of the road is restricted by the Reserve fence which should be extended to protect the northern part of the beach north of the 40° parallel.

5.10.2 The lagoon

There is currently no identifiable tourist use of the lagoon and none should be permitted.

5.10.3 Central zone

Kiosks should be licensed and controlled. Parking should be permitted. Overall, this area should be managed as an intensive sacrifice zone for beach tourism.

5.10.4 Central beach

No vehicles should be permitted on the beach, with exclusion enforced by physical barriers. The area can easily be gated to permit access for cleaning vehicles. This area of the beach should be intensively cleaned for sunbathing and swimming.

5.10.5 Southern beach

Vehicles should be permitted in the 15m parking zone, but there should not be any other vehicle access. The use of the area by families for picnicking should be encouraged. The observation platform could be sited on the channel close to the lagoon and be an attraction for children.

5.10.6 Northern beach

No vehicular access should be permitted beyond the existing two storey kiosk (see Map C). The fence of the Reserve should be extended at the 40 ° parallel to protect the northern beach and maintain its wild aspect, partly for the benefit of nesting birds. It will still be possible to walk round the fence by wading in the sea, but this will reduce significantly visitor pressure.

5.10.7 Development zone

This is apparently an area of relatively low conservation value for which a management plan should be drawn up to allow sympathetic low level development for beach tourism. There is shade available and this could be an attractive asset.

5.10.8 675 ha Fenced Divjaka Reserve (IUCN IV) Zone 2 on Map A.

Accompanied access for scientific, educational and conservation purposes should be encouraged. Educational access for children and adults could contribute a great deal to ecological education and the legitimisation of the Ramsar site.

5.10.9 780 ha Divjaka Forest National Park (IUCN II) Zone 3

Motorised access should be prohibited except in a 25 m zone fenced out of the Park. The National Park needs to be firmly fenced to prevent casual access and its use as a public toilet and rubbish dump. The fence should be of a narrow mesh in order to prevent as much litter as possible from being blown into the National Park. There was an old fence 5km fence removed (stolen) in 1991. The replacement could be built piecemeal as a result of adaptive management.

Access should only be permitted on foot on clearly marked and signed paths, marked in blue on Map C. Picnicking should be prohibited. Limits of Acceptable Change should be established. No horses or cycles should be permitted on these paths which should be protected by substantial stiles. The footpaths should be used for conservation education. The footpath running north from the bridge over the northern channel is particularly well suited for the addition of hides and interpretation boards and is conveniently close to the proposed new site for the observation tower.

Endemism sites should be separately fenced. It may be appropriate to provide viewing points overlooking these sites if they are adjacent to the designated paths.

Accompanied access for scientific, educational and conservation purposes off the designated paths should be permitted within carefully determined and managed Limits of Acceptable Change.

A campsite should be developed in the area marked A on Map C.

The existing dumps should be cleared and the areas carefully cleaned. No further dumping should be permitted.

5.10.10 Zone 8 on Map B

This area should be accessible only on foot and picnicking should be discouraged. No access should be permitted between 1 April and 31 July. In these circumstances, pedestrian access is not likely to present any threat to the mature dunes in the medium term. Limits of Acceptable Change should be set and adaptive management used to ensure that areas threatened by trampling are fenced permanently or temporarily.

The bridge over the channel should be gated and kept locked, with only fishermen having access to the key. The dike at D on Map C should be narrowed to prevent vehicles using it to enter the area of mature dunes.

5.10.11 Zone 4 on Map A

There should be no access for tourists and visitors throughout the year.
This will be easier to enforce than a variable exclusion and there is no history of tourist or visitor access.

5.10.12 Zone 7 on Map A

There should be no access at any time.

Appendix 1
Road survey

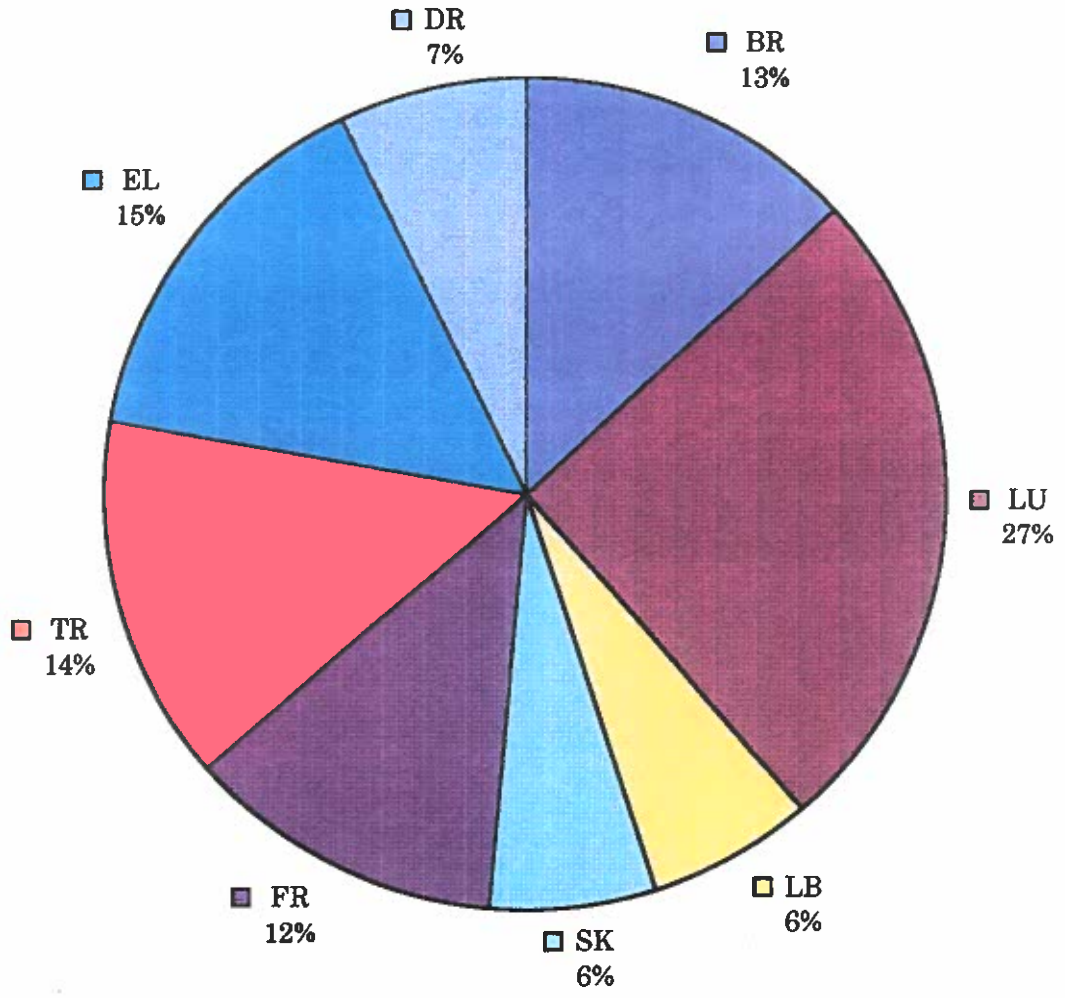
APPENDIX 1
ROAD SURVEY
KARAVASTA LAGOON SUMMARY TABLE OF RESULTS

	DATE	TOTAL PEOPLE	DATE	TOTAL CARS Total	Number of Passengers	% of Car Passengers	TOTAL MINIBUSES Total	Number of Passengers	% of Minibus Passengers	TOTAL COACHES Total	Number of Passengers	% of Coach Passengers	TOTAL BIKES Total	Number of Passengers	% of Bike Passengers	TOTAL BICYCLES Divjaka	Other	% of Bicycles	TOTAL TRACTORS Divjaka	Other	% of Tractors	TOTAL CARTS Divjaka	Other	% of Carts	TOTAL WALKERS Divjaka	Other	% of Walkers
Saturday	08-Jul-95	1636	08-Jul-95	70	298	26.57%	27	143	13.80%	18	566	54.63%	5	6	0.58%	4	0	0.39%	0	0	0.58%	0	5	0.48%	7	0	0.68%
Sunday	09-Jul-95	3843	09-Jul-95	262	1256	32.68%	77	843	21.94%	40	2030	52.82%	15	29	0.75%	51	0	1.33%	0	5	0.13%	17	0	0.44%	0	0	0.00%
Monday	10-Jul-95	1507	10-Jul-95	110	474	31.45%	25	388	25.75%	15	609	40.41%	7	9	0.59%	18	3	1.39%	0	0	0.00%	6	0	0.40%	1	0	0.07%
Saturday	15-Jul-95	2417	15-Jul-95	134	568	23.50%	37	380	15.72%	28	1400	57.92%	14	25	1.03%	28	4	1.32%	0	0	0.00%	7	1	0.33%	3	0	0.12%
Sunday	16-Jul-95	5410	16-Jul-95	315	1473	27.23%	95	1382	25.55%	43	2350	43.44%	20	31	0.57%	57	20	1.42%	0	0	0.00%	35	0	0.65%	5	0	0.09%
Tuesday	18-Jul-95	1387	18-Jul-95	75	309	22.12%	27	214	15.32%	16	780	56.03%	12	14	1.00%	39	4	3.08%	4	0	0.29%	28	6	2.22%	0	0	0.00%
Saturday	22-Jul-95	4484	22-Jul-95	208	1044	23.23%	53	992	19.85%	42	2430	54.07%	12	22	0.49%	67	37	2.31%	0	3	0.07%	14	52	1.47%	5	0	0.11%
Sunday	23-Jul-95	7401	23-Jul-95	364	1777	24.01%	99	1443	19.50%	70	3960	53.51%	29	51	0.69%	91	24	1.56%	0	0	0.00%	10	51	0.82%	9	0	0.12%
Wednesday	26-Jul-95	2178	26-Jul-95	136	604	27.73%	31	435	19.97%	20	1060	48.67%	8	12	0.55%	52	4	2.57%	1	0	0.05%	0	10	0.46%	10	0	0.46%
Saturday	29-Jul-95	4812	29-Jul-95	203	957	19.89%	60	973	20.22%	46	2650	55.07%	19	28	0.58%	76	22	2.04%	0	17	0.35%	34	60	1.75%	4	0	0.08%
Sunday	30-Jul-95	3046	30-Jul-95	137	658	21.60%	42	585	19.21%	36	1710	56.14%	6	11	0.36%	48	4	1.71%	0	4	0.13%	2	14	0.53%	12	0	0.39%
Thursday	03-Aug-95	1388	03-Aug-95	79	312	22.48%	15	104	7.49%	21	805	65.20%	11	20	1.44%	36	0	2.59%	4	0	0.29%	15	0	1.08%	0	0	0.00%
Saturday	05-Aug-95	3856	05-Aug-95	164	788	19.92%	46	664	17.22%	43	2220	57.57%	17	29	0.75%	92	19	2.06%	0	12	0.31%	20	27	1.22%	2	3	0.13%
Sunday	06-Aug-95	6771	06-Aug-95	356	1789	26.42%	87	1300	19.20%	60	3400	50.21%	37	66	0.97%	119	38	2.29%	0	24	0.35%	13	40	0.78%	6	5	0.07%
Friday	11-Aug-95	3815	11-Aug-95	148	719	19.84%	73	1153	30.21%	26	1530	40.09%	29	53	1.39%	166	25	5.01%	0	47	1.23%	5	78	2.12%	15	31	1.21%
Saturday	12-Aug-95	4856	12-Aug-95	173	887	18.27%	70	1105	22.76%	44	180	3.71%	32	59	1.21%	127	33	3.29%	1	26	0.58%	15	63	1.61%	10	0	0.21%
Sunday	13-Aug-95	8080	13-Aug-95	595	1481	18.37%	105	1635	20.29%	72	4200	52.11%	55	92	1.14%	170	19	2.34%	0	62	0.77%	18	102	1.49%	16	0	0.20%
Monday	14-Aug-95	3883	14-Aug-95	150	728	19.71%	71	1017	27.61%	29	1700	46.18%	23	42	1.14%	94	6	2.72%	0	21	0.67%	14	49	1.71%	14	0	0.39%
Saturday	19-Aug-95	2321	19-Aug-95	127	595	25.64%	26	381	16.42%	23	1260	54.29%	11	18	0.78%	45	3	2.07%	0	0	0.00%	5	14	0.82%	0	0	0.00%
Sunday	20-Aug-95	1595	20-Aug-95	583	500	31.35%	21	330	20.69%	16	590	36.36%	14	21	1.32%	47	0	2.95%	0	0	0.00%	22	8	1.38%	2	0	0.13%
Tuesday	22-Aug-95	2005	22-Aug-95	93	445	22.19%	23	355	17.71%	20	1110	55.39%	8	12	0.60%	81	1	3.09%	0	13	0.65%	15	0	0.75%	0	0	0.00%
Saturday	26-Aug-95	1130	26-Aug-95	87	417	36.90%	18	257	22.74%	9	340	30.09%	9	14	1.24%	34	0	3.01%	0	0	0.00%	6	0	0.53%	3	0	0.27%
Sunday	27-Aug-95	2045	27-Aug-95	151	769	37.60%	33	478	23.28%	14	710	34.72%	14	23	1.12%	51	0	2.49%	0	0	0.00%	12	0	0.59%	4	0	0.20%
Wednesday	30-Aug-95	1104	30-Aug-95	70	346	31.34%	27	398	36.14%	6	320	28.99%	7	11	1.00%	33	0	2.99%	0	0	0.00%	6	0	0.54%	0	0	0.00%
Thursday	31-Aug-95	519	31-Aug-95	30	138	43.26%	6	53	16.61%	2	80	29.21%	6	12	3.76%	26	0	8.15%	0	0	0.00%	0	0	0.00%	0	0	0.00%
GRAND TOTALS		88460		4806	18008	23.99%	1183	16886	20.99%	756	38080	47.32%	418	709	0.88%	1632	264	2.36%	10	248	0.31%	317	550	1.08%	122	39	0.20%
AVERAGES		3220		192	772		48	676		30	1524		17	28		65	11		0	10		13	22		5	2	

Appendix II

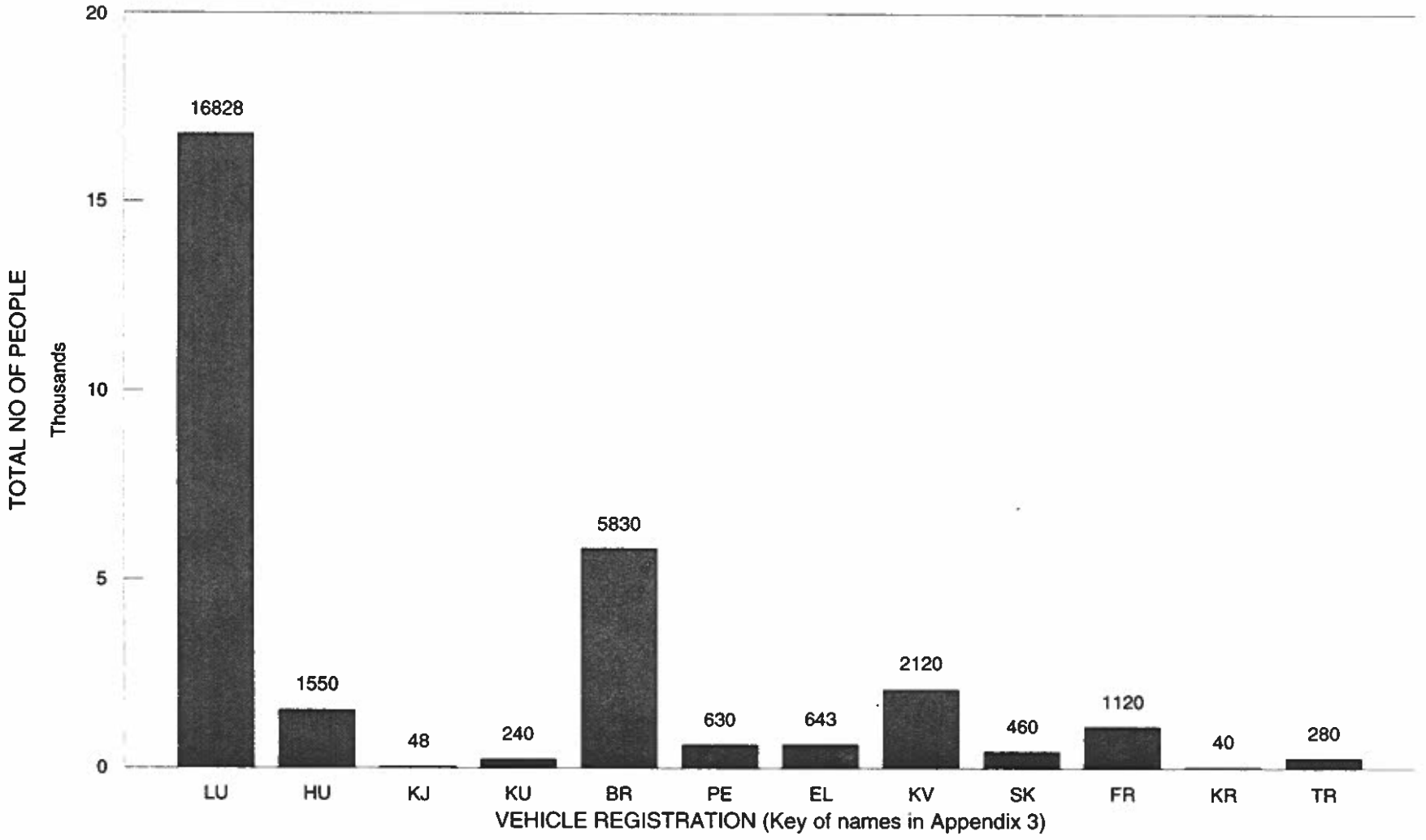
i Origins of visitors
ii Graph of (vehicle registration, no. of people in coaches)
iii Graph of (vehicle registration, no. of people in minibuses)
iv Graph of (vehicle registration, no. of people in cars)

Origins of visitors

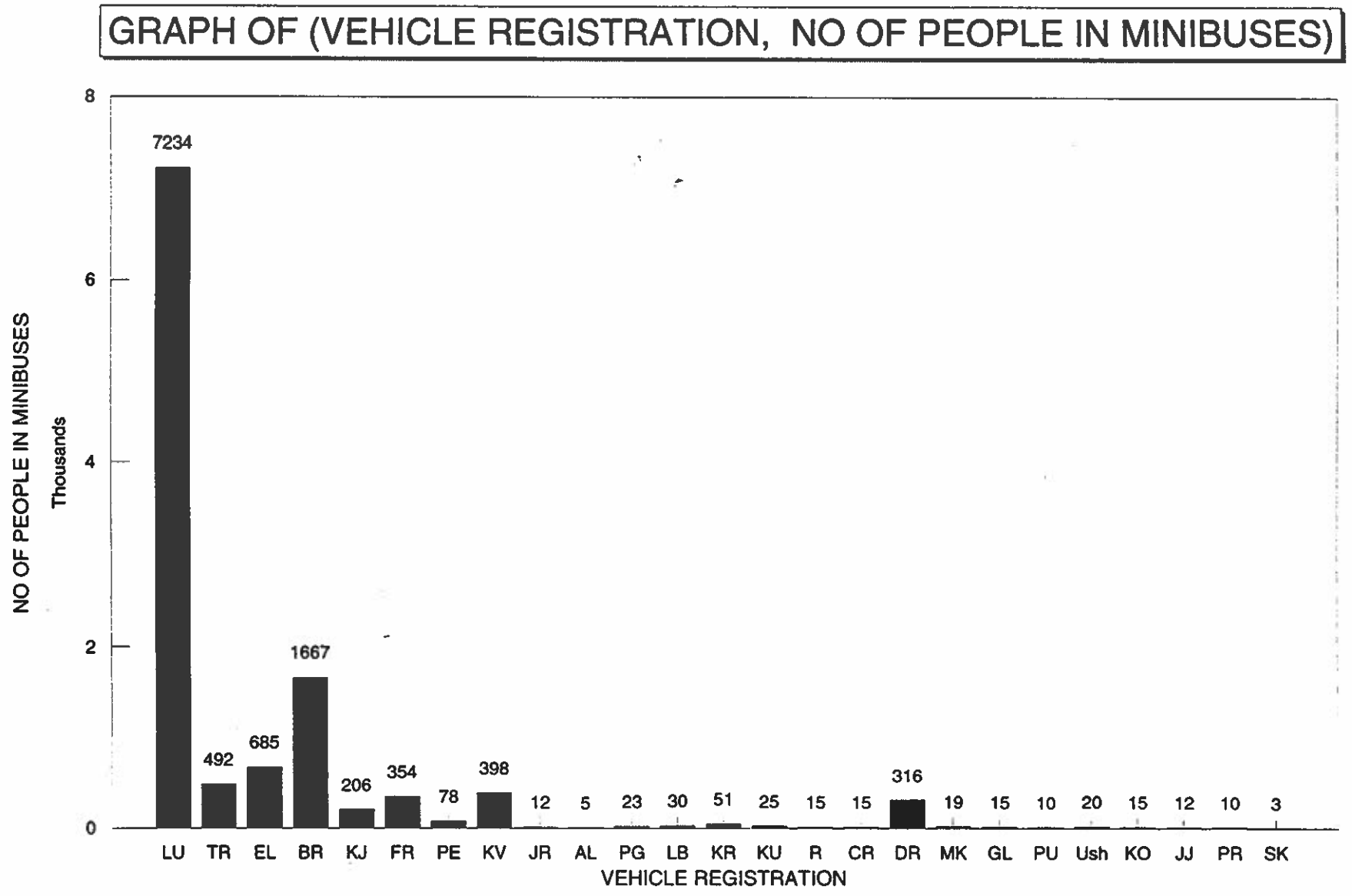


APPENDIX 2ii

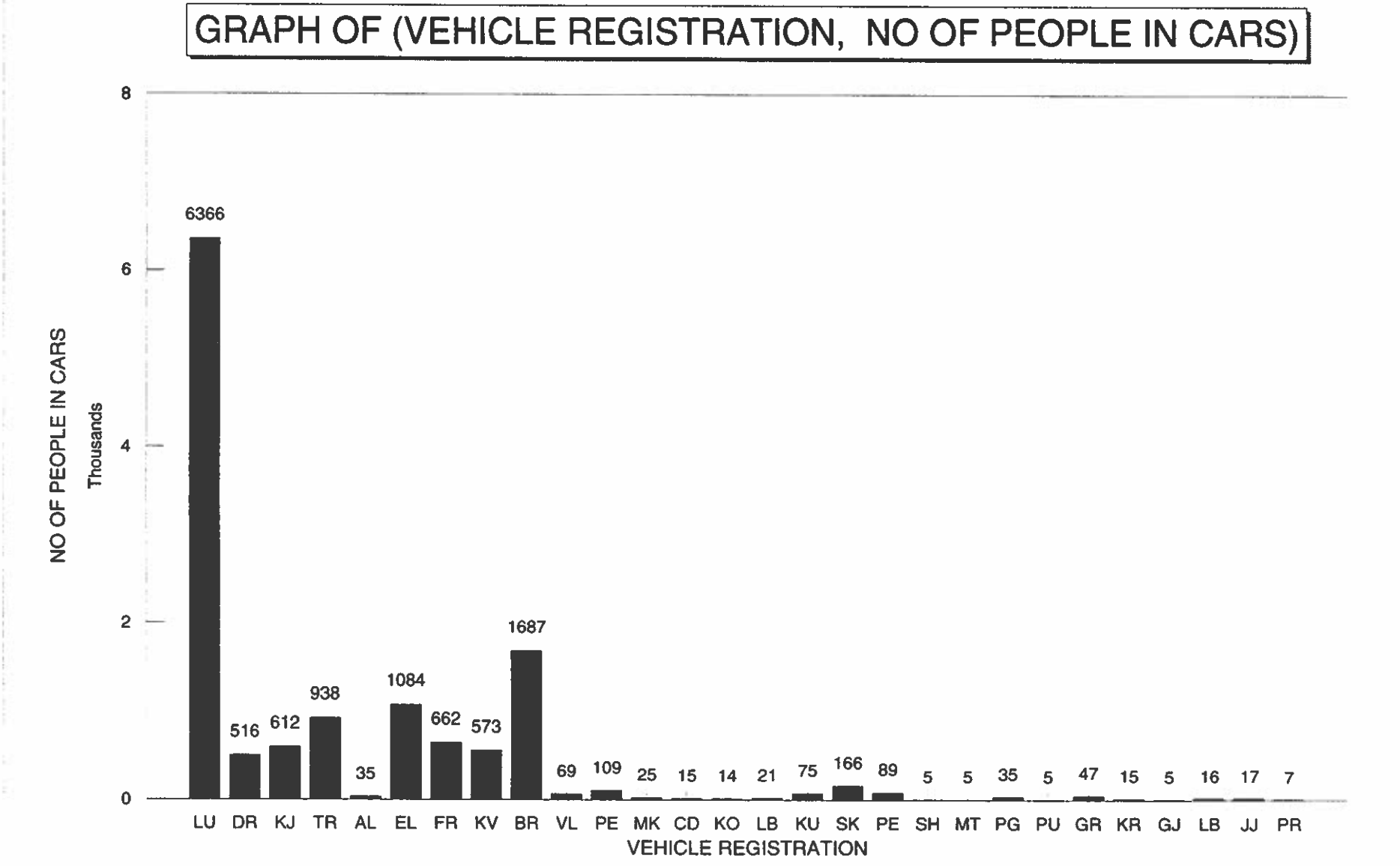
GRAPH OF (VEHICLE REGISTRATION, NO OF PEOPLE IN COACHES)



APPENDIX 2iii



APPENDIX 2iv



Appendix 3
1995 road traffic surveys

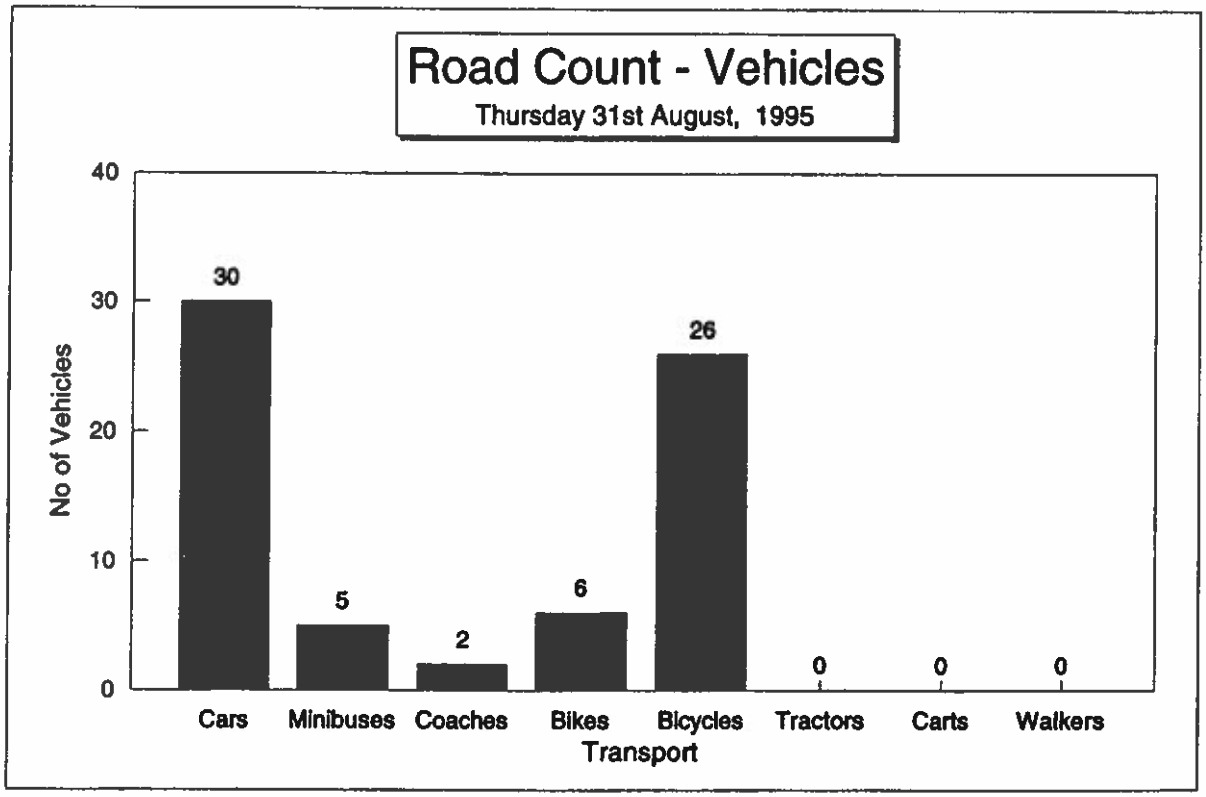
Appendix 3

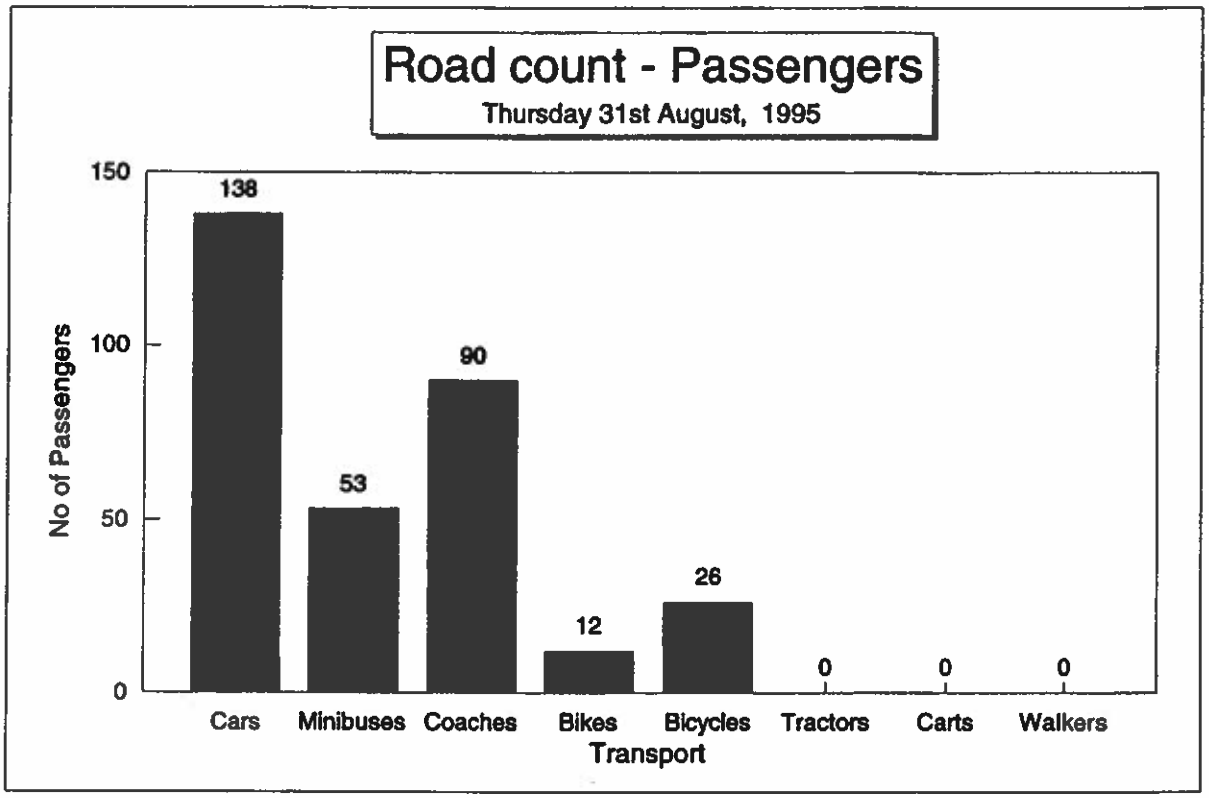
1995 Road Traffic Surveys

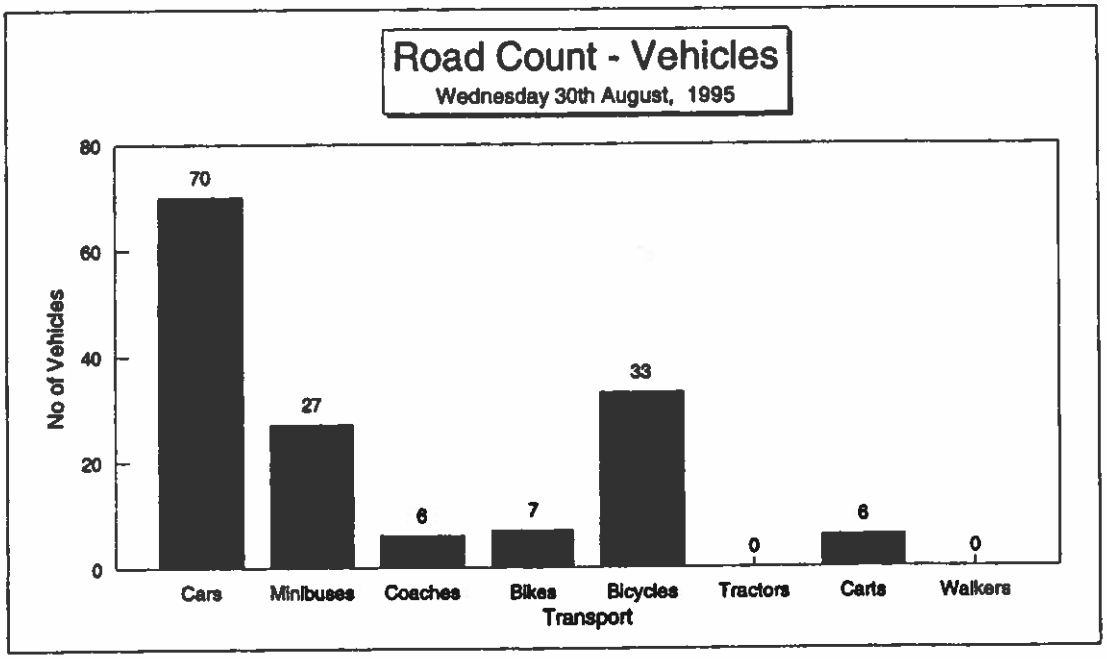
AL	Albanian but still with a foreign plate
BR	Berati
CD	Diplomatic Plates
DR	Durresi
EL	Elbasani
FR	Fieri
GJ	Gjirokastra
GR	Gramshi
KJ	Kavaja
KO	Korca
KR	Kruja
KV	Kucova
KU	Kukesi
LB	Librazhdi
LU	Lushnja
MK	Mallakastra
MT	Mati
PE	Peqini
PG	Pogradeci
PR	Permeti
PU	Puka
SH	Shkodra
SK	Skrapari
TR	Tirana
VL	Vlora

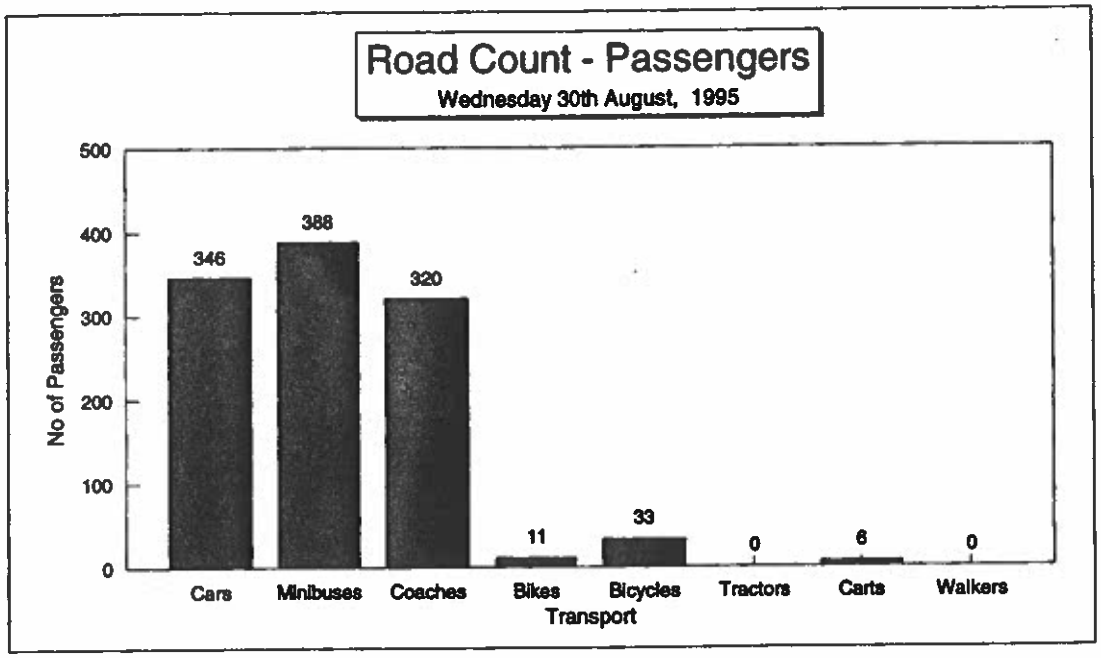
Appendix 4

Road count - vehicle and passengers
(daily figures)

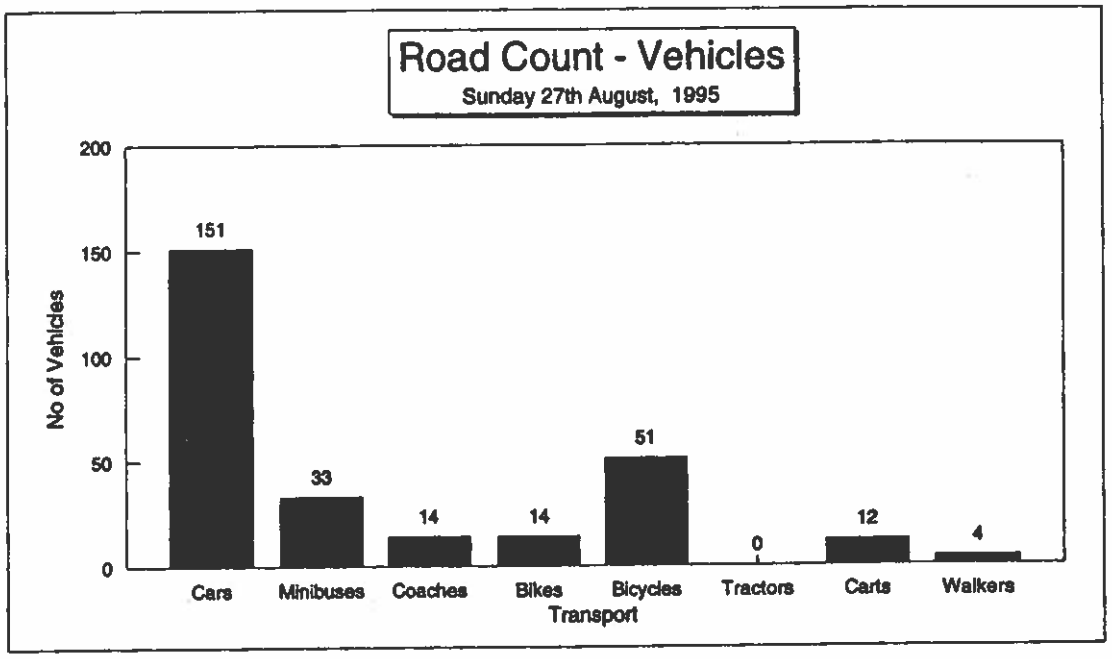

Road Count - Vehicles
Thursday 31st August, 1995
No of Vehicles
40
30
20
10
0
30
5
2
6
26
0
0
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

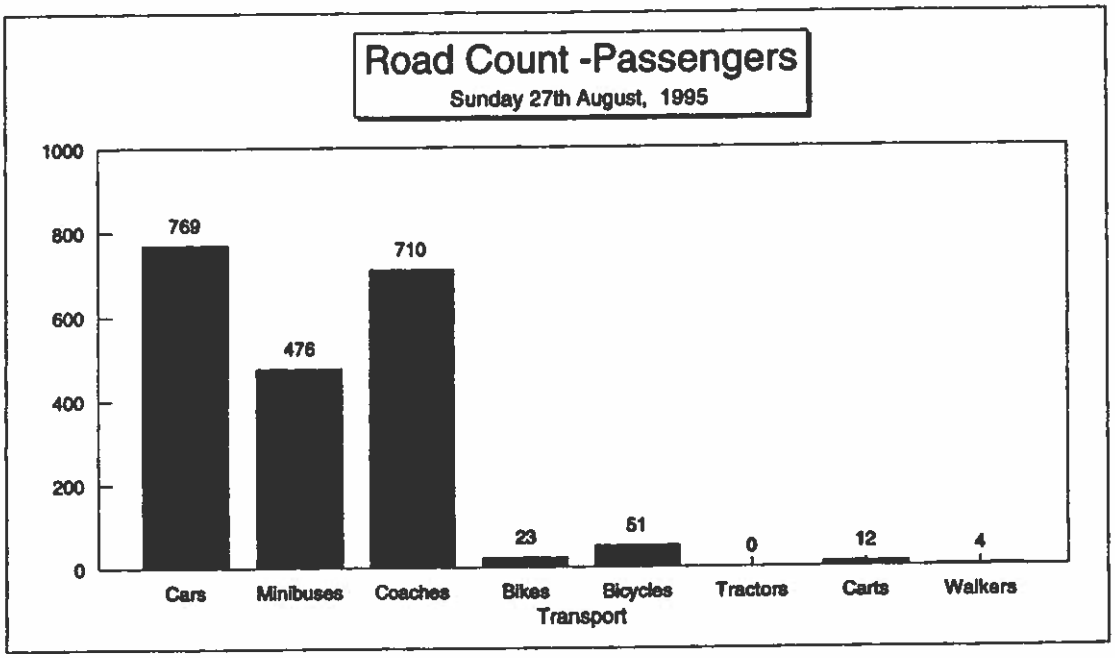

Road count - Passengers
Thursday 31st August, 1995
No of Passengers
150
100
50
0
138
53
90
12
26
0
0
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport


Road Count - Vehicles
Wednesday 30th August, 1995
No of Vehicles
80
60
40
20
0
70
27
6
7
33
0
6
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

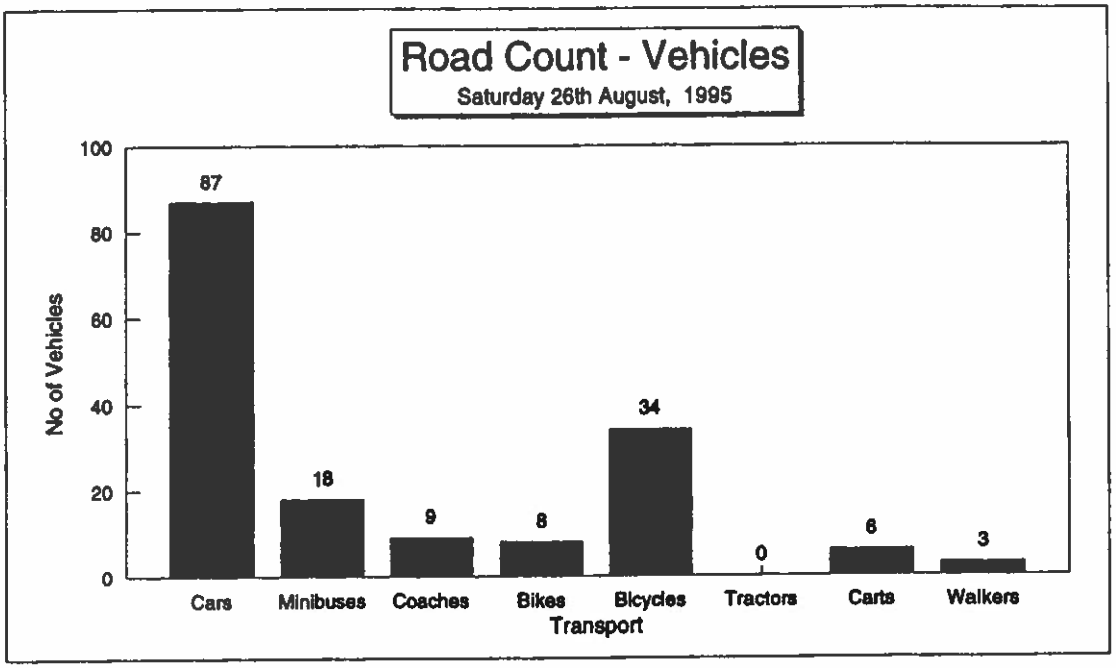

Road Count - Passengers
Wednesday 30th August, 1995
No of Passengers
500
400
300
200
100
0
346
388
320
11
33
0
6
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

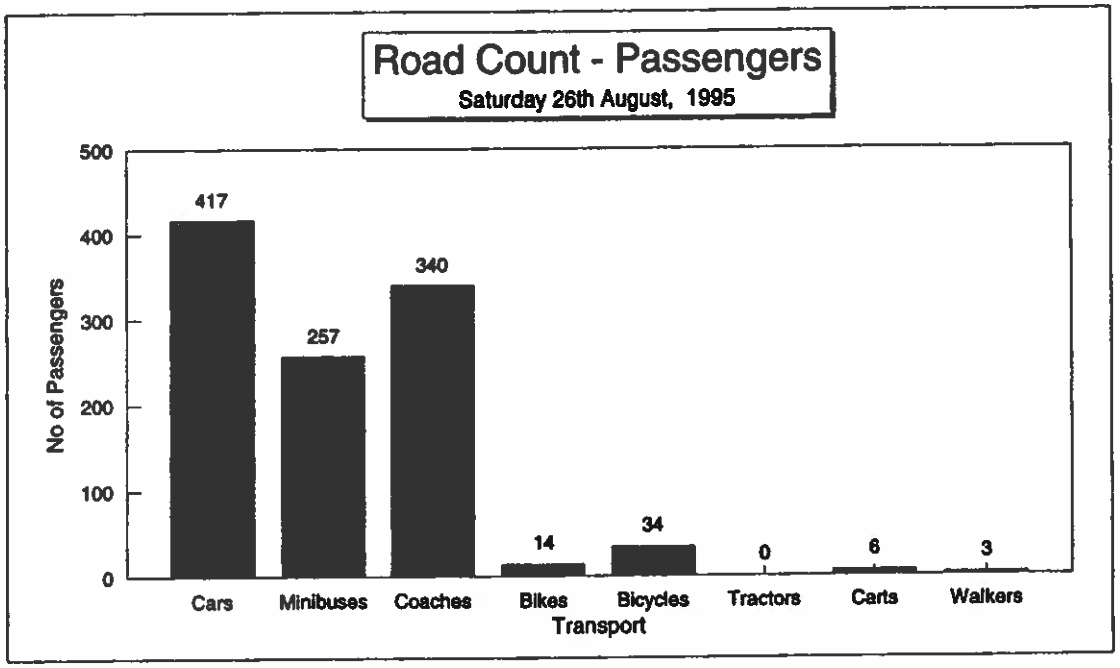
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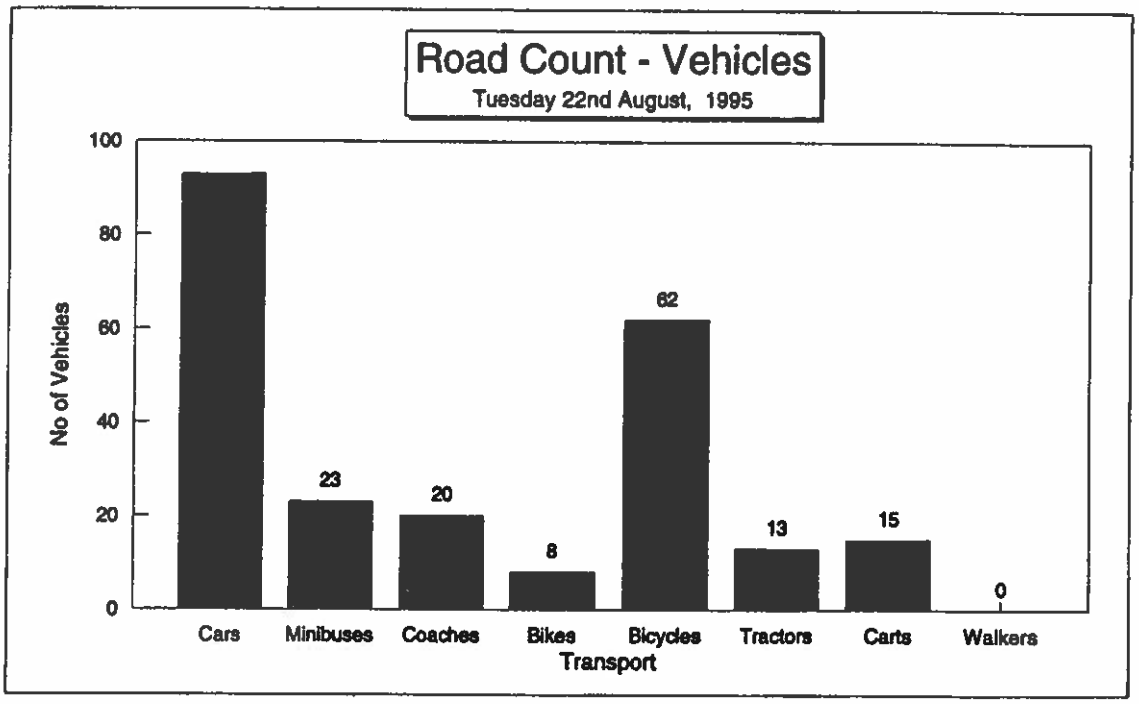

Road Count - Vehicles
Sunday 27th August, 1995
No of Vehicles
200
150
100
50
0
151
33
14
14
51
0
12
4
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

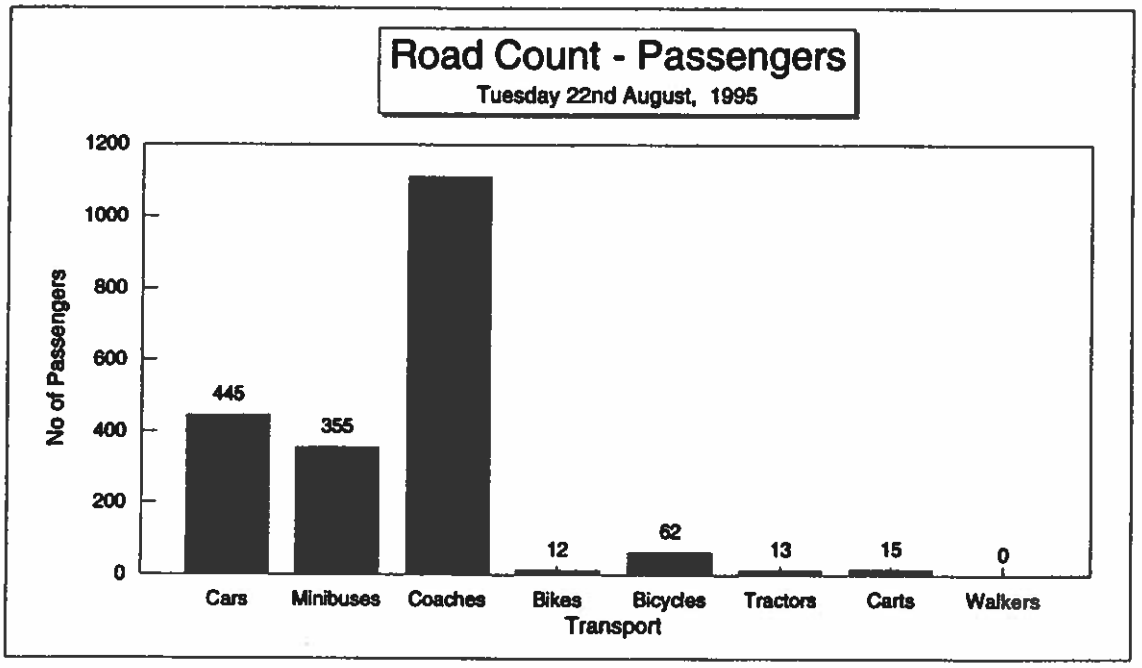

Road Count -Passengers
Sunday 27th August, 1995
1000
800
600
400
200
0
769
476
710
23
51
0
12
4
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

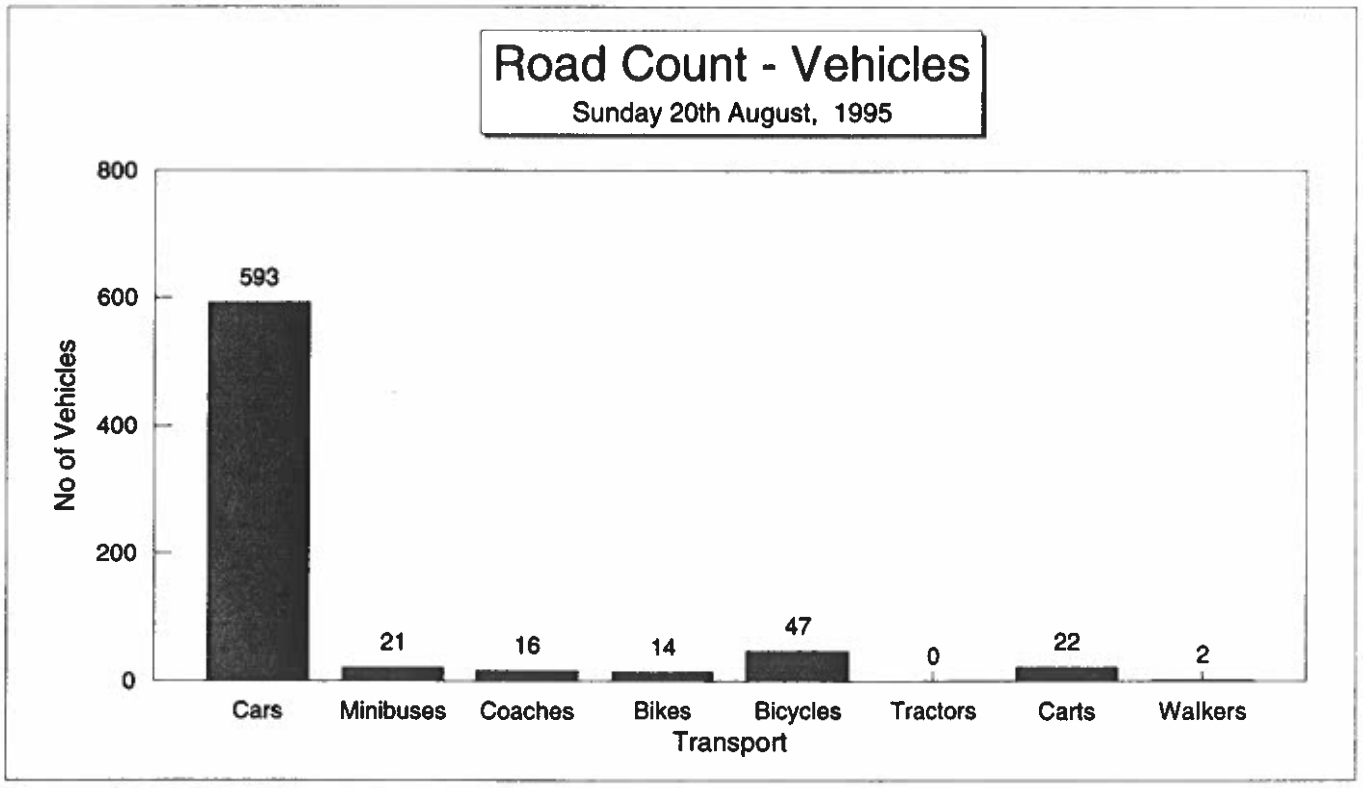
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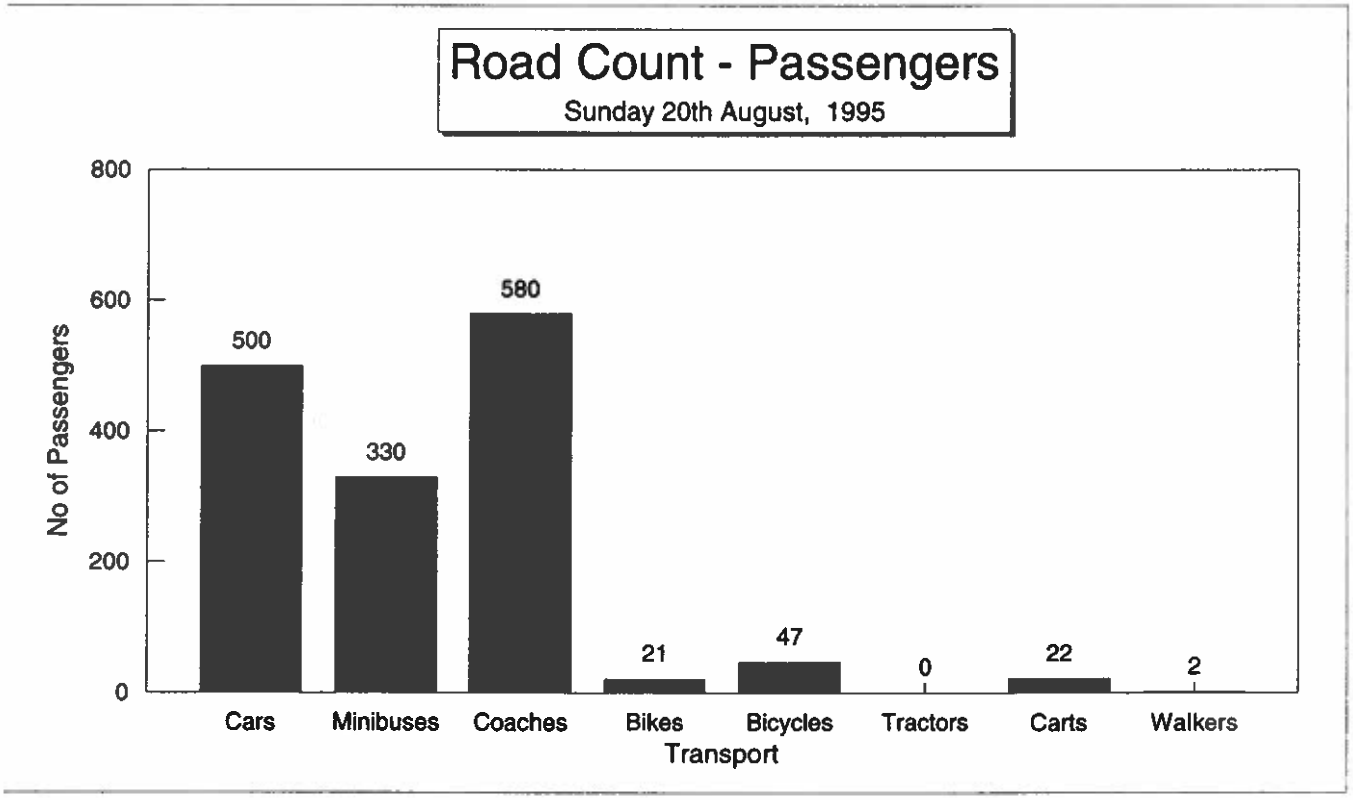

Road Count - Vehicles
Saturday 26th August, 1995
No of Vehicles
100
80
60
40
20
0
87
18
9
8
34
0
6
3
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

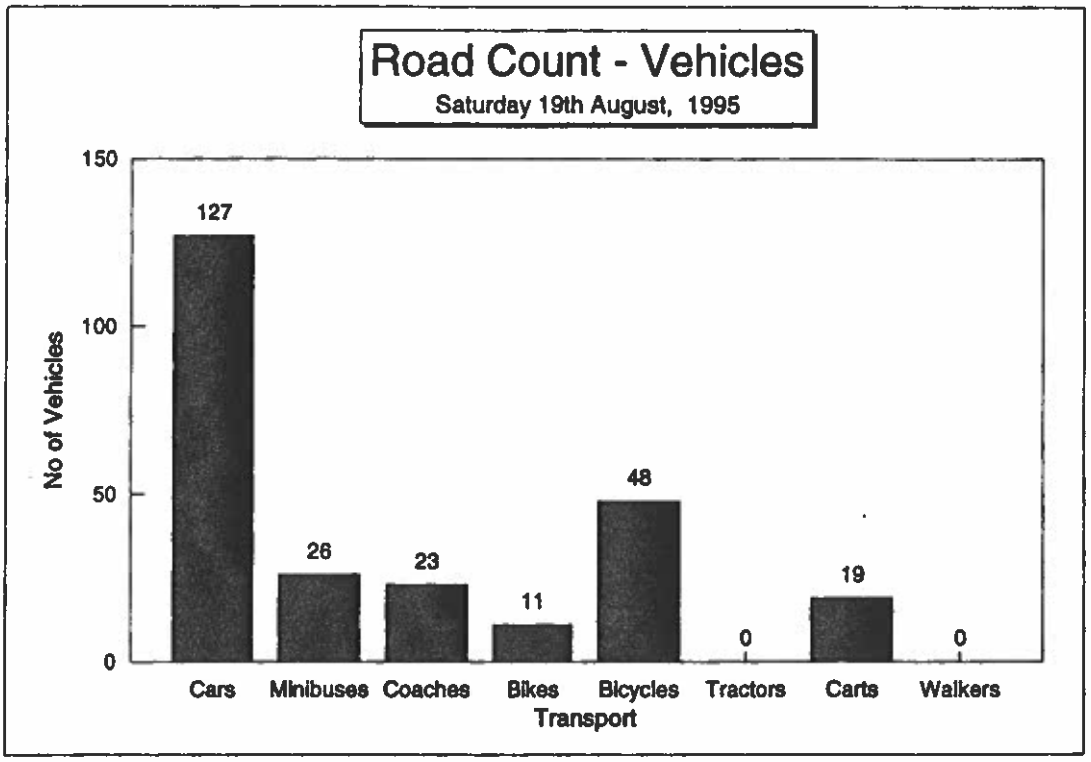

Road Count - Passengers
Saturday 26th August, 1995
No of Passengers
500
400
300
200
100
0
417
257
340
14
34
0
6
3
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

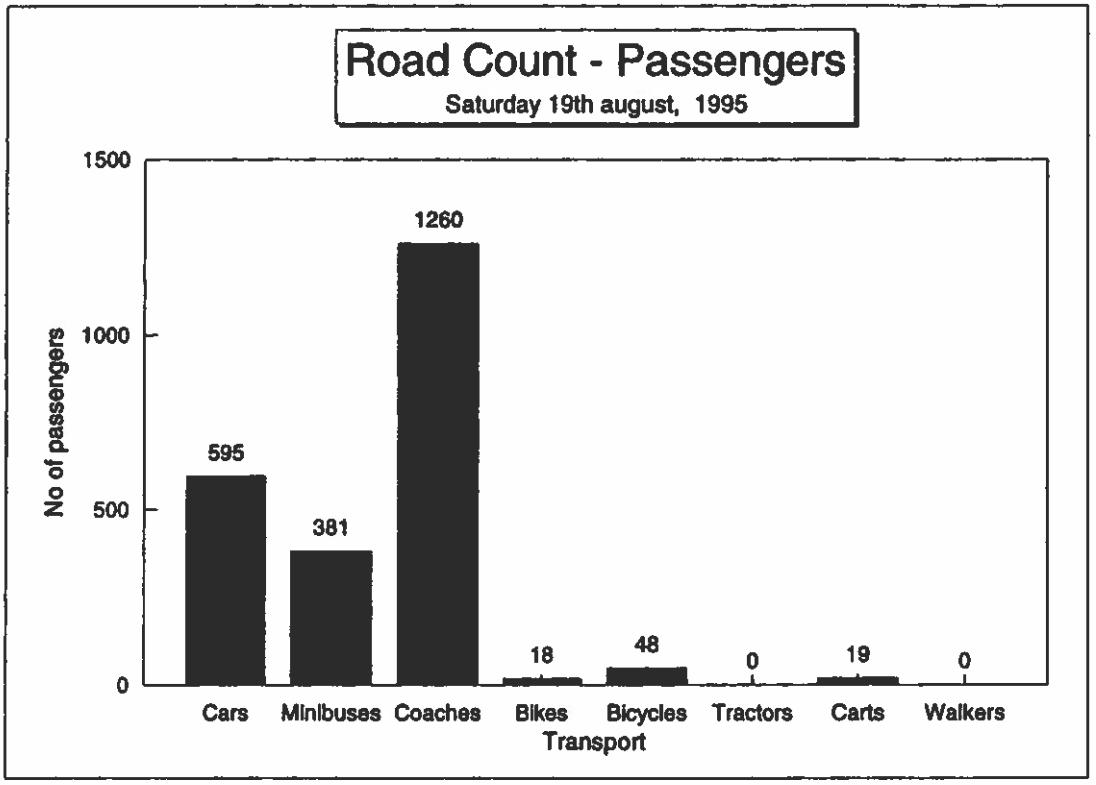

Road Count - Vehicles
Tuesday 22nd August, 1995
No of Vehicles
100
80
60
40
20
0
23
20
8
62
13
15
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

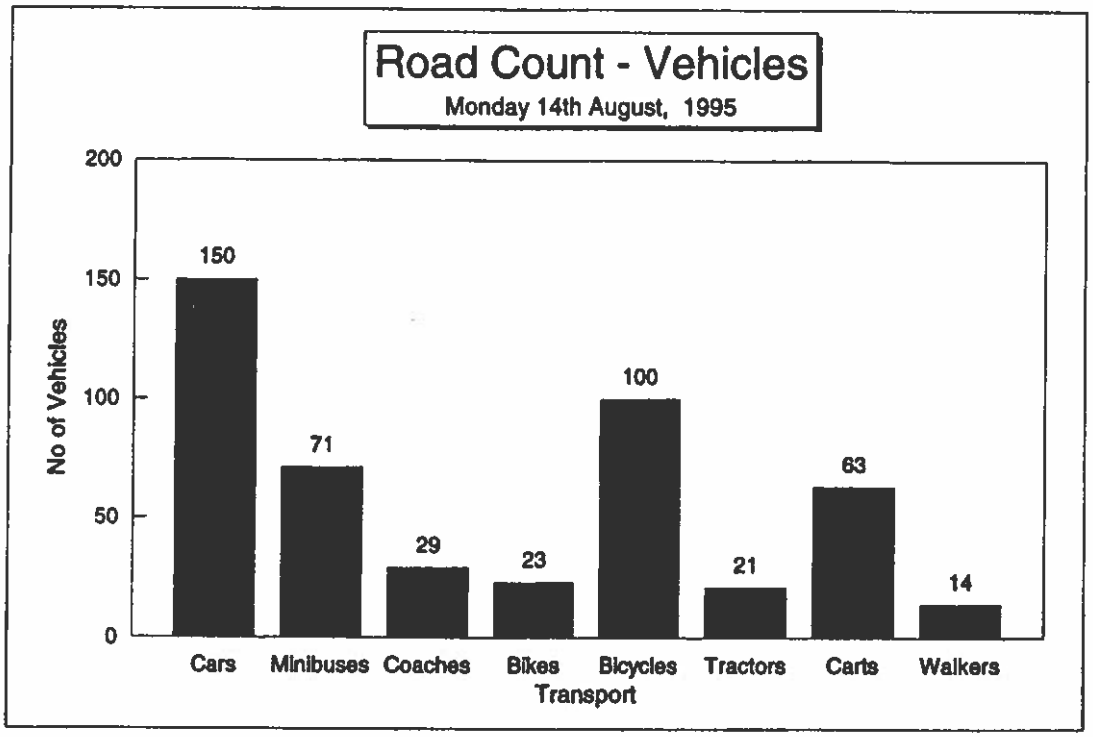

Road Count - Passengers
Tuesday 22nd August, 1995
No of Passengers
1200
1000
800
600
400
200
0
445
355
12
62
13
15
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

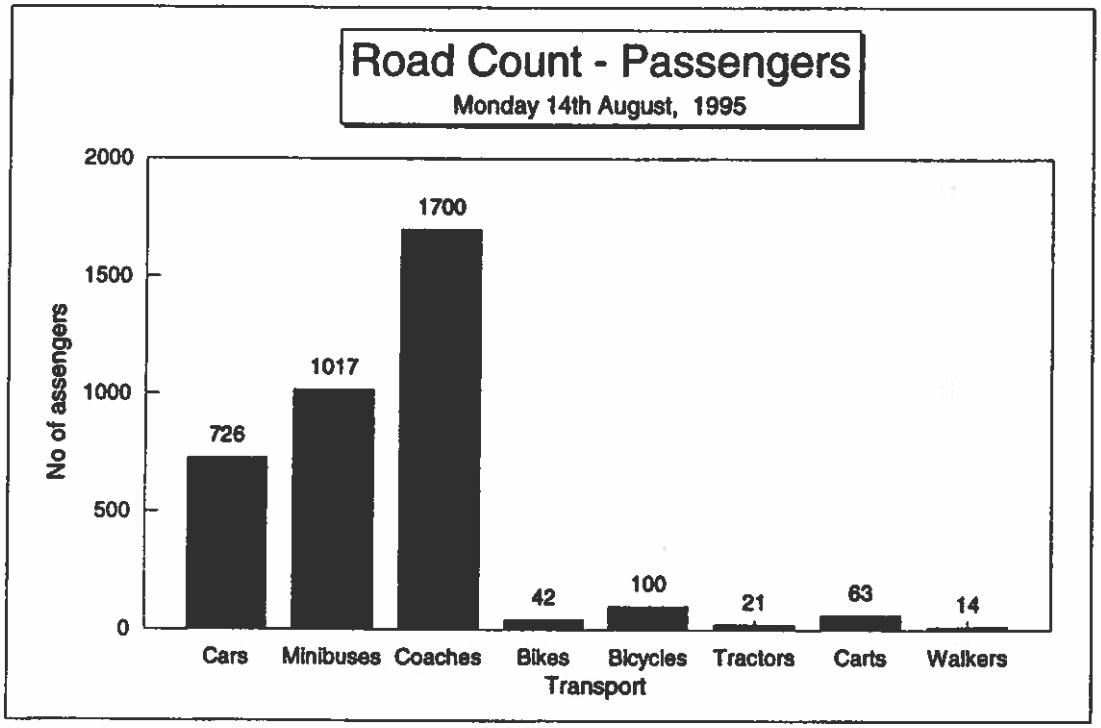

Road Count - Vehicles
Sunday 20th August, 1995
No of Vehicles
800
600
400
200
0
593
21
16
14
47
0
22
2
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

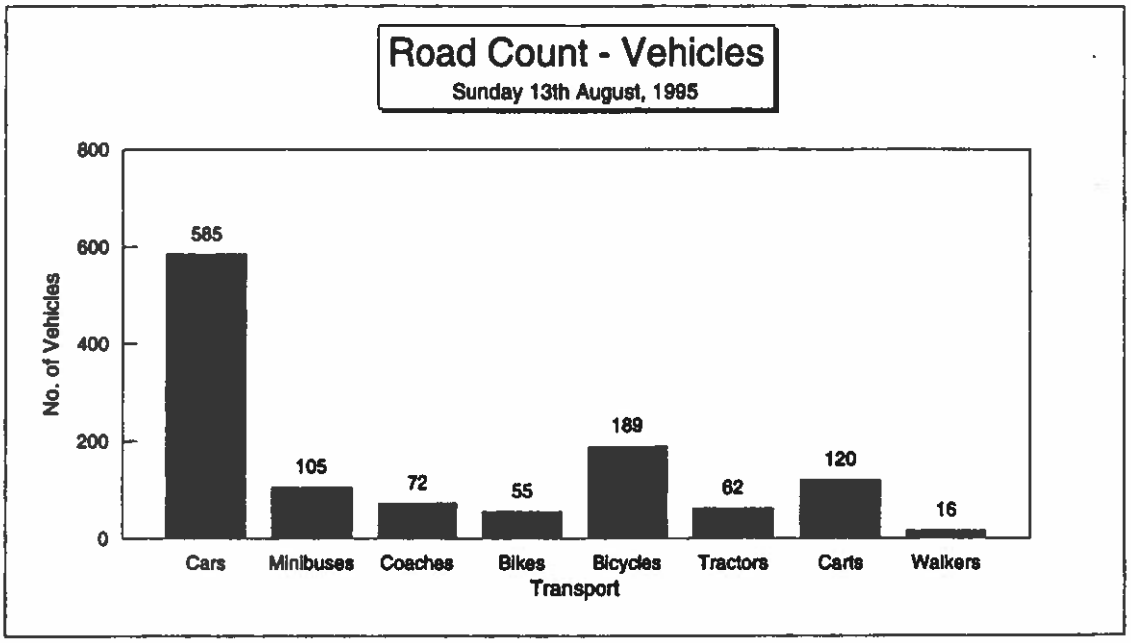

Road Count - Passengers
Sunday 20th August, 1995
No of Passengers
800
600
400
200
0
500
330
580
21
47
0
22
2
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

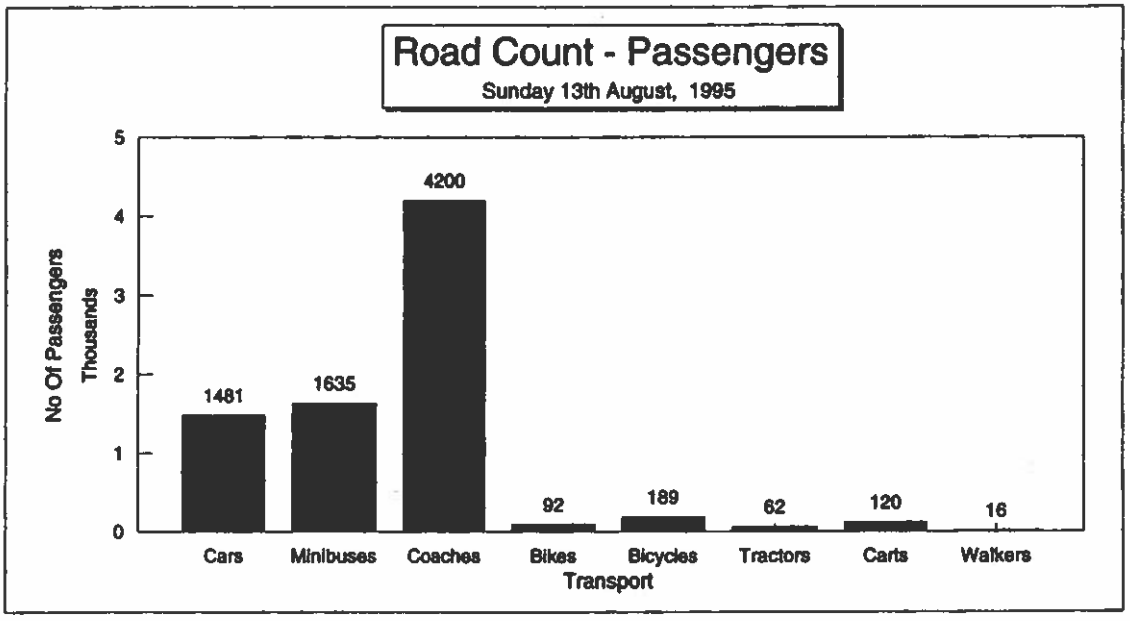

Road Count - Vehicles
Saturday 19th August, 1995
No of Vehicles
150
100
50
0
127
26
23
11
48
0
19
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

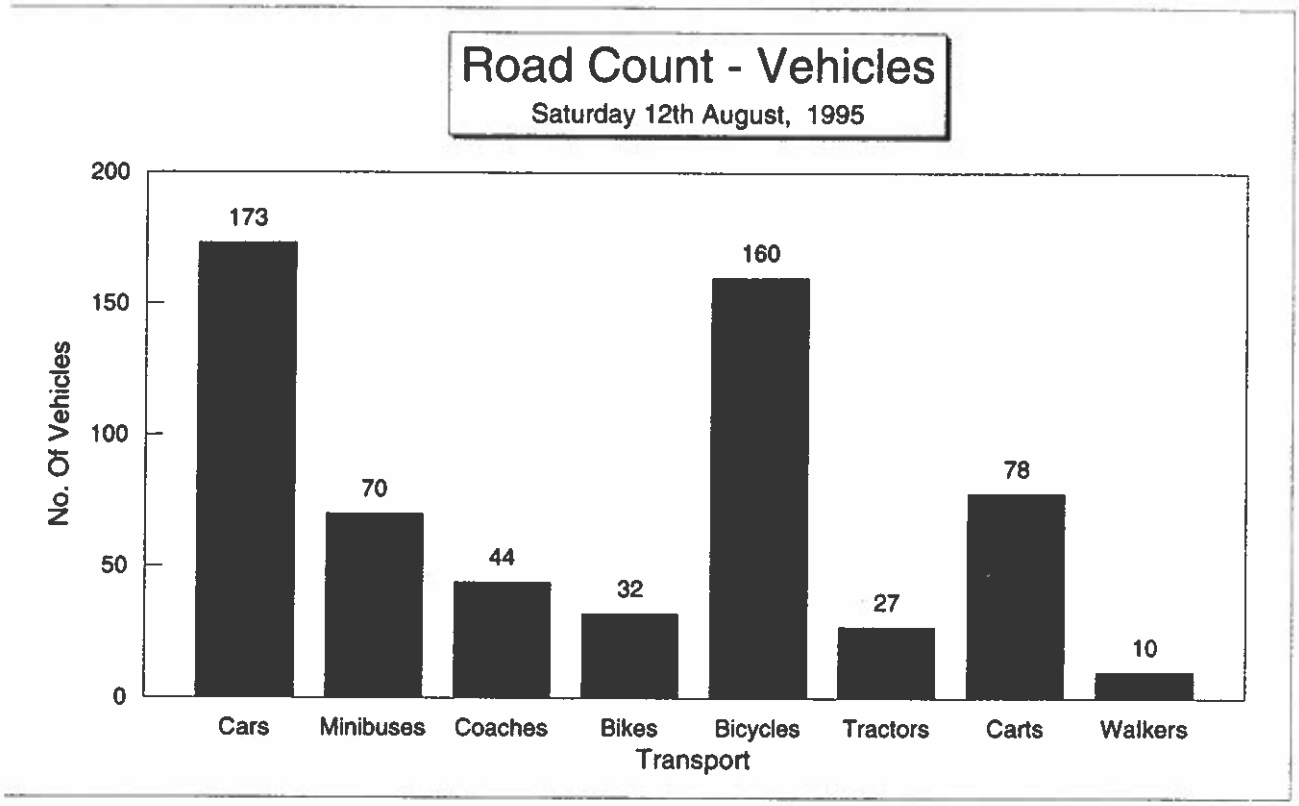

Road Count - Passengers
Saturday 19th august, 1995
No of passengers
1500
1000
500
0
595
381
1260
18
48
0
19
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

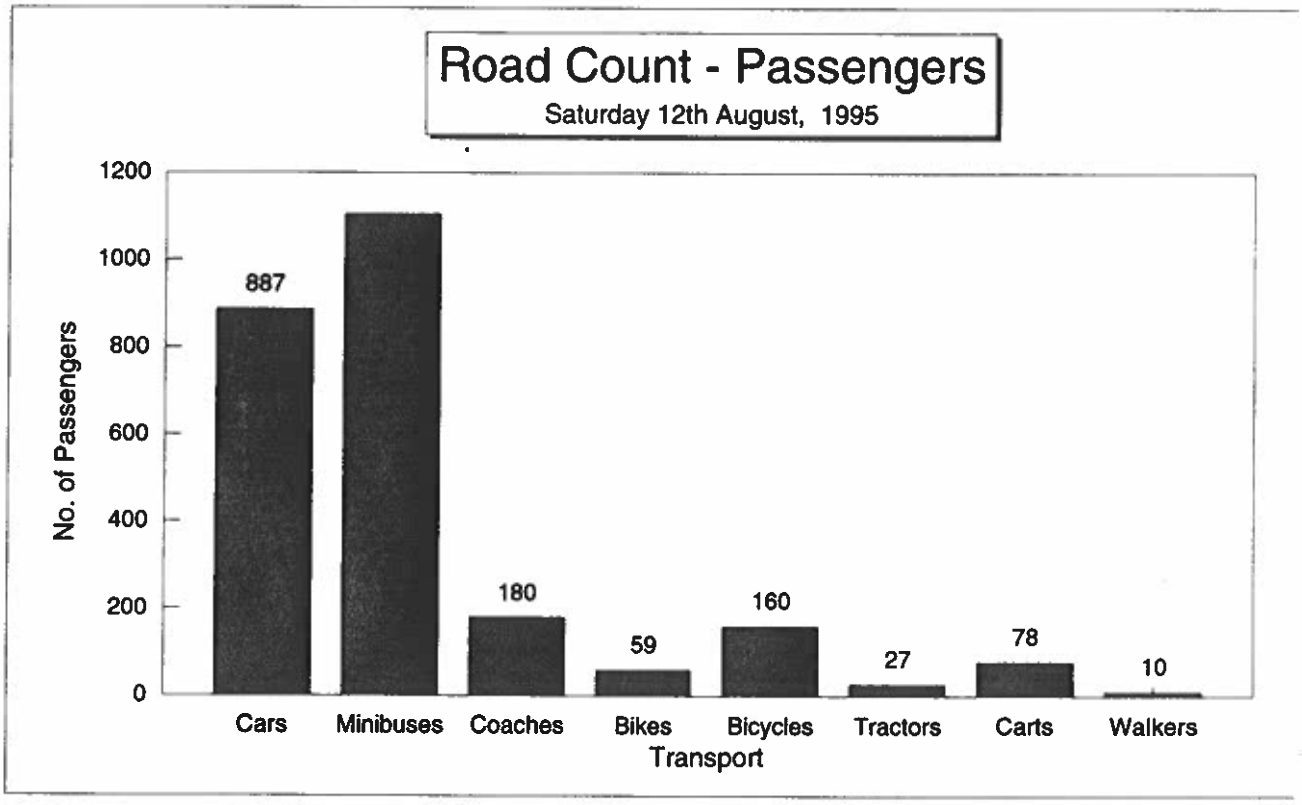

Road Count - Vehicles
Monday 14th August, 1995
No of Vehicles
200
150
100
50
0
150
71
29
23
100
21
63
14
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

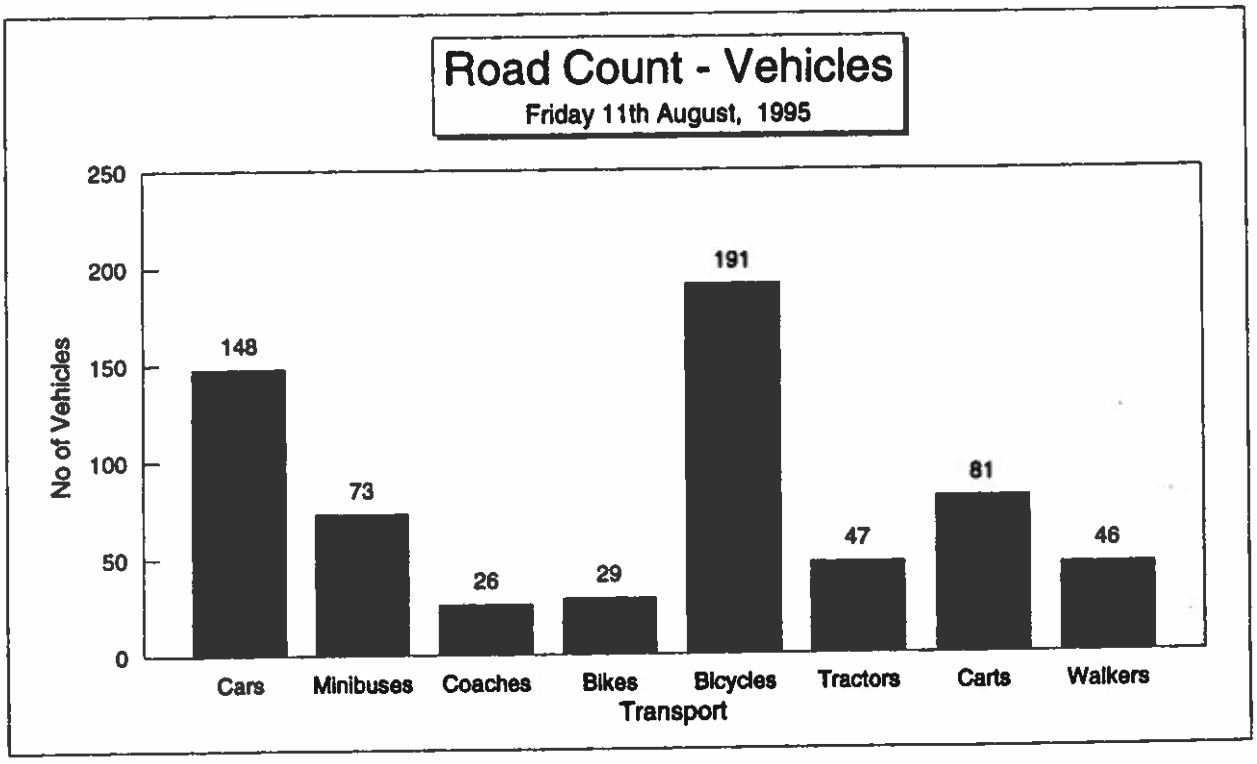

Road Count - Passengers
Monday 14th August, 1995
No of assengers
2000
1500
1000
500
0
726
1017
1700
42
100
21
63
14
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

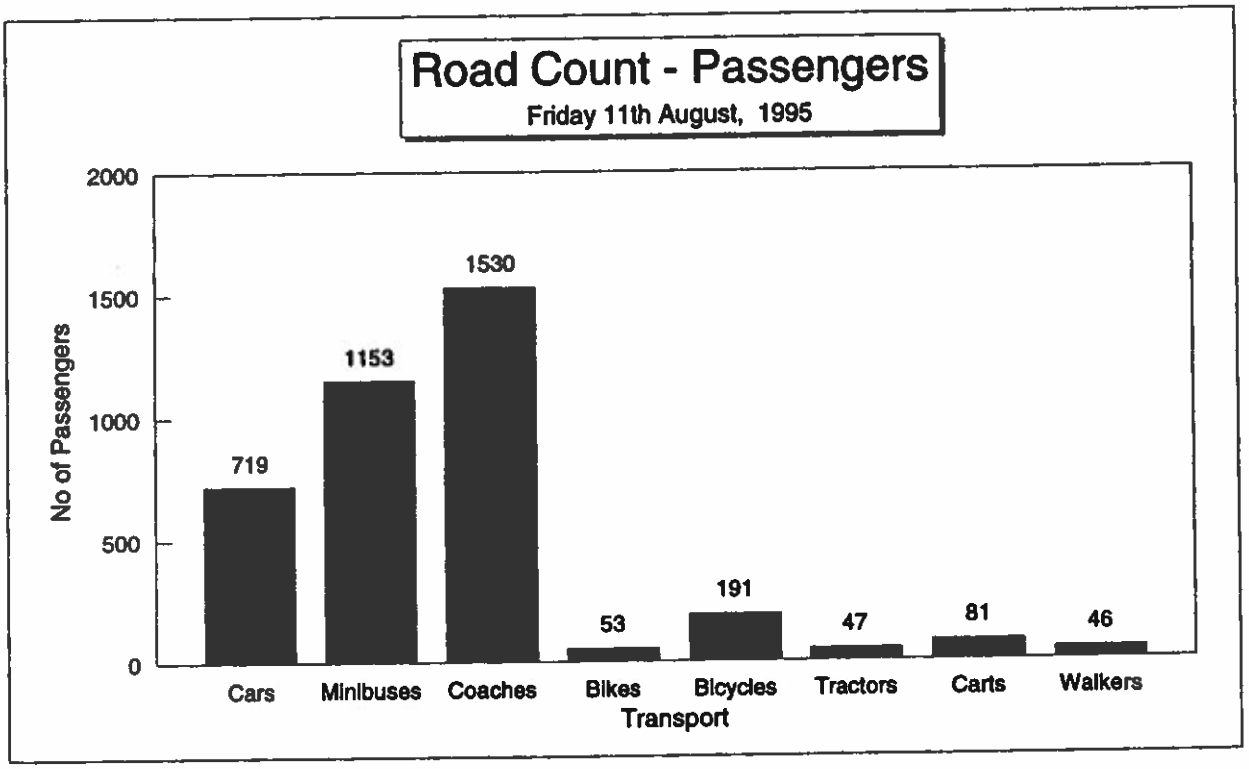

Road Count - Vehicles
Sunday 13th August, 1995
No. of Vehicles
800
600
400
200
0
585
105
72
55
189
62
120
16
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

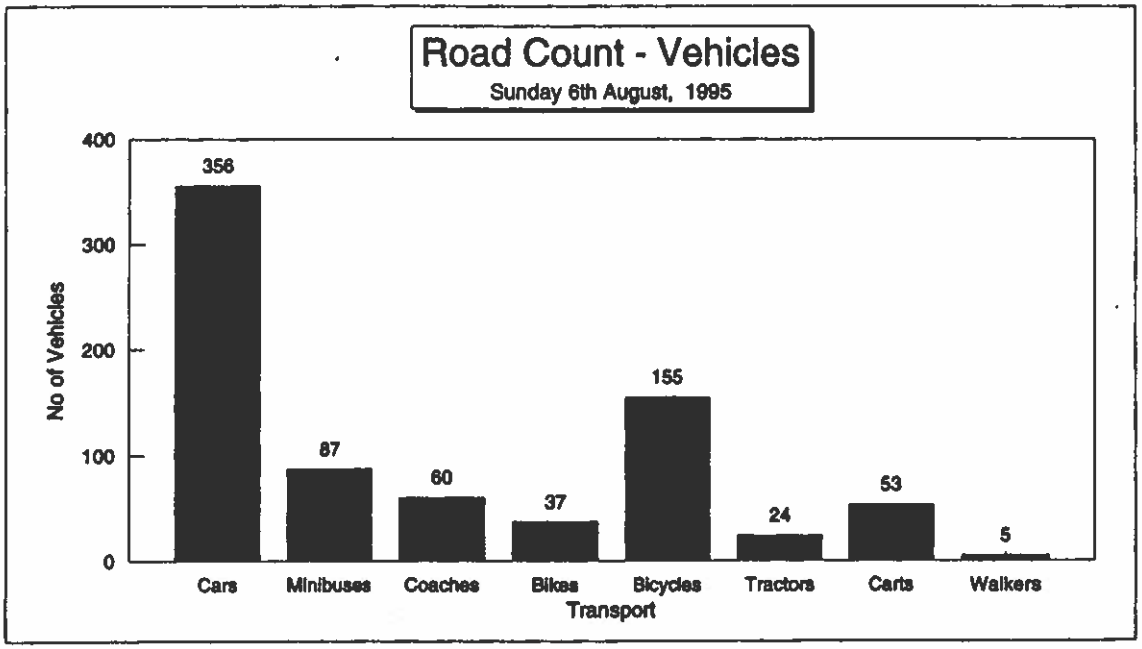

Road Count - Passengers
Sunday 13th August, 1995
No Of Passengers
Thousands
5
4
3
2
1
0
1481
1635
4200
92
189
62
120
16
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

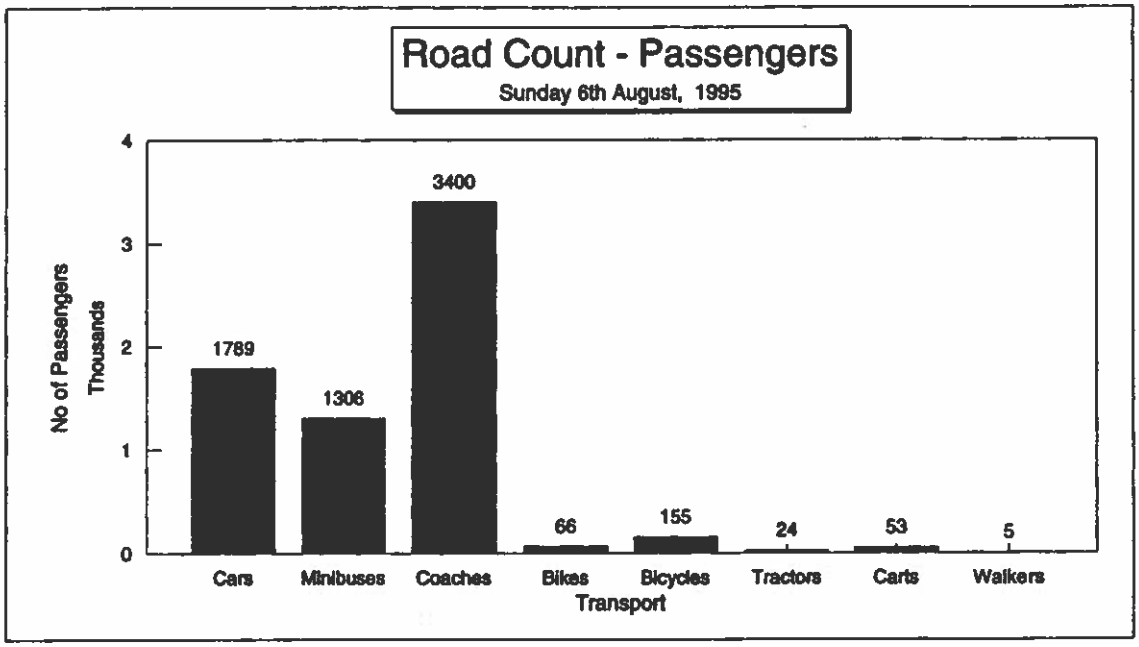

Road Count - Vehicles
Saturday 12th August, 1995
No. Of Vehicles
200
150
100
50
0
173
70
44
32
160
27
78
10
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport


Road Count - Passengers
Saturday 12th August, 1995
No. of Passengers
1200
1000
800
600
400
200
0
887
180
59
160
27
78
10
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

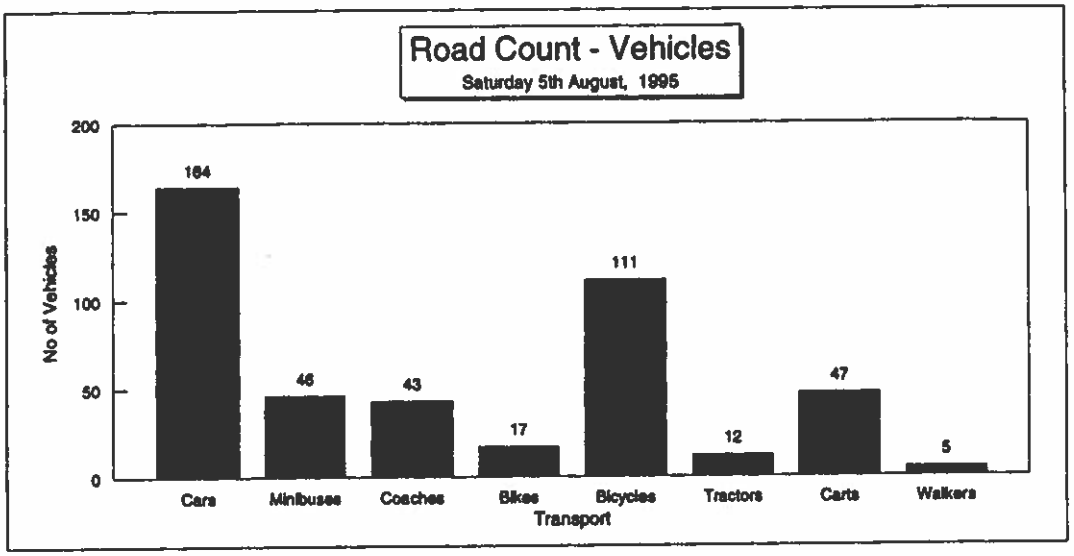

Road Count - Vehicles
Friday 11th August, 1995
No of Vehicles
250
200
150
100
50
0
148
73
26
29
191
47
81
46
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

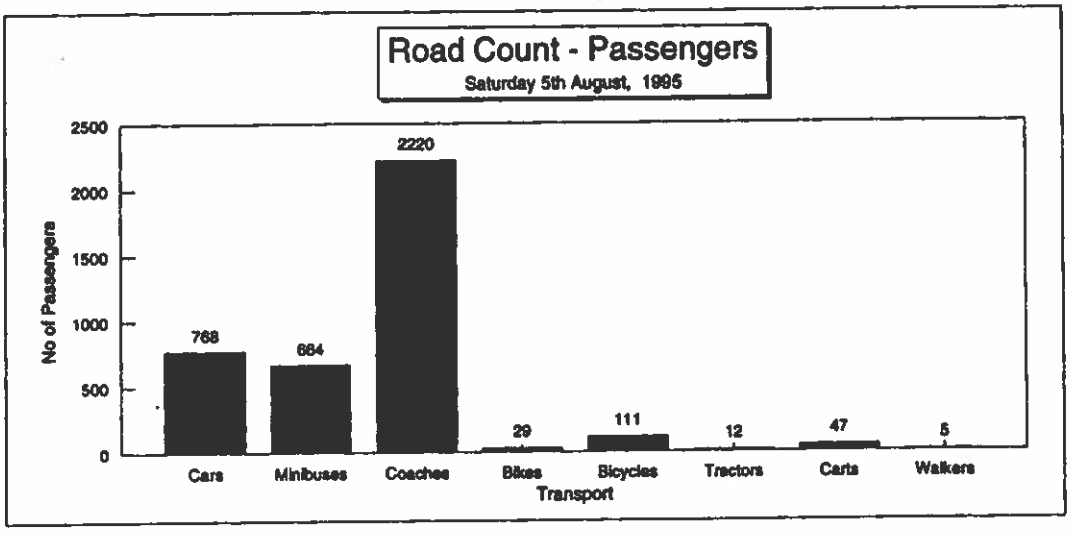

Road Count - Passengers
Friday 11th August, 1995
No of Passengers
2000
1500
1000
500
0
719
1153
1530
53
191
47
81
46
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

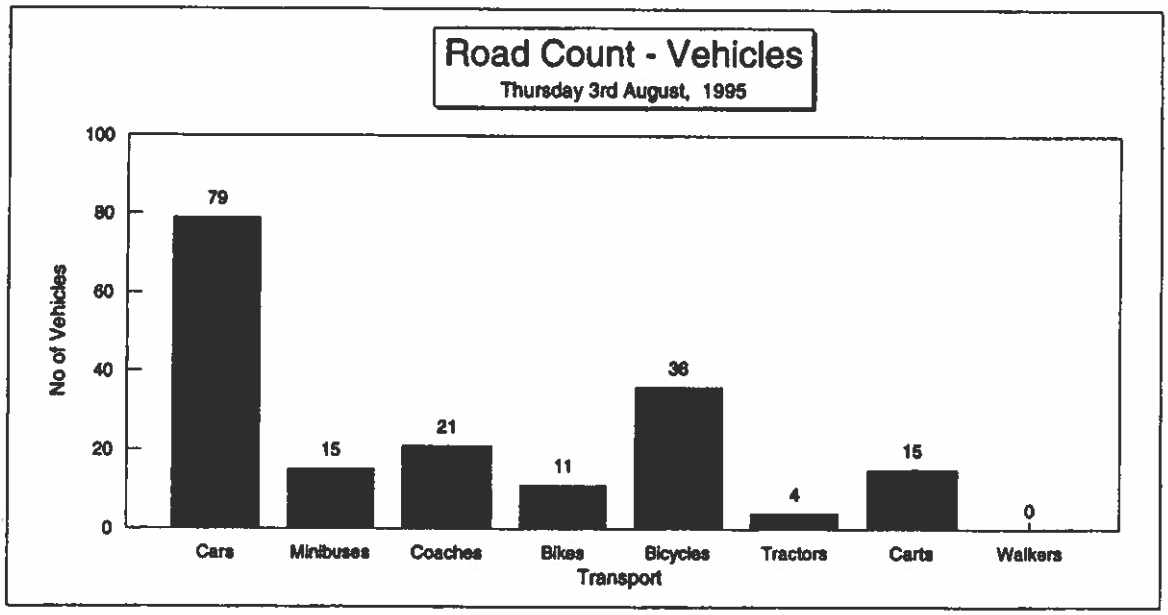

Road Count - Vehicles
Sunday 6th August, 1995
No of Vehicles
400
300
200
100
0
356
87
60
37
155
24
53
5
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

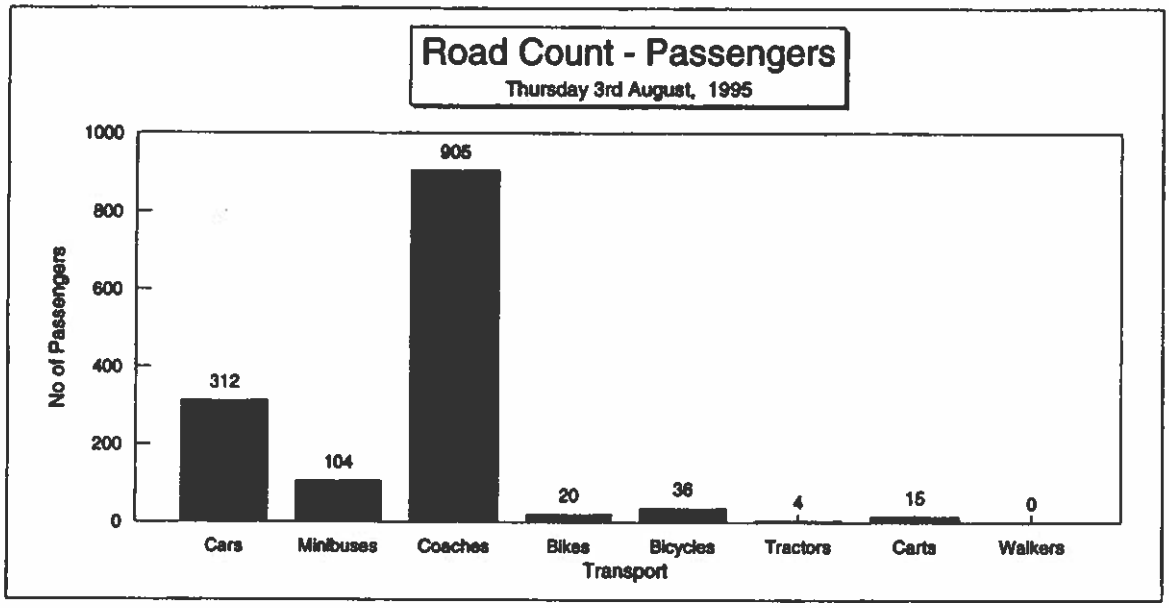

Road Count - Passengers
Sunday 6th August, 1995
No of Passengers
Thousands
4
3
2
1
0
1789
1306
3400
66
155
24
53
5
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

Appendix 4

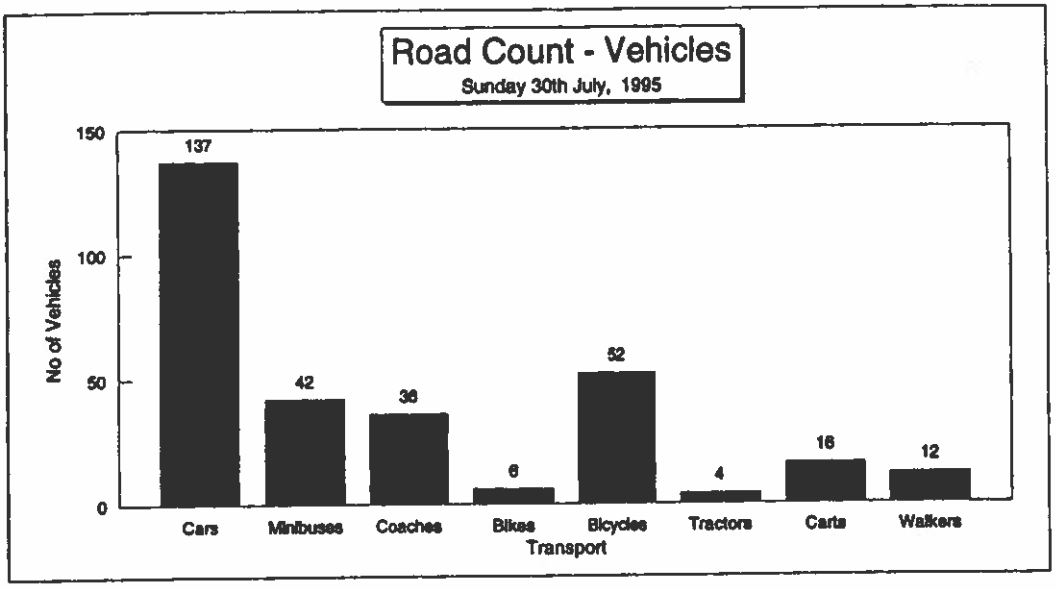

Road Count - Vehicles
Saturday 5th August, 1995
No of Vehicles
200
150
100
50
0
164
46
43
17
111
12
47
5
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

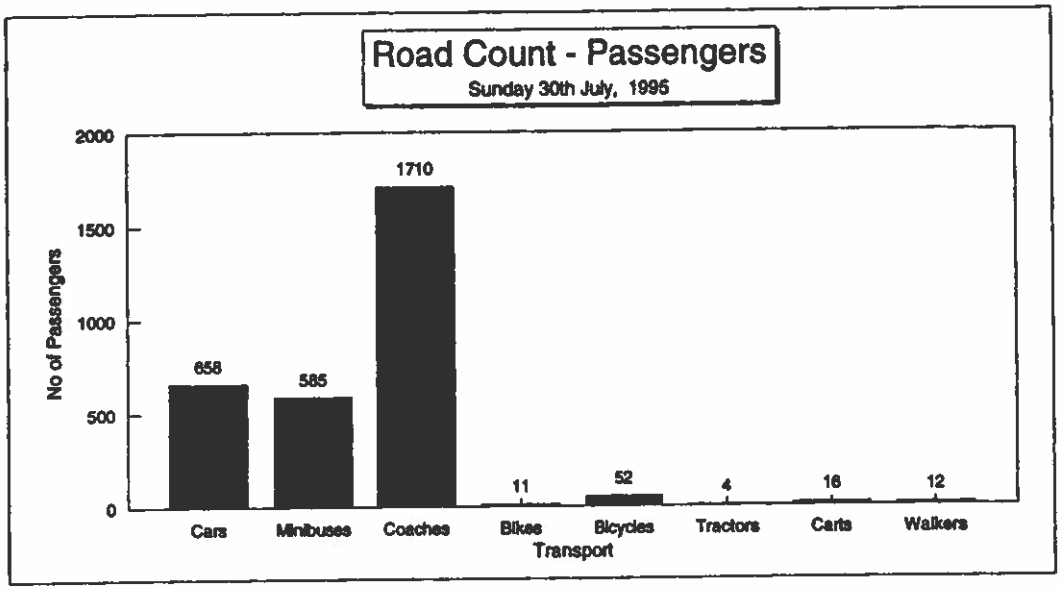

Road Count - Passengers
Saturday 5th August, 1995
No of Passengers
2500
2000
1500
1000
500
0
768
664
2220
29
111
12
47
5
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport


Road Count - Vehicles
Thursday 3rd August, 1995
No of Vehicles
100
80
60
40
20
0
79
15
21
11
36
4
15
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

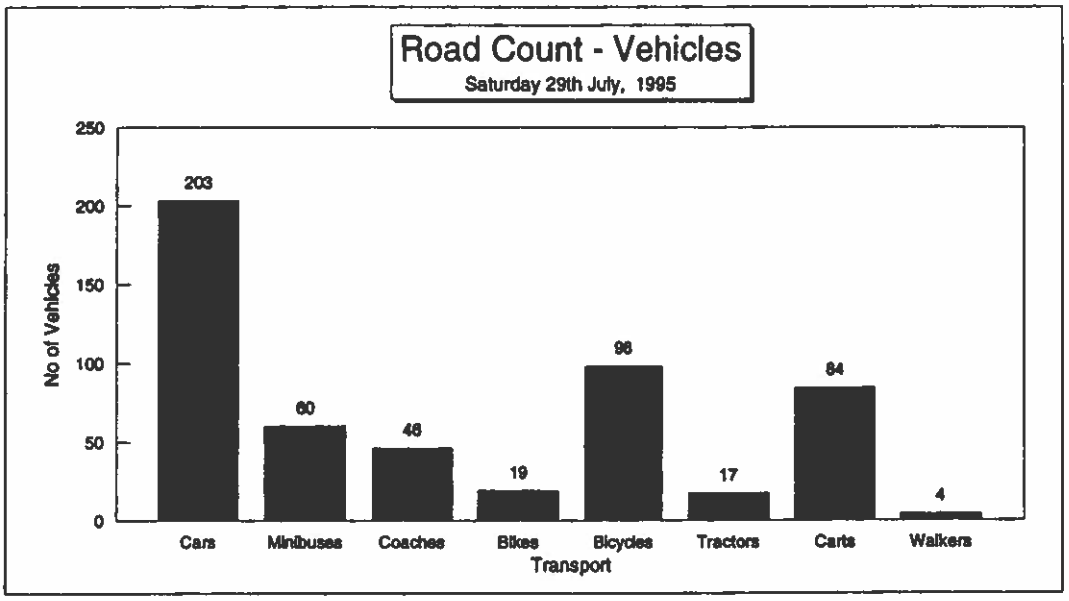

Road Count - Passengers
Thursday 3rd August, 1995
No of Passengers
1000
800
600
400
200
0
312
104
905
20
36
4
15
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

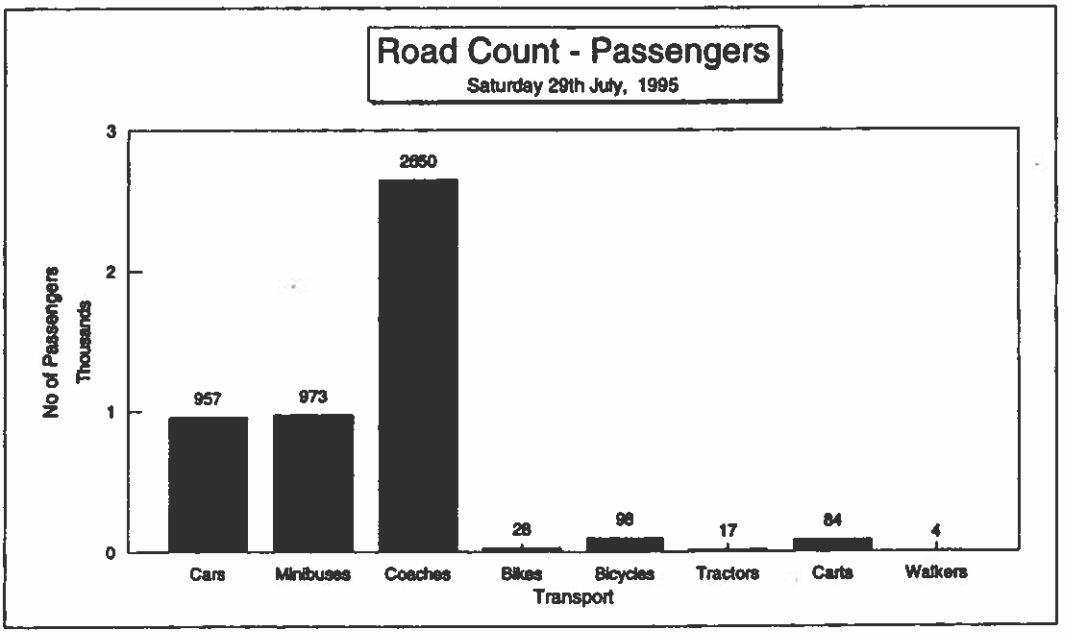
Appendix 4


Road Count - Vehicles
Sunday 30th July, 1995
No of Vehicles
150
100
50
0
137
42
36
6
52
4
16
12
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

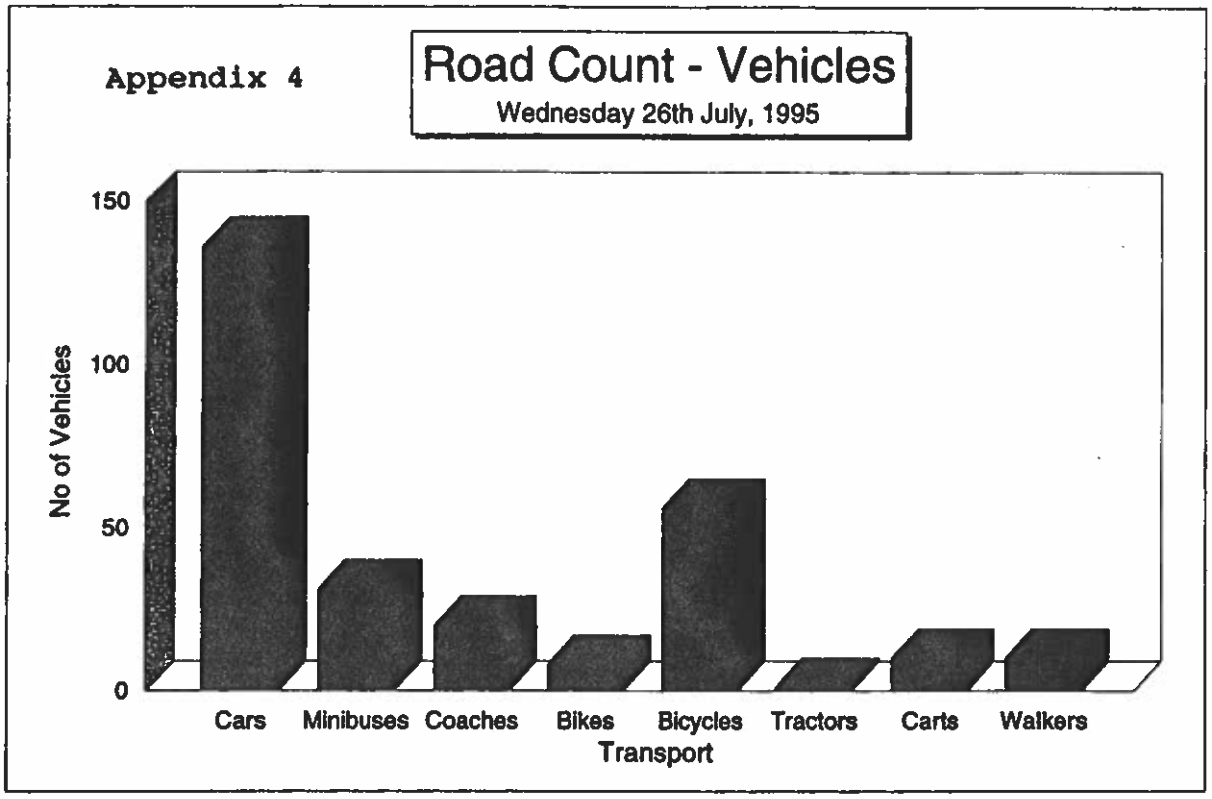

Road Count - Passengers
Sunday 30th July, 1995
No of Passengers
2000
1500
1000
500
0
658
585
1710
11
52
4
16
12
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

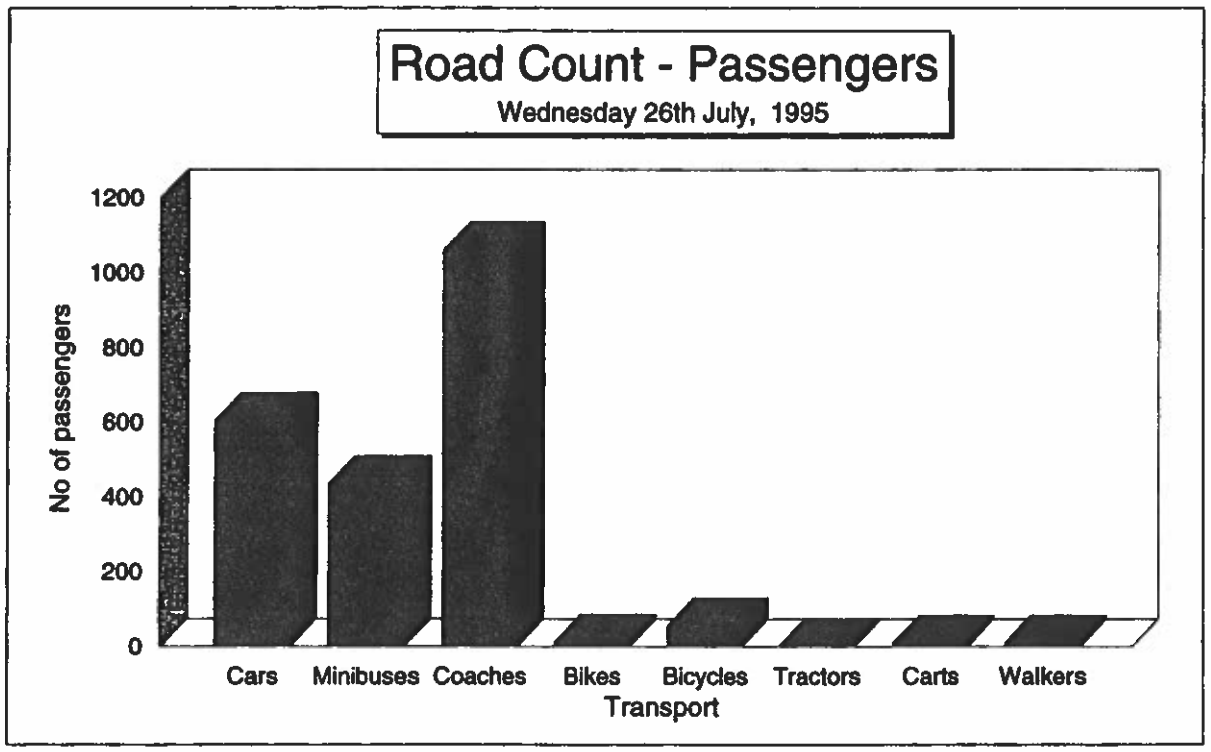
Appendix 4


Road Count - Vehicles
Saturday 29th July, 1995
No of Vehicles
250
200
150
100
50
0
203
60
46
19
98
17
84
4
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

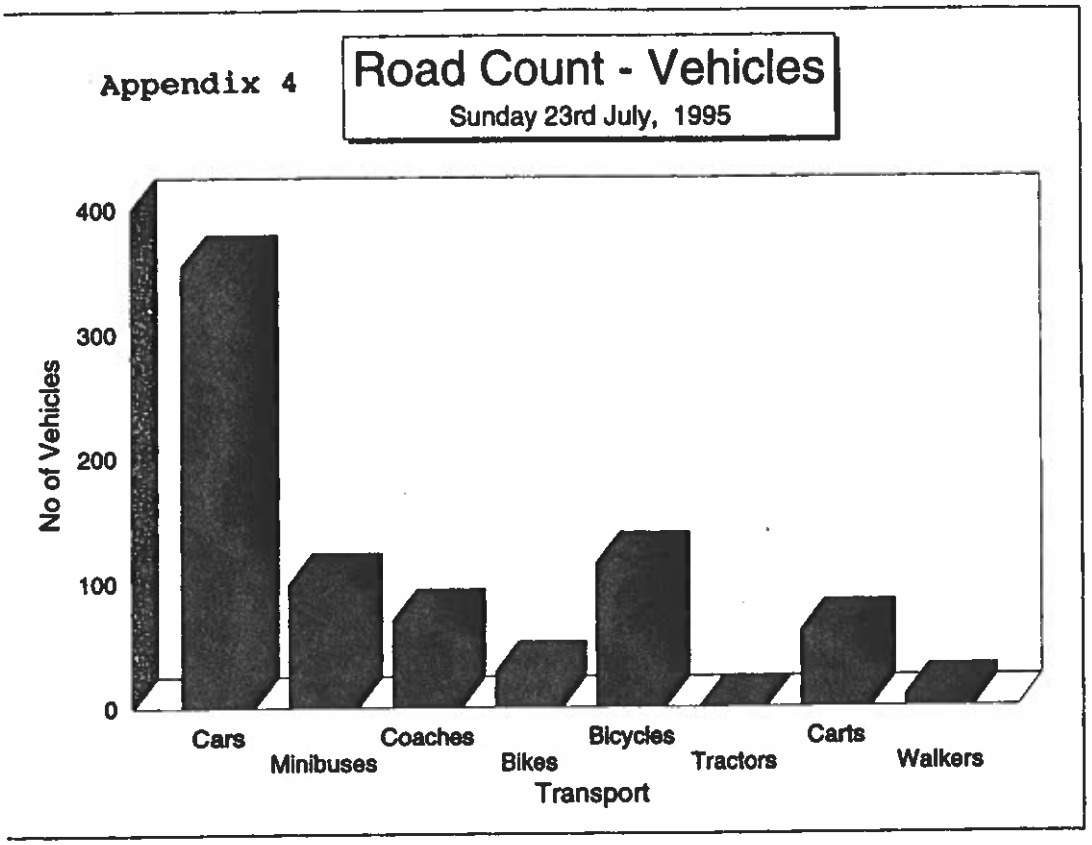

Road Count - Passengers
Saturday 29th July, 1995
No of Passengers
Thousands
3
2
1
0
957
973
2650
28
98
17
84
4
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

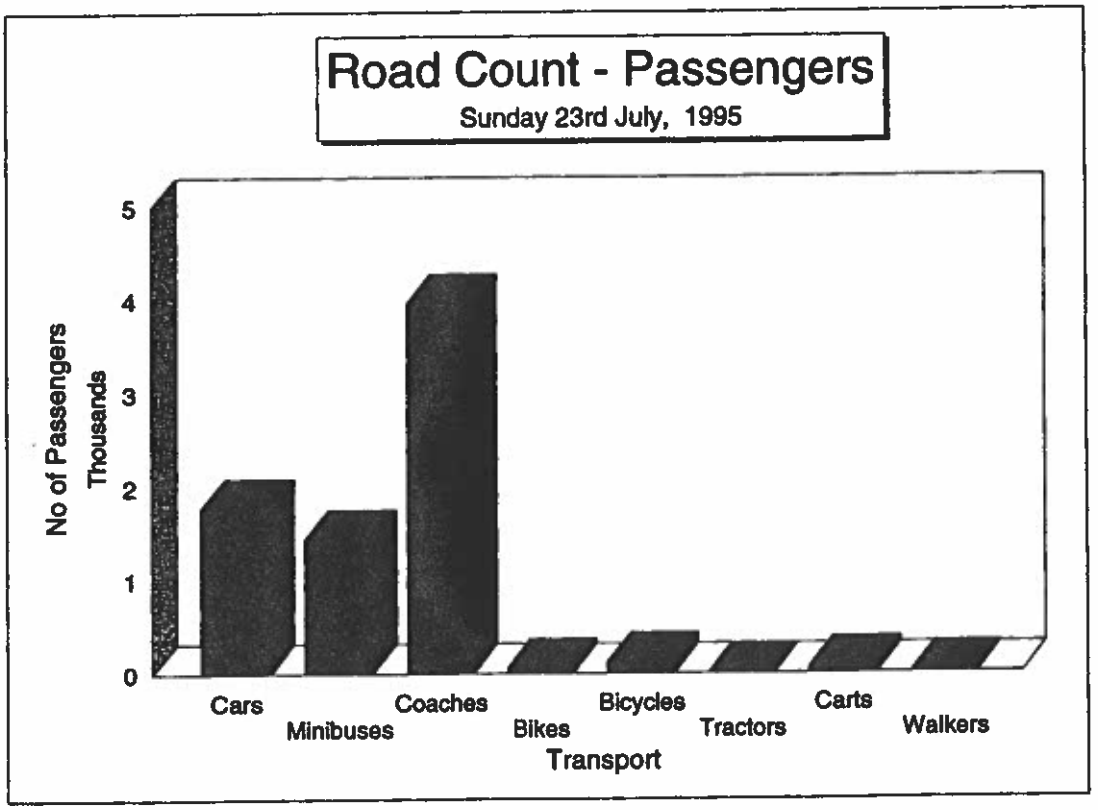
Appendix 4


Road Count - Vehicles
Wednesday 26th July, 1995
No of Vehicles
150
100
50
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

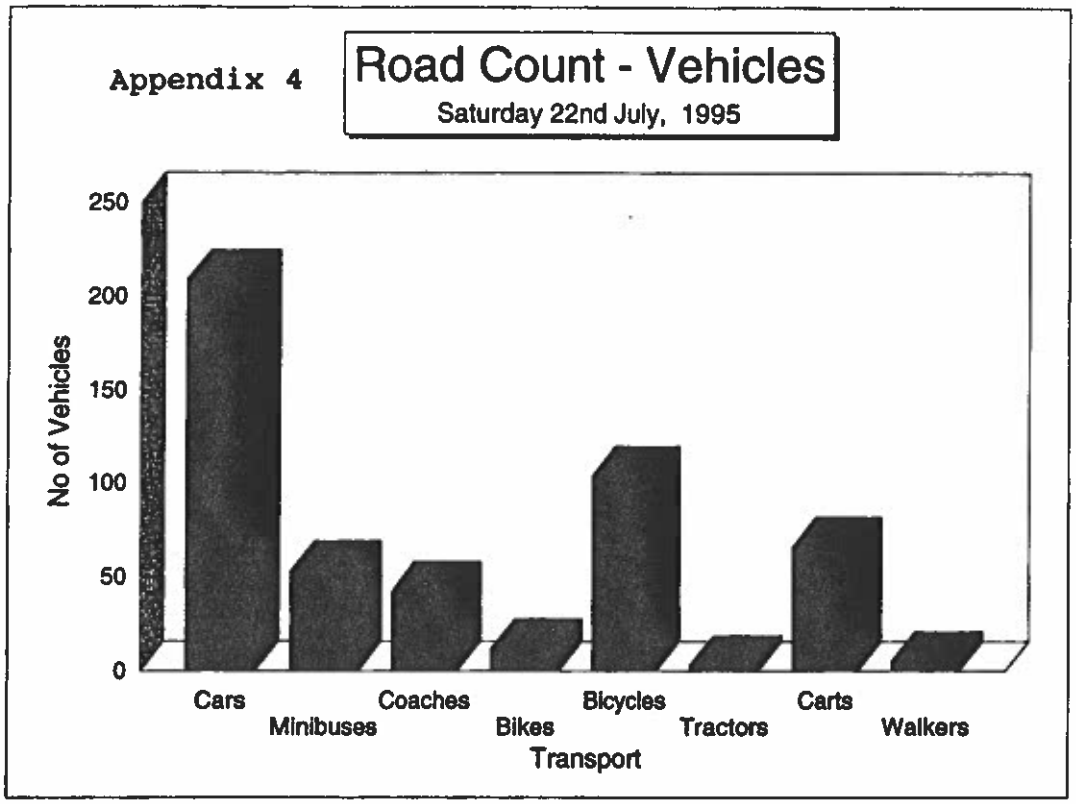

Road Count - Passengers
Wednesday 26th July, 1995
No of passengers
1200
1000
800
600
400
200
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

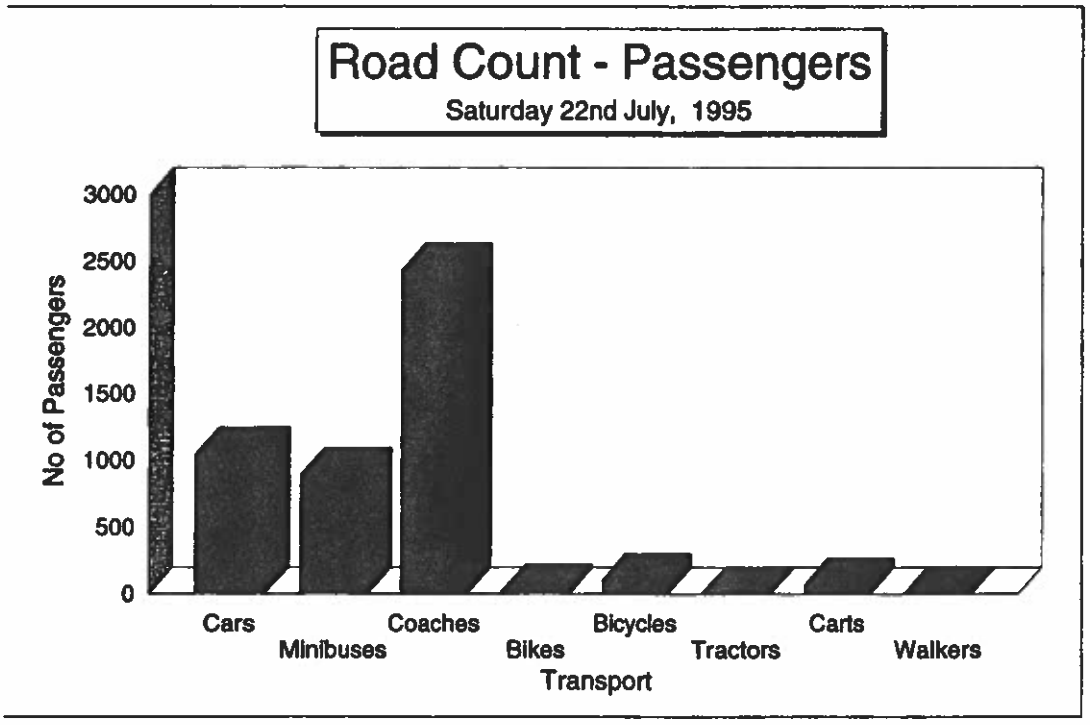
Appendix 4

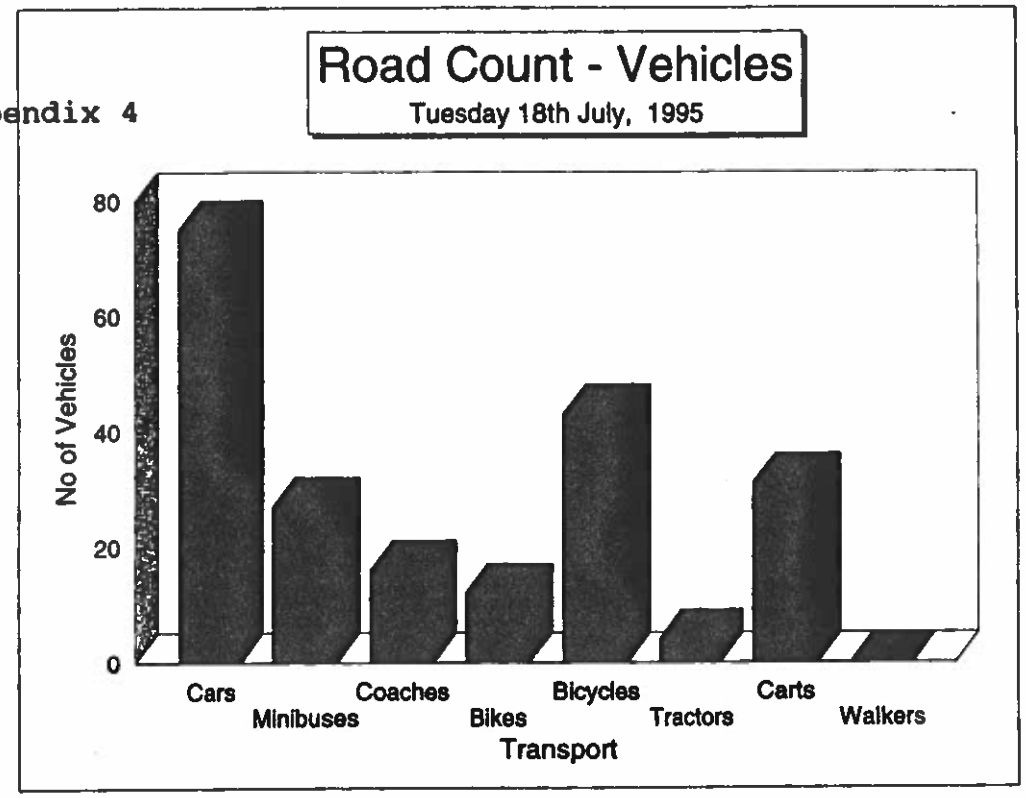

Road Count - Vehicles
Sunday 23rd July, 1995
No of Vehicles
400
300
200
100
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

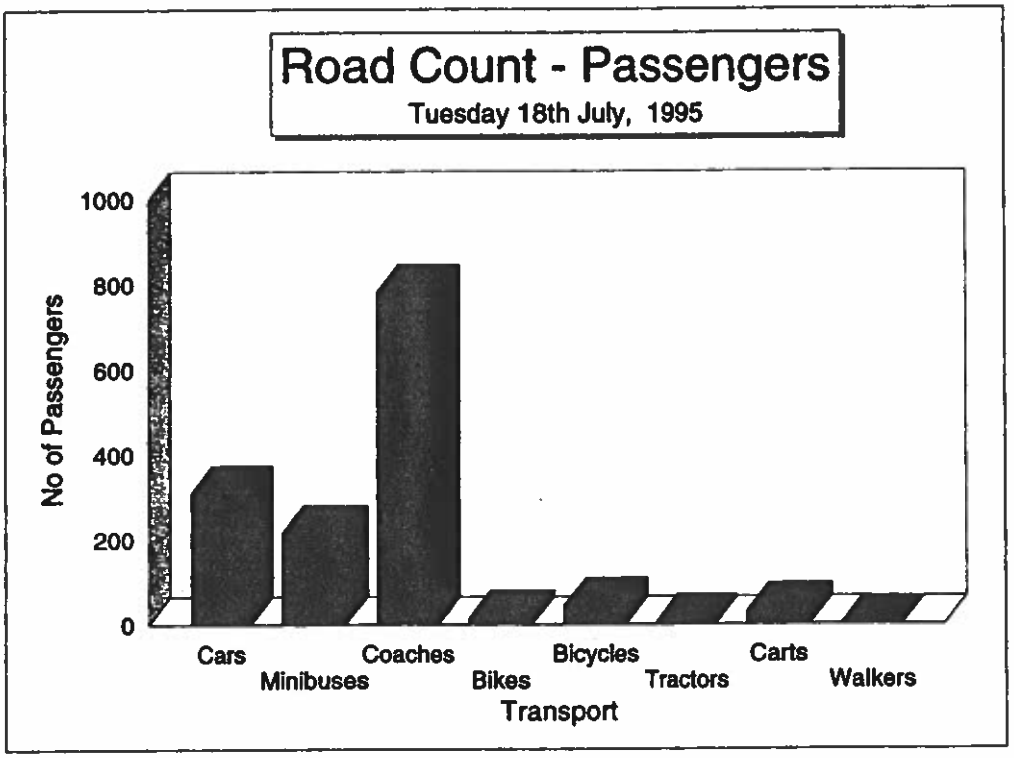

Road Count - Passengers
Sunday 23rd July, 1995
No of Passengers
Thousands
5
4
3
2
1
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

Appendix 4


Road Count - Vehicles
Saturday 22nd July, 1995
No of Vehicles
250
200
150
100
50
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

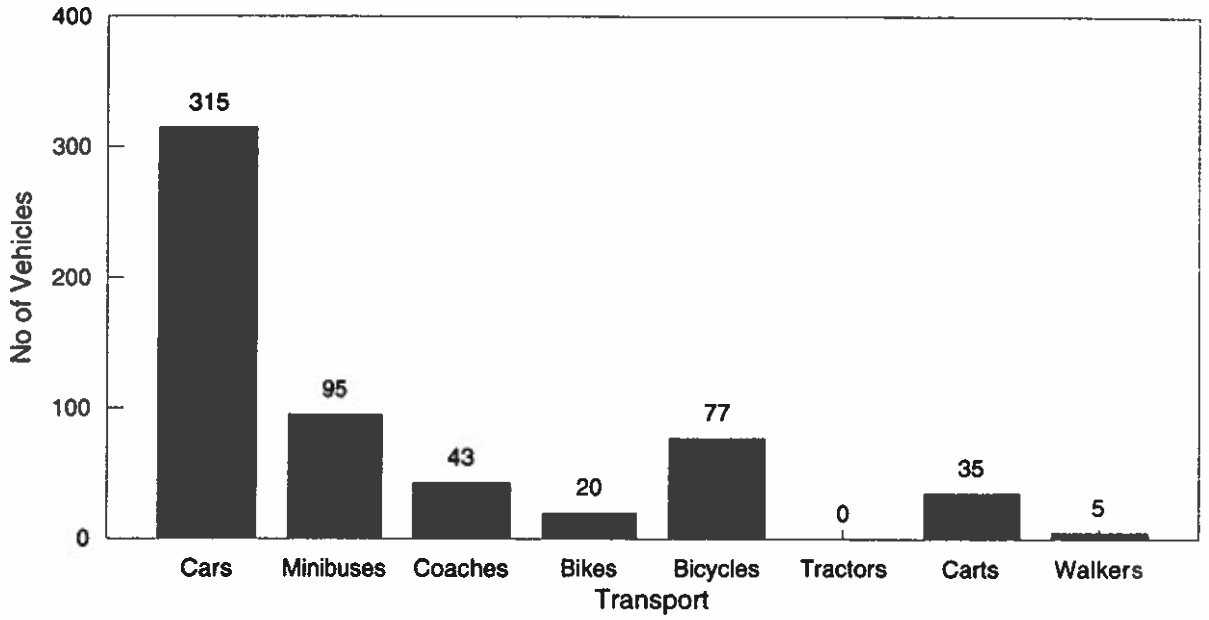

Road Count - Passengers
Saturday 22nd July, 1995
No of Passengers
3000
2500
2000
1500
1000
500
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport


Road Count - Vehicles
Tuesday 18th July, 1995
No of Vehicles
80
60
40
20
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport


Road Count - Passengers
Tuesday 18th July, 1995
No of Passengers
1000
800
600
400
200
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

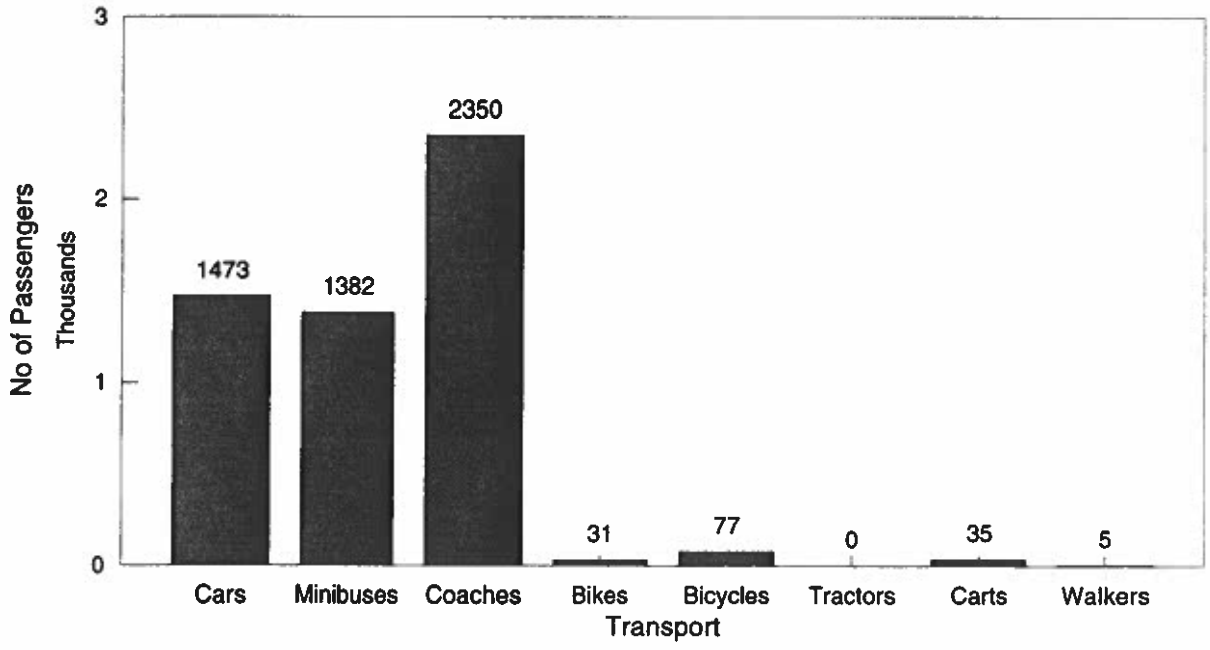
Road Count - Vehicles

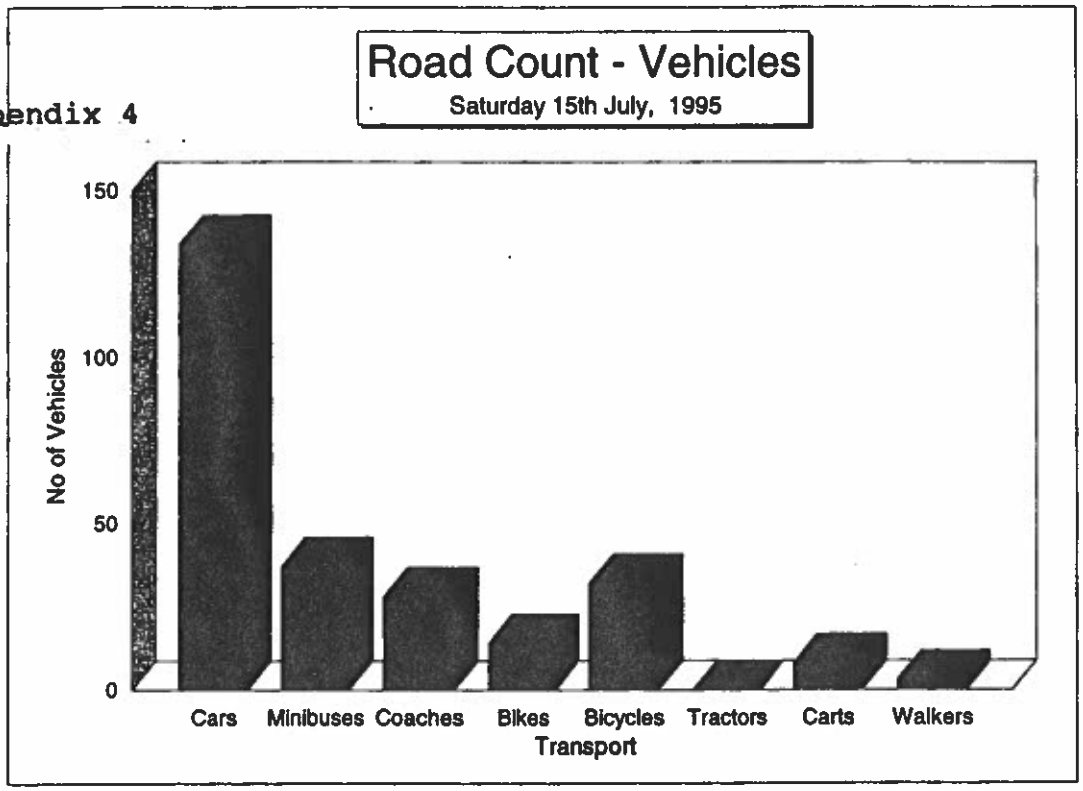
Sunday 16th July, 1995

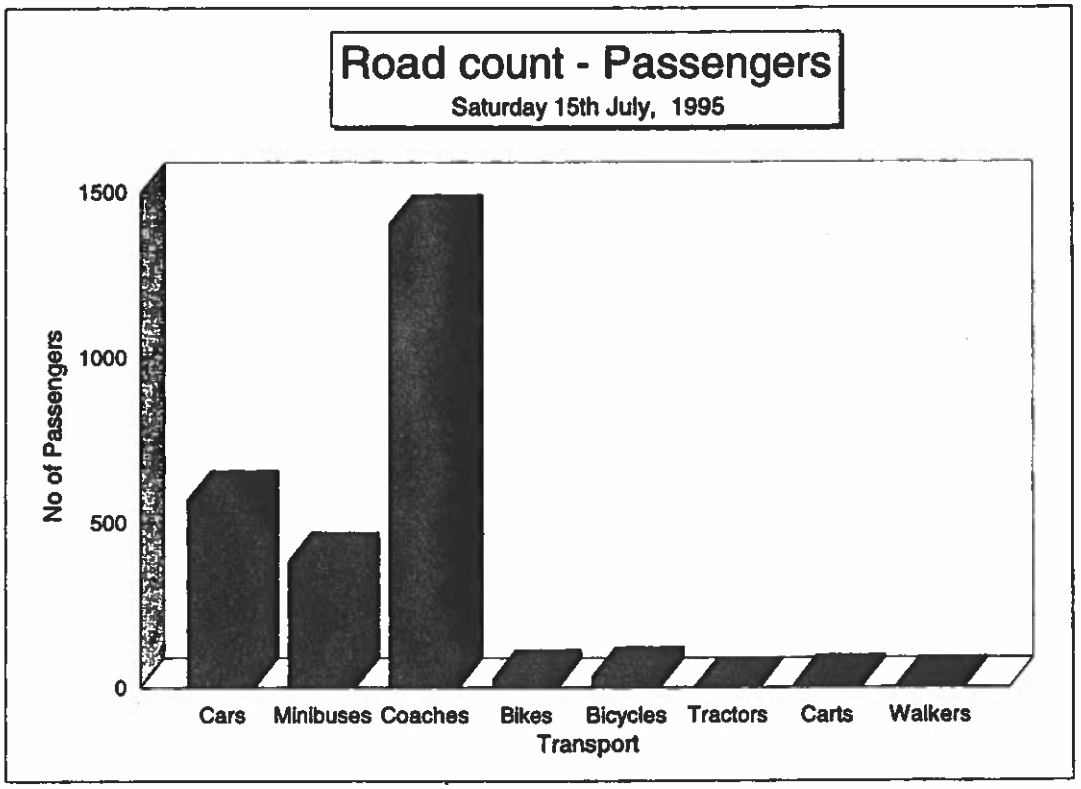


Road count - Passengers

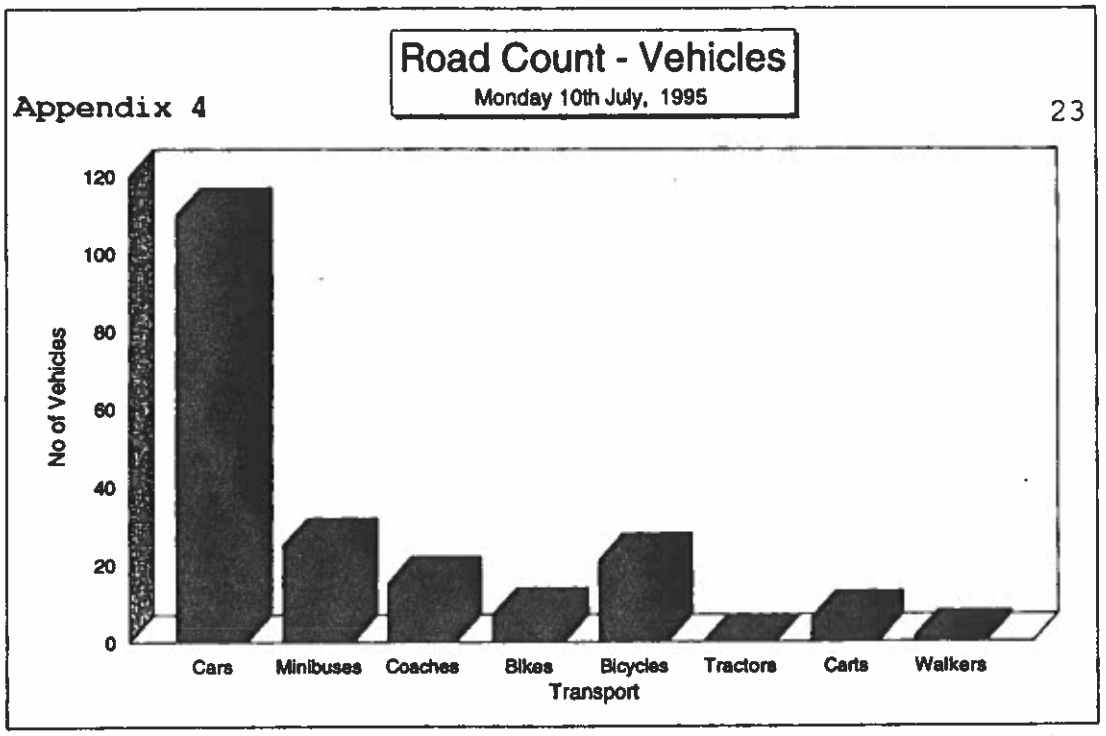
Sunday 16th July, 1995

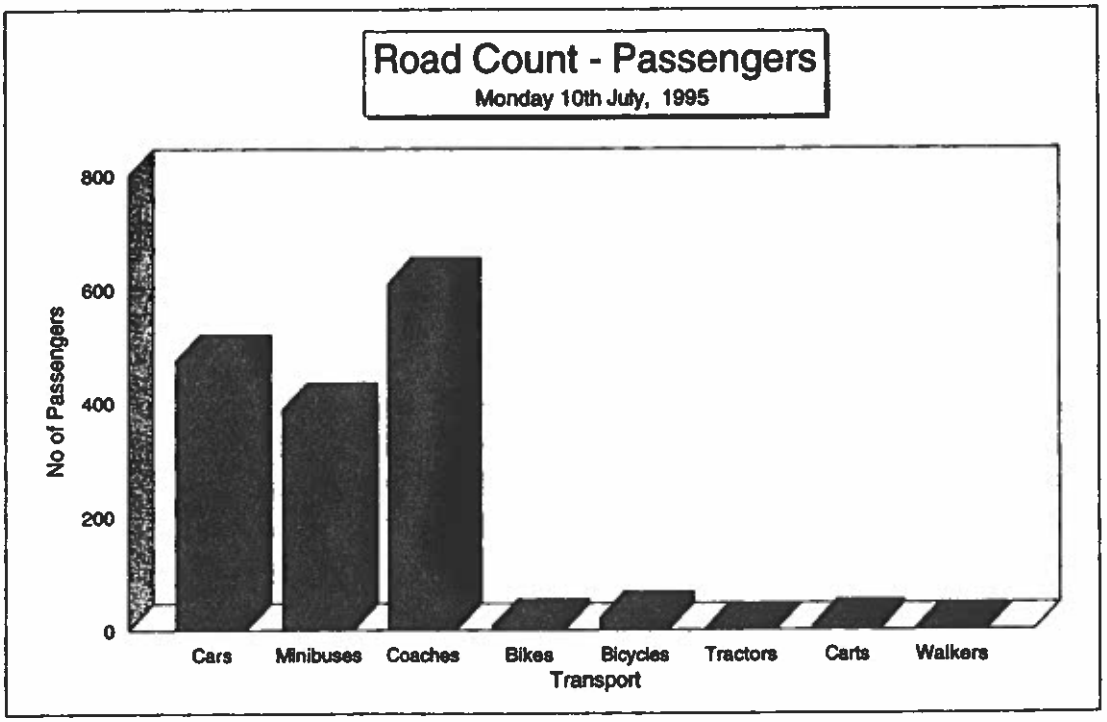


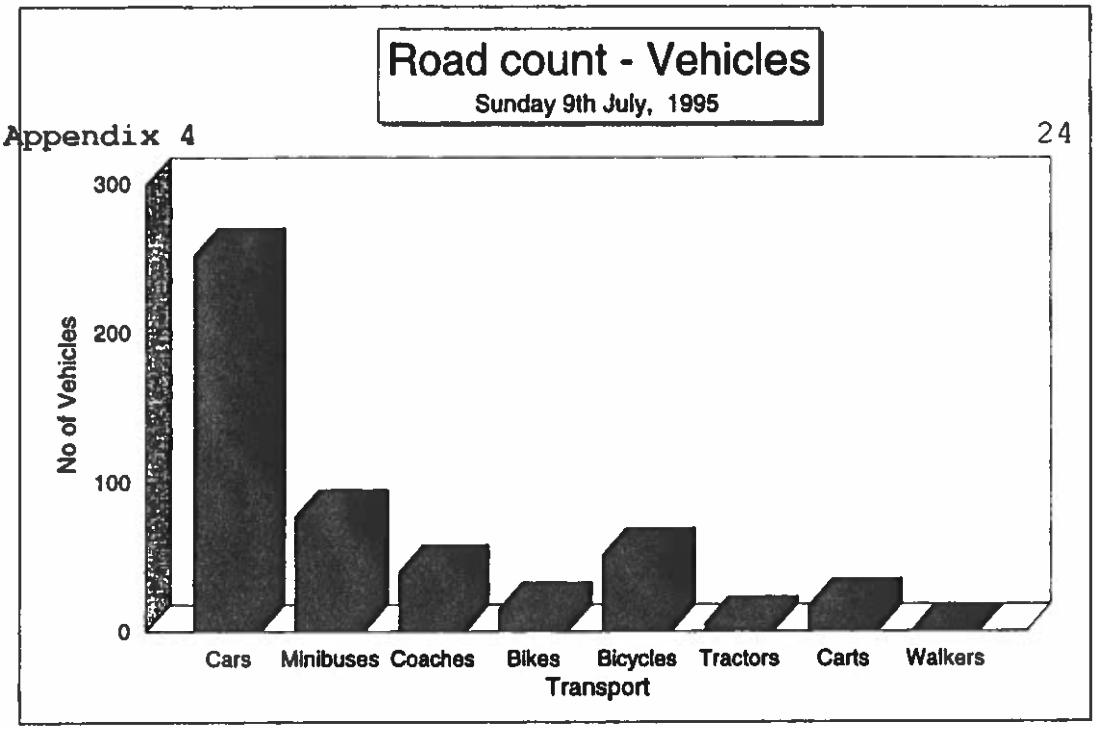

Road Count - Vehicles
Saturday 15th July, 1995
No of Vehicles
150
100
50
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

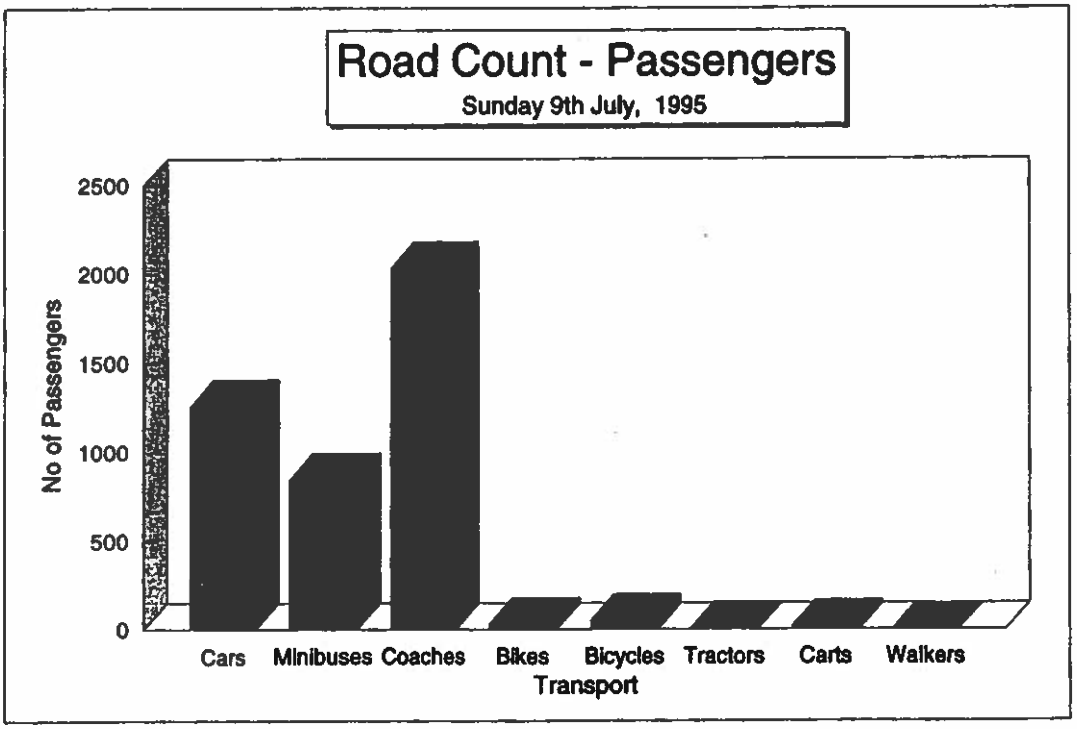

Road count - Passengers
Saturday 15th July, 1995
No of Passengers
1500
1000
500
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

Appendix 4

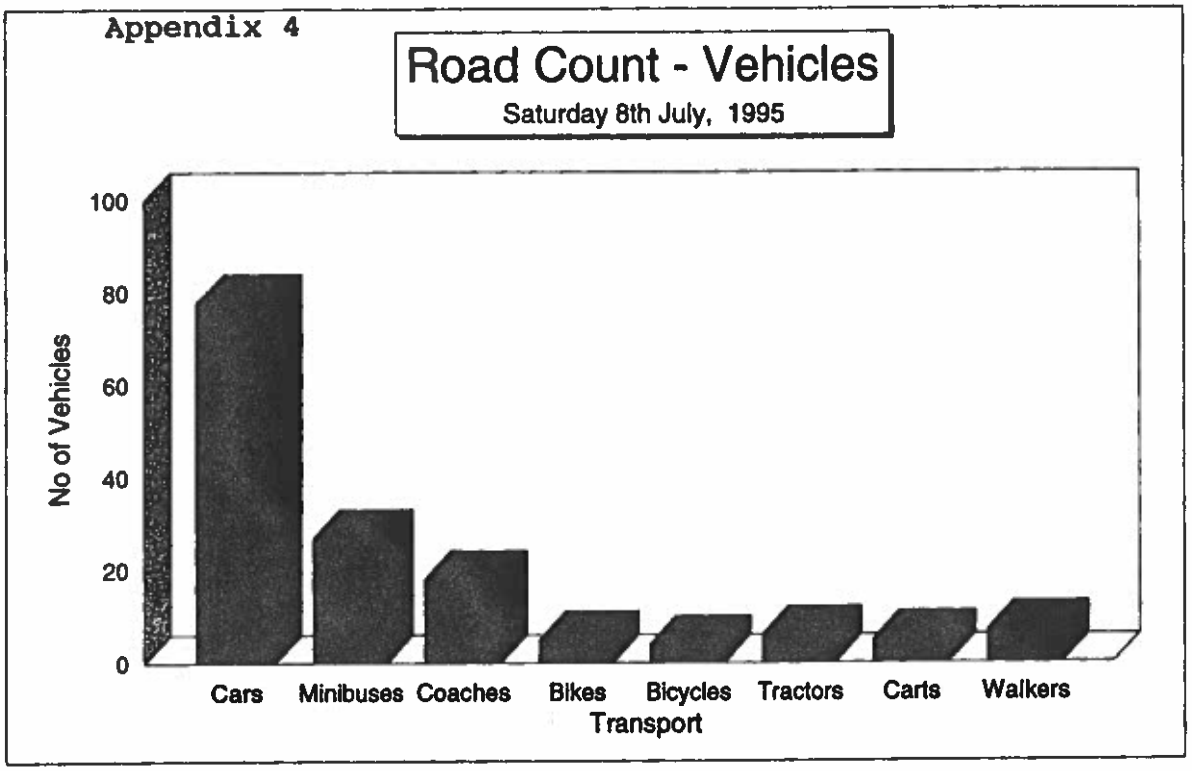

Road Count - Vehicles
Monday 10th July, 1995
No of Vehicles
120
100
80
60
40
20
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

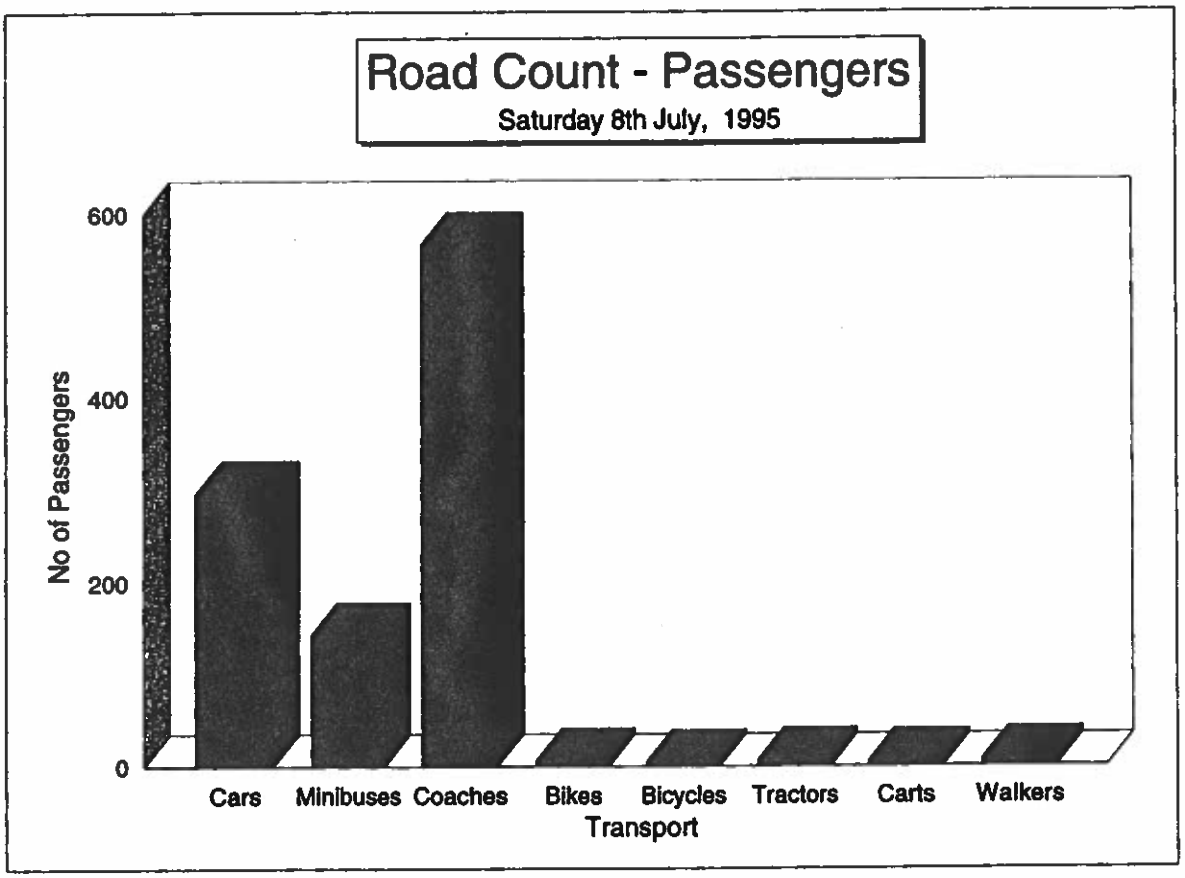

Road Count - Passengers
Monday 10th July, 1995
No of Passengers
800
600
400
200
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport


Road count - Vehicles
Sunday 9th July, 1995
No of Vehicles
300
200
100
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport


Road Count - Passengers
Sunday 9th July, 1995
No of Passengers
2500
2000
1500
1000
500
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

Appendix 4

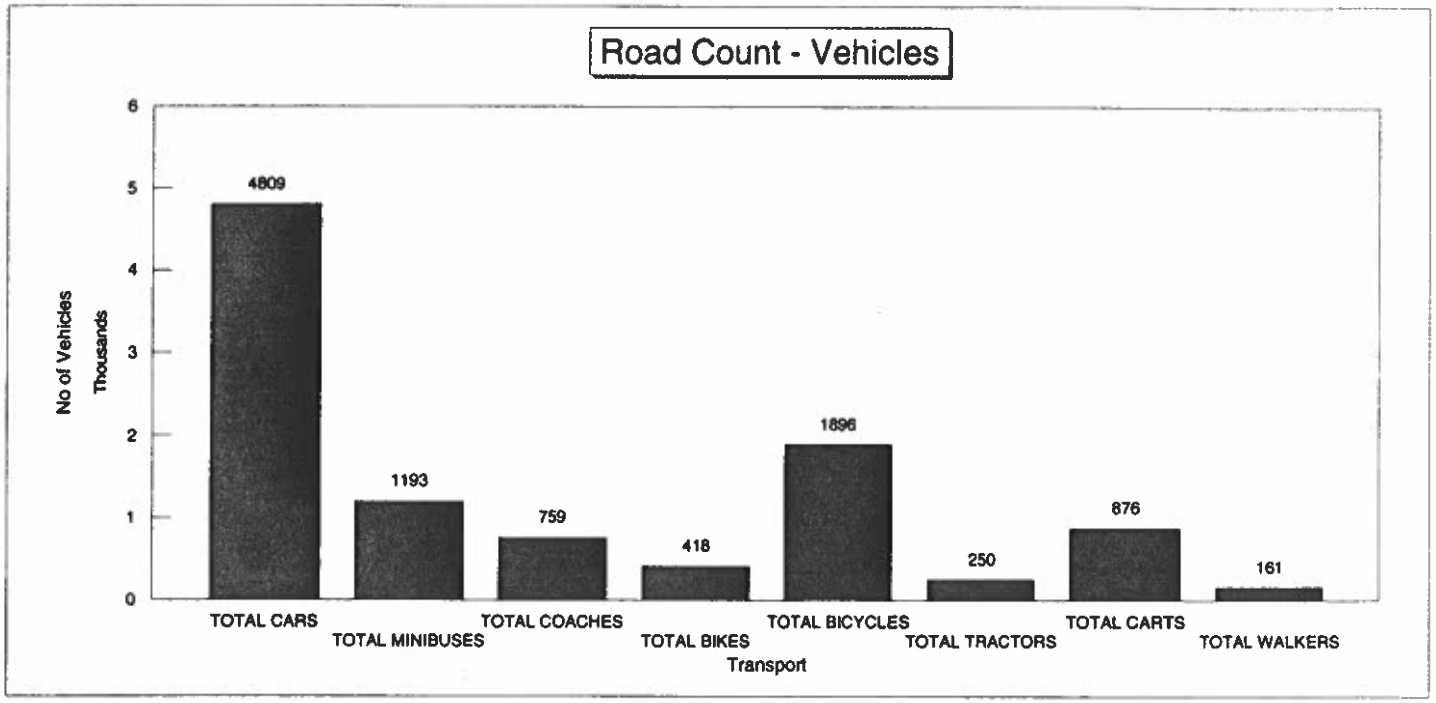

Road Count - Vehicles
Saturday 8th July, 1995
No of Vehicles
100
80
60
40
20
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

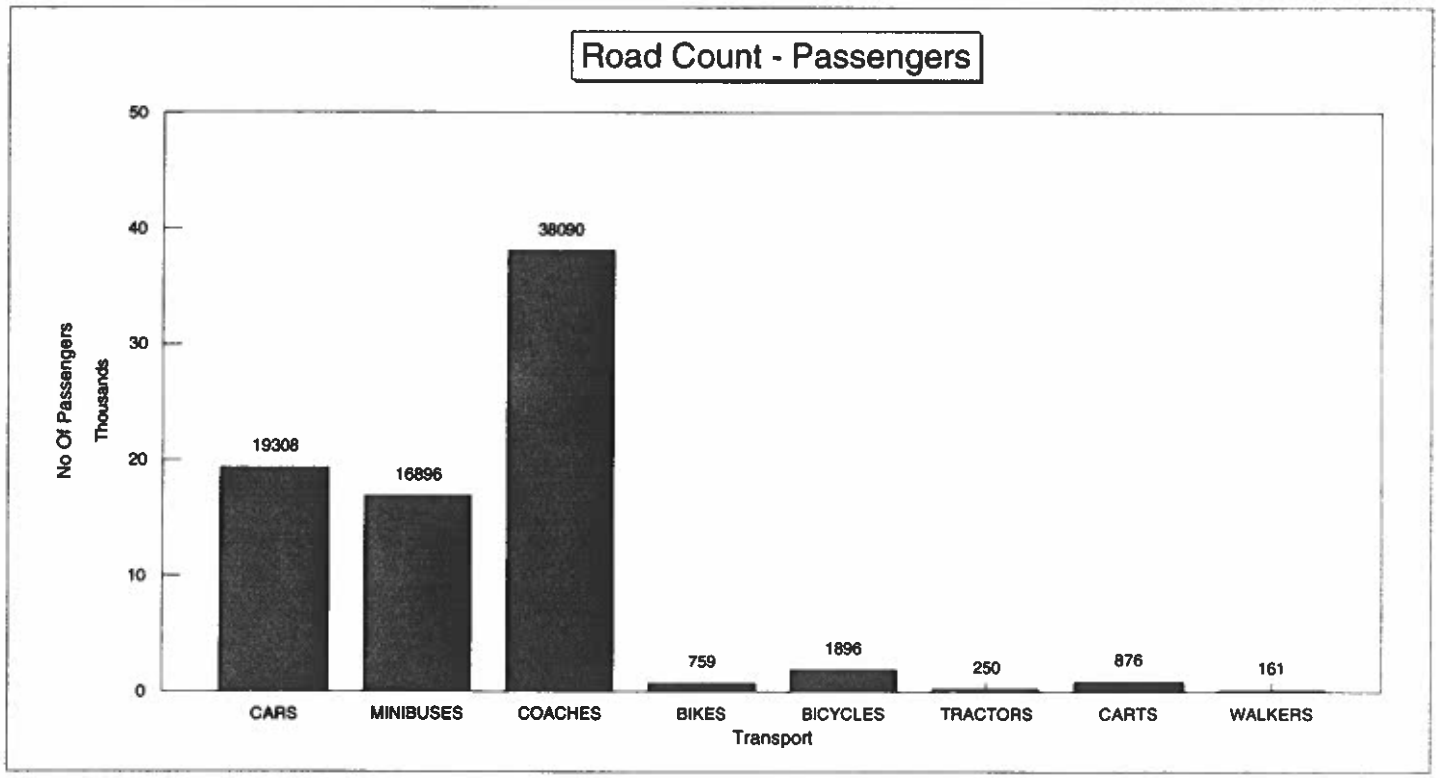

Road Count - Passengers
Saturday 8th July, 1995
No of Passengers
600
400
200
0
Cars
Minibuses
Coaches
Bikes
Bicycles
Tractors
Carts
Walkers
Transport

Appendix 5

Road count - vehicle and passengers
(consolidated data)

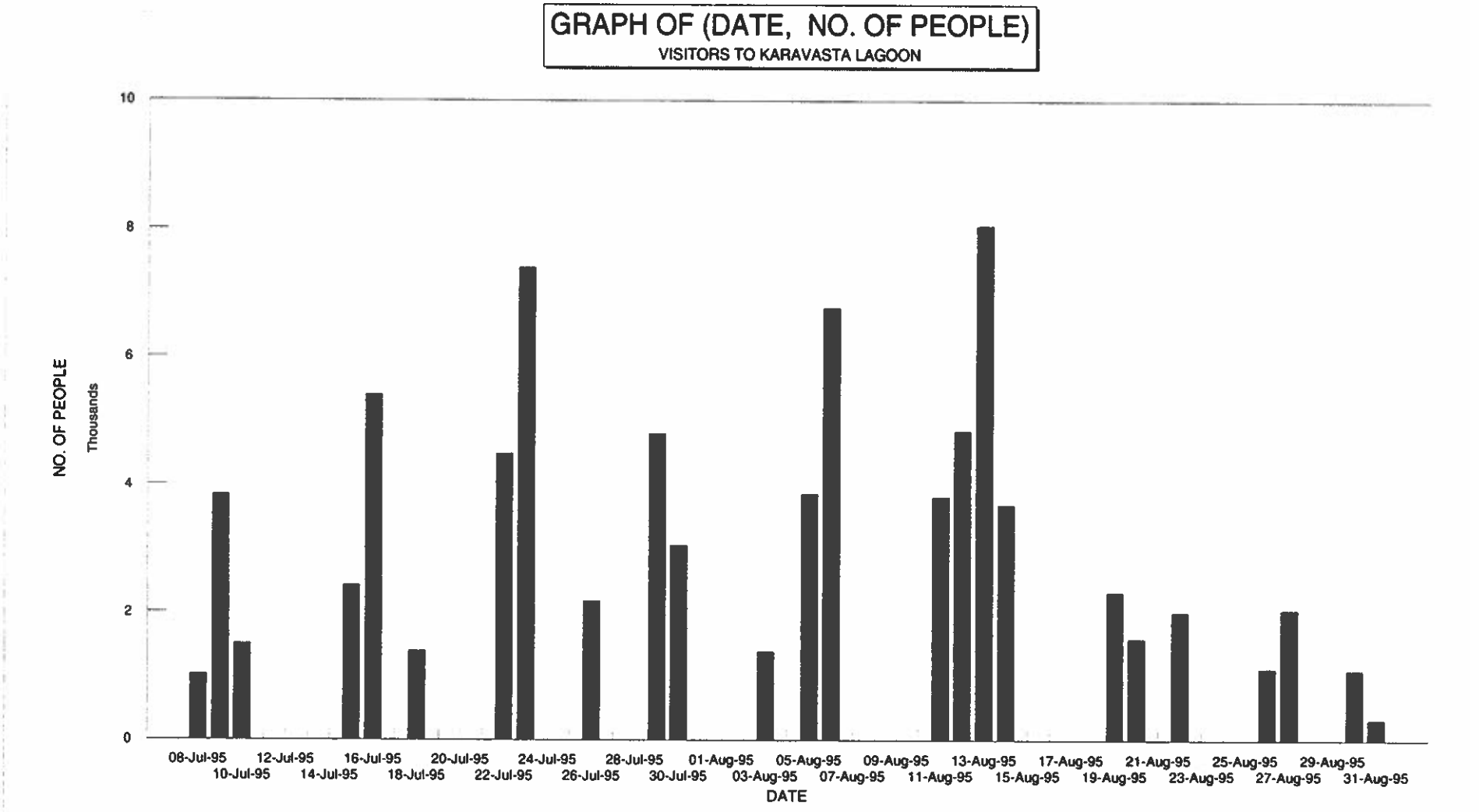
APPENDIX 5


Road Count - Vehicles
No of Vehicles
Thousands
6
5
4
3
2
1
0
4809
1193
759
418
1896
250
876
161
TOTAL CARS
TOTAL MINIBUSES
TOTAL COACHES
TOTAL BIKES
TOTAL BICYCLES
TOTAL TRACTORS
TOTAL CARTS
TOTAL WALKERS
Transport


Road Count - Passengers
No Of Passengers
Thousands
50
40
30
20
10
0
19308
16896
38090
759
1896
250
876
161
CARS
MINIBUSES
COACHES
BIKES
BICYCLES
TRACTORS
CARTS
WALKERS
Transport

Appendix 6
Graph of (date, n., of people)

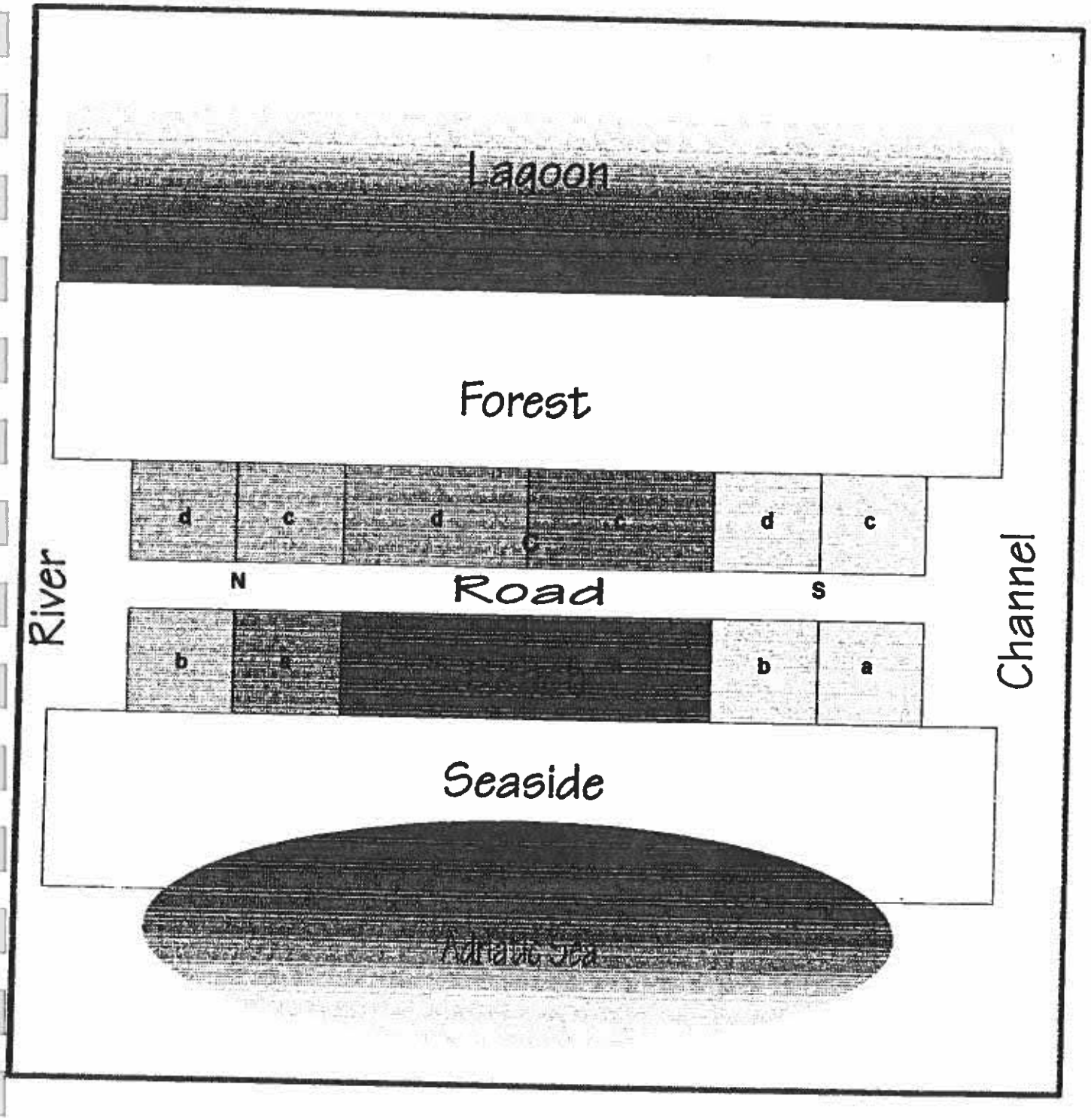
APPENDIX 6


GRAPH OF (DATE, NO. OF PEOPLE)
VISITORS TO KARAVASTA LAGOON
NO. OF PEOPLE
Thousands
10
8
6
4
2
0
08-Jul-95
10-Jul-95
12-Jul-95
14-Jul-95
16-Jul-95
18-Jul-95
20-Jul-95
22-Jul-95
24-Jul-95
26-Jul-95
28-Jul-95
30-Jul-95
01-Aug-95
03-Aug-95
05-Aug-95
07-Aug-95
09-Aug-95
11-Aug-95
13-Aug-95
15-Aug-95
17-Aug-95
19-Aug-95
21-Aug-95
23-Aug-95
25-Aug-95
27-Aug-95
29-Aug-95
31-Aug-95
DATE

Appendix 7
A map of the area under survey

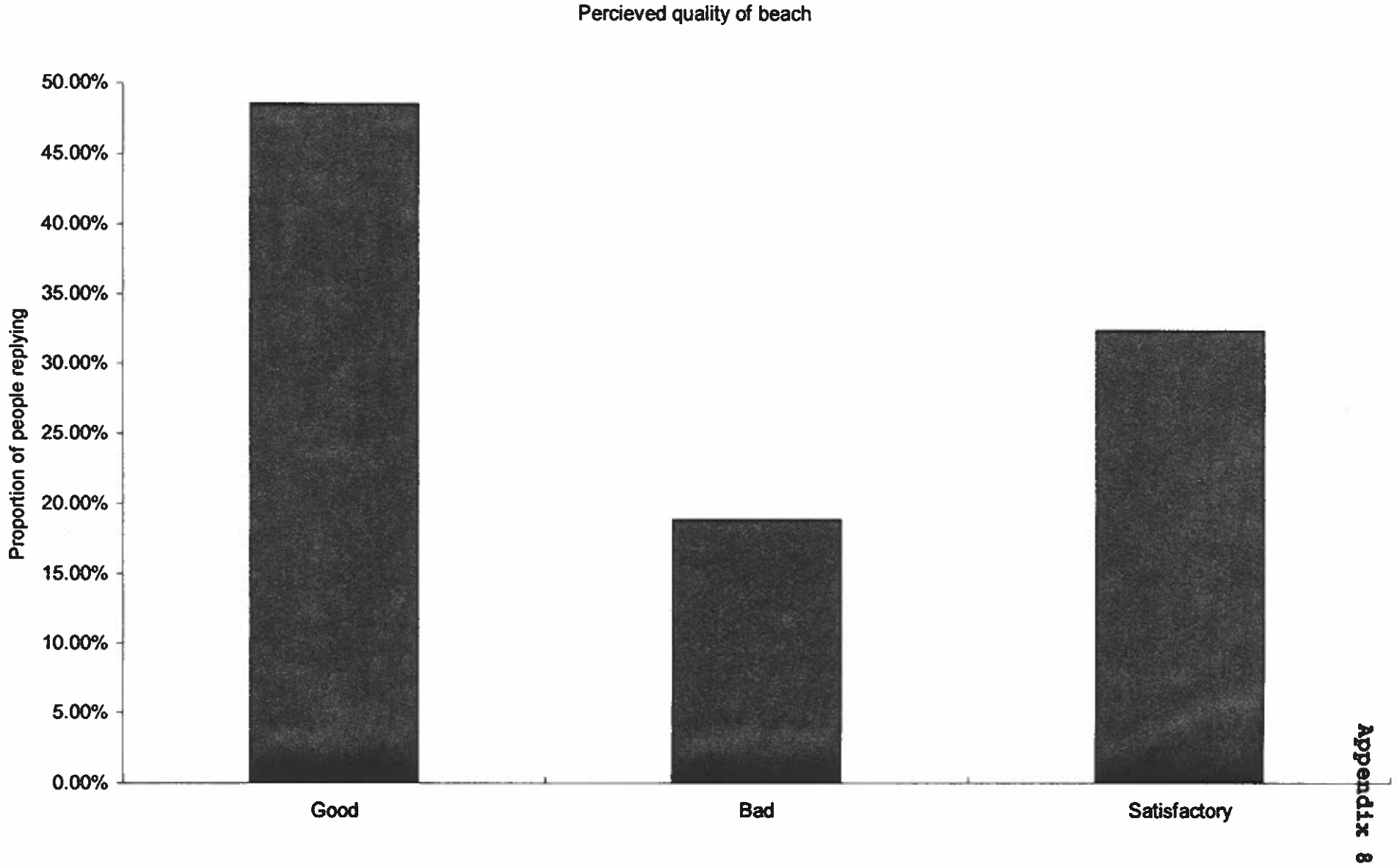
Appendix 7

A MAP OF THE AREA UNDER SURVEY



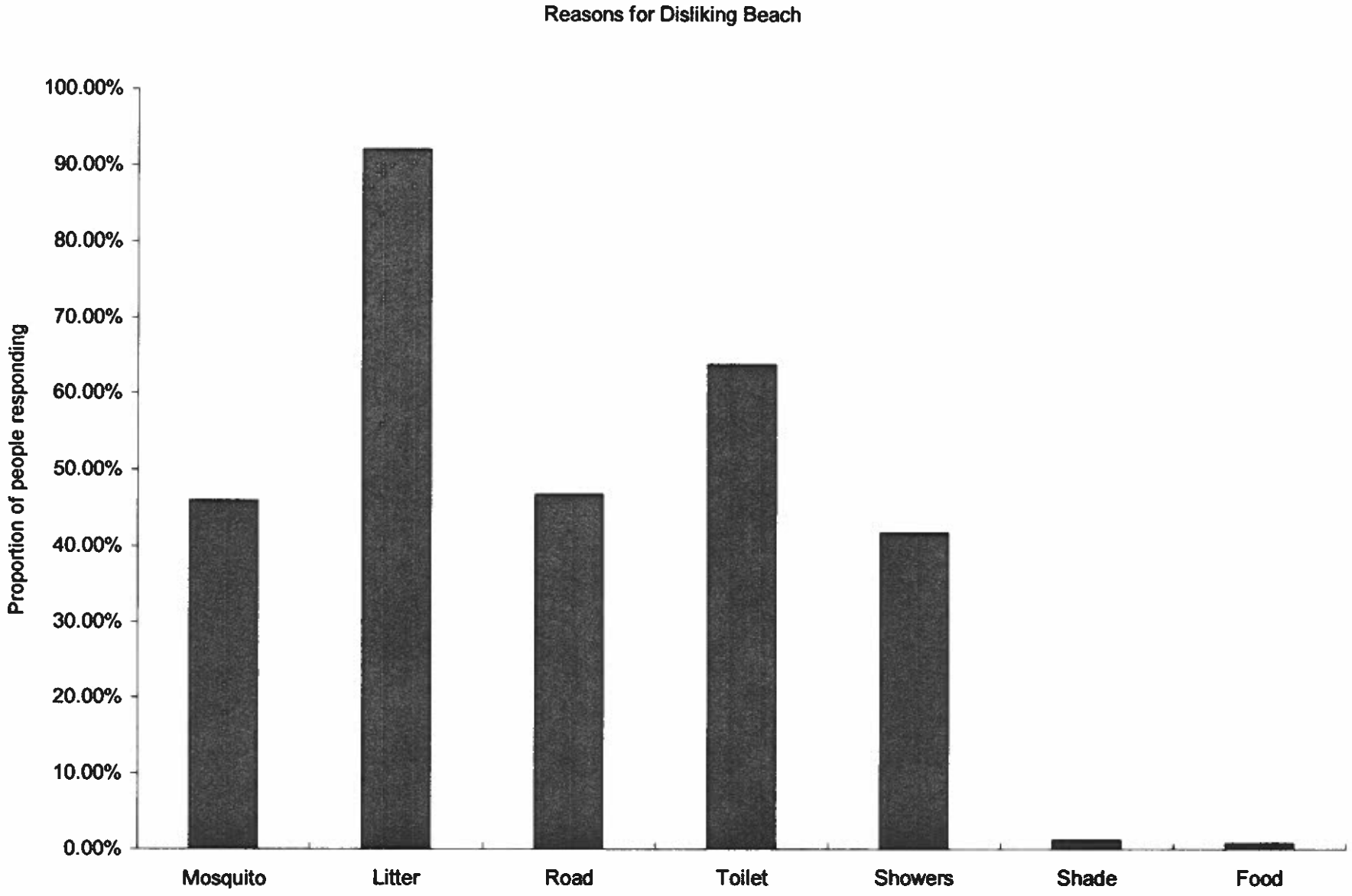
Appendix 8
Perceived quality of the beach

TOUR DU VALAT
Bibliothèque
Le Sambuc - F-13200 Arles


Percieved quality of beach
Proportion of people replying
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Good
Bad
Satisfactory

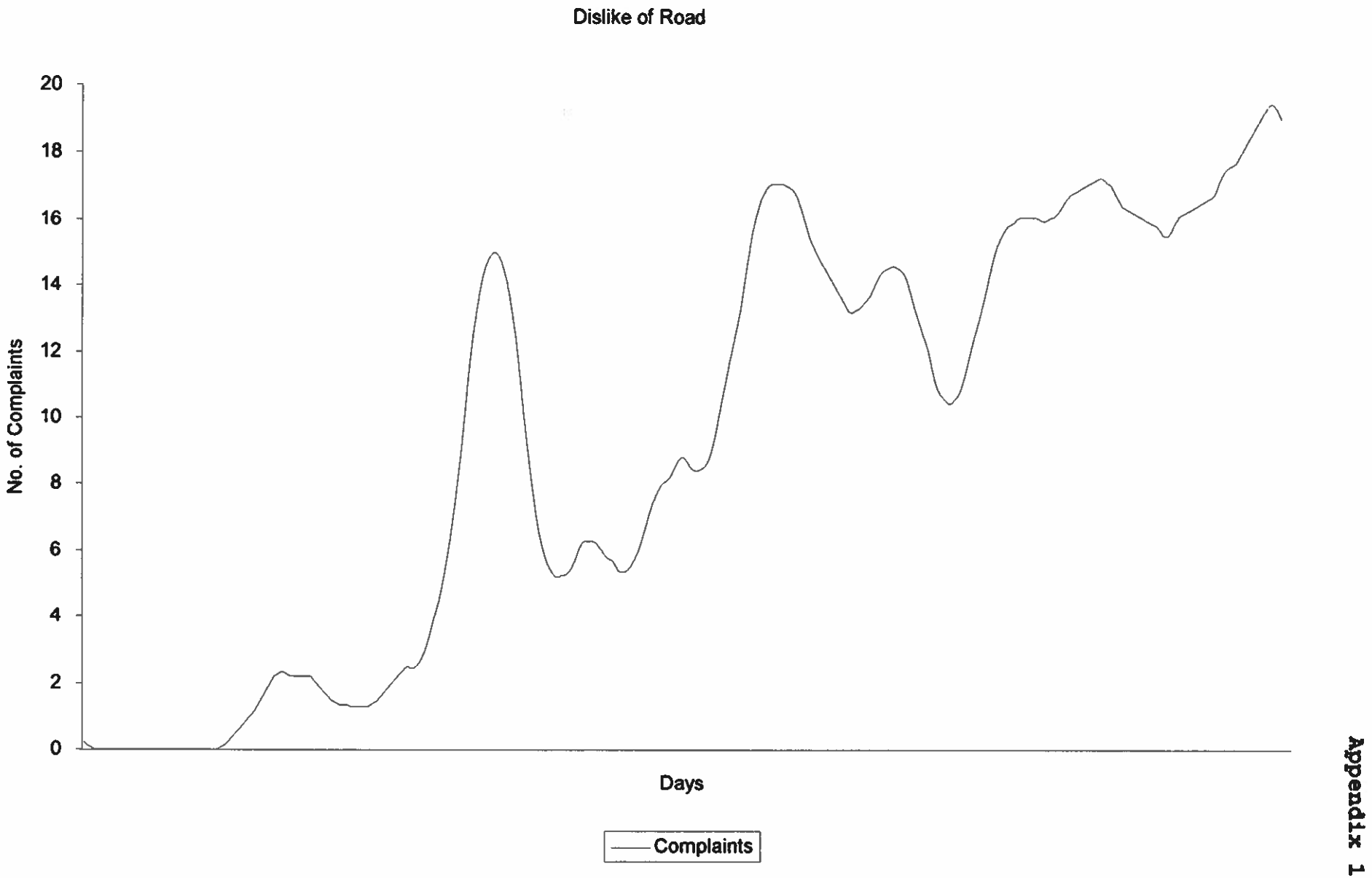
Appendix 8

Appendix 9
Reasons for disliking beach


Reasons for Disliking Beach
Proportion of people responding
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Mosquito
Litter
Road
Toilet
Showers
Shade
Food

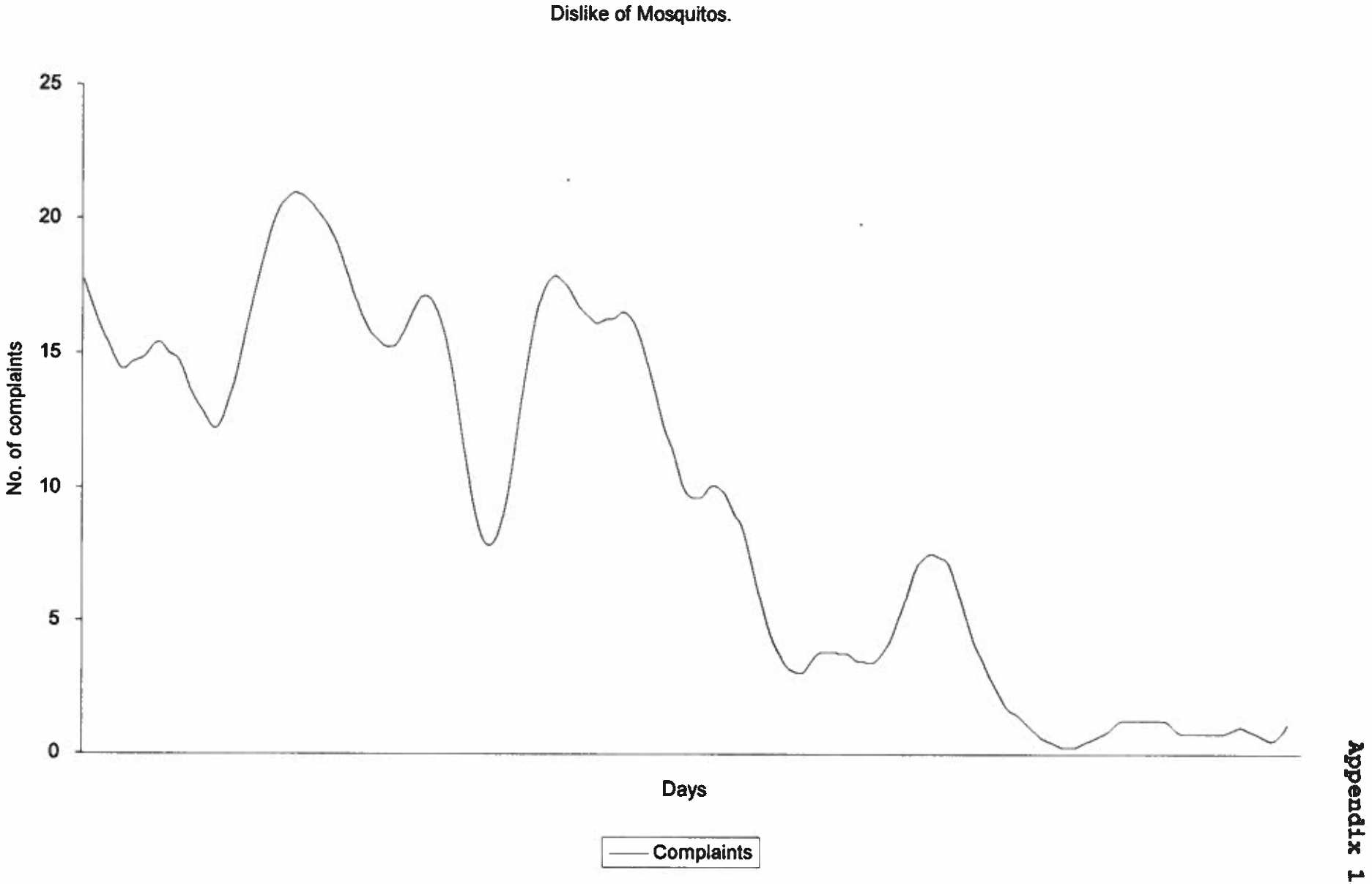
Appendix 9

Appendix 10
Dislike of road


Dislike of Road
No. of Complaints
20
18
16
14
12
10
8
6
4
2
0
Days
Complaints

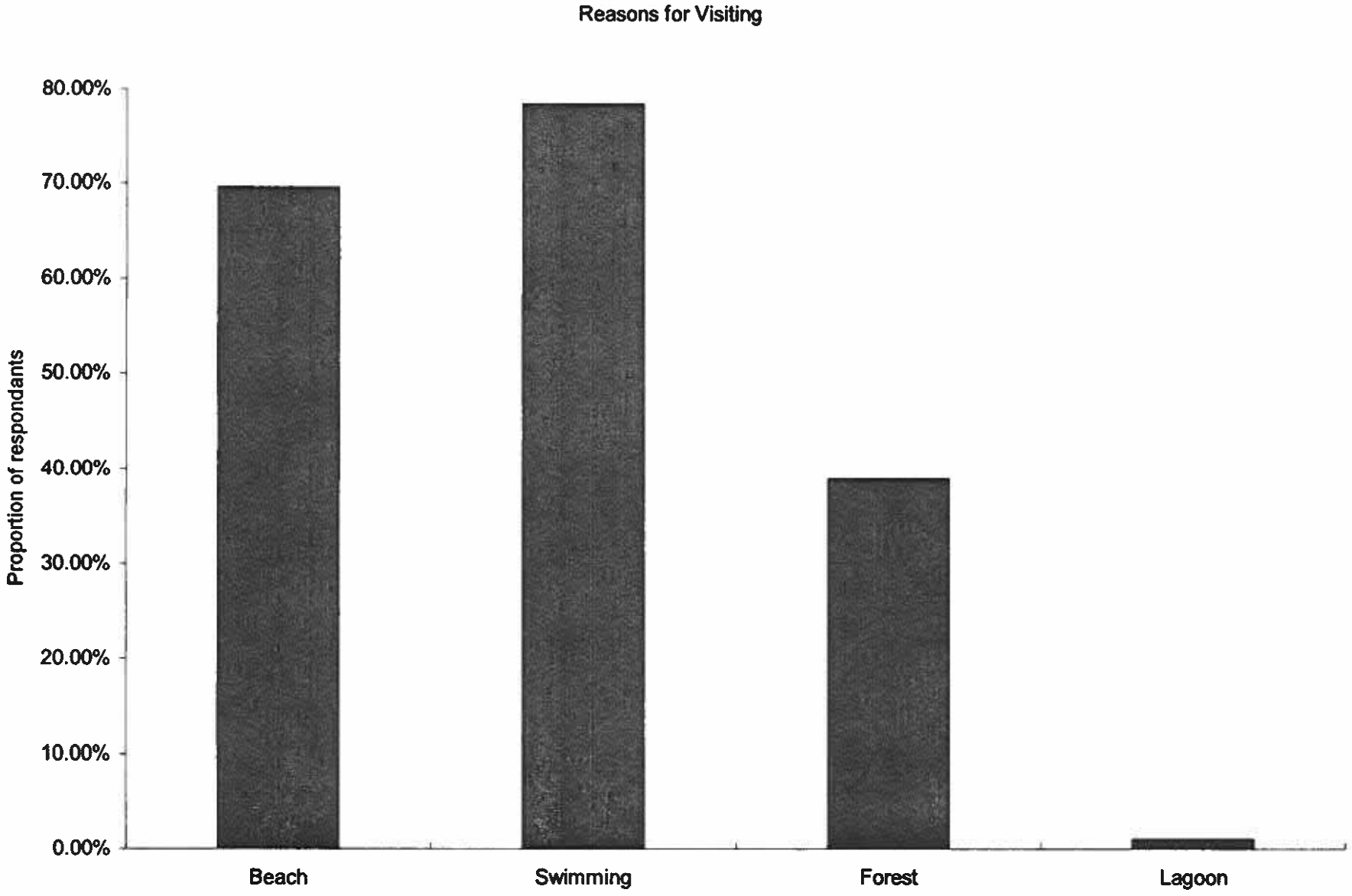
Appendix 10

Appendix 11
Dislike of mosquitoes


Dislike of Mosquitos.
25
20
15
10
5
0
No. of complaints
Days
Complaints

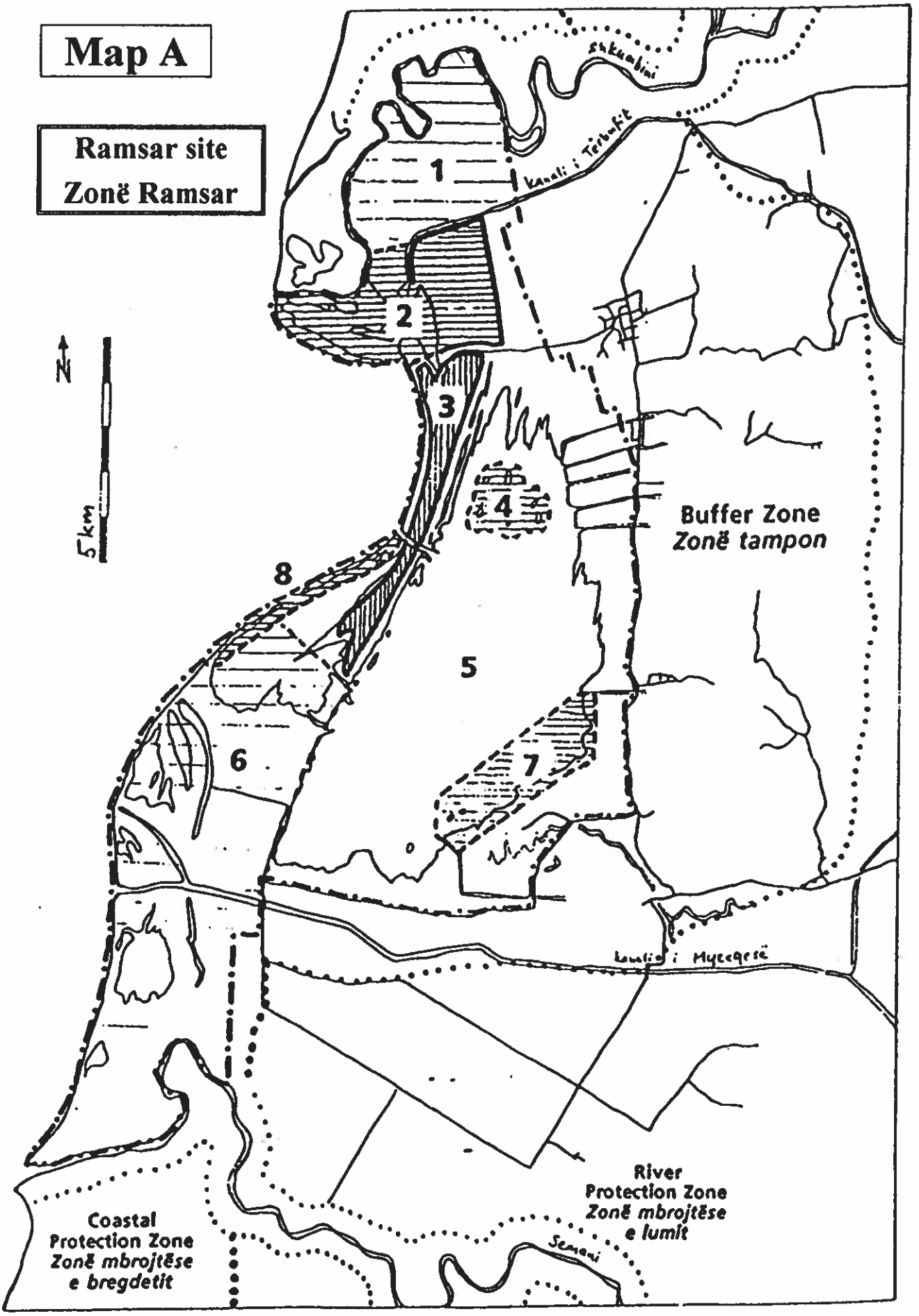
Appendix 11

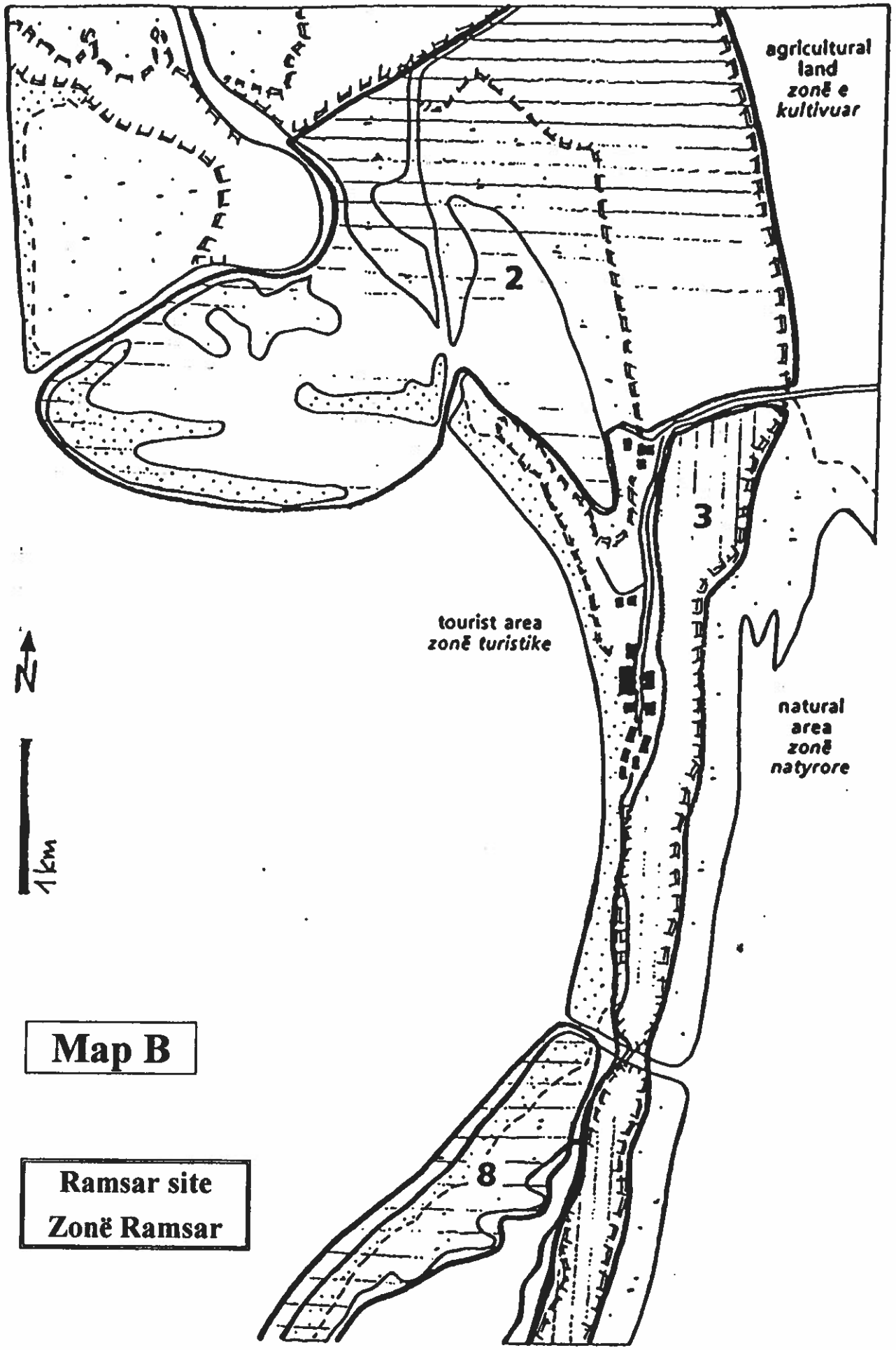
Appendix 12
Reasons for visiring


Reasons for Visiting
Proportion of respondants
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Beach
Swimming
Forest
Lagoon

Appendix 12

Appendix 13
Map of Ramsar site

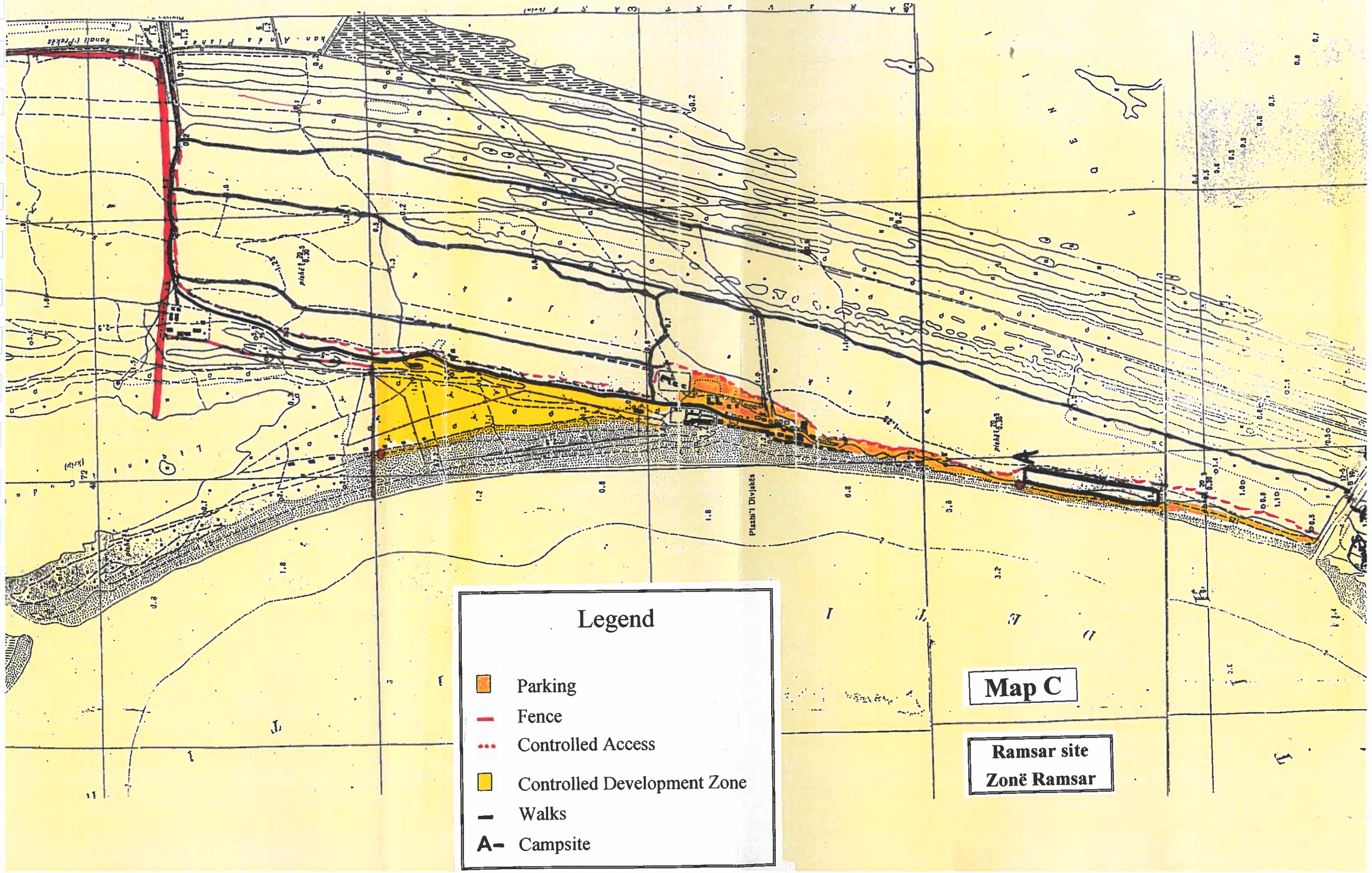

Map A
Ramsar site
Zonë Ramsar
N
5km
1
2
3
4
5
6
7
8
Buffer Zone
Zonë tampon
Coastal
Protection Zone
Zonë mbrojtëse
e bregdetit
River
Protection Zone
Zonë mbrojtëse
e lumit



Map B

Ramsar site
Zonë Ramsar

Appendix 13


Legend
Parking
Fence
Controlled Access
Controlled Development Zone
Walks
Campsite
Map C
Ramsar site
Zonë Ramsar