REPORT UNDER THE ROAD TRAFFIC REDUCTION ACT 1997

1. INTRODUCTION

1.1 This report on road traffic reduction has been prepared as an integral part of Greater Manchester's Local Transport Plan and in accordance with the requirements of the Road Traffic Reduction Act 1997 (RTRA) and the Guidance on Full Local Transport Plans. It has three sections dealing with:

- existing levels of local road traffic, recent trends and the underlying causes of traffic growth
- the forecasting of future traffic levels
- the setting of targets for road traffic growth

1.2 The report focuses on the main cause of congestion, i.e. the use of the private car to transport people to and from work. We consider how the problem has built up by reference to recent trends in factors affecting the amount and mode of travel. We then consider our forecast for future traffic growth and describe our method of forecasting. Finally, we present our targets for future traffic levels and describe those factors that have influenced their setting.

2. EXISTING CONDITIONS

Traffic Growth in Manchester 1988-99

2.1 There is a long history of traffic monitoring in Greater Manchester. In particular, when what is now the National Road Traffic Census (NRTC) was introduced in 1979 on a 6 year cycle, additional local counting was undertaken in Greater Manchester to reduce the cycle to one of 3 years. Later, in 1988, a 3 year cycle of B-road counts was introduced to complement the motorway and A-road counts of the NRTC.

2.2 We have analysed the NRTC Motorway, Trunk and Principal road counts and the local B-road counts between 1988 and 1999 to identify trends throughout the nineties. For this analysis, the Greater Manchester area has been split into three areas:

- Manchester City Centre
- Inside the M60 Motorway Box
- Outside the M60 Motorway Box

The analysis in these areas is restricted to Principal and B road car traffic flows. Flows on motorways and trunk roads are considered for the county as a whole.

2.3 We have conducted the analyses on a three year basis to utilise as many traffic counts as possible to produce robust results. The time series chosen are 1988-90,1991-93,1994-96 and 1997-1999.

2.4 The analysis is restricted to:

- cars
- flows between 0700-1000 and 0700-1900

as the focus of this report is on the main cause of congestion, which is travel to work by car. Indices of flow – with 1988-90 flows set to 100 – are shown in Tables 1 and 2 and illustrated in Figures 1 and 2 for the two time periods and seven sets of counts.

Table 1 An Index of Morning Peak Car Traffic Growth 1988/90-1997/99

	City Centre	Inside M60	Outside M60	Motorways
1988/90	100.0	100.0	100.0	100.0
1991/93	96.5	99.0	104.0	111.5
1994/96	94.5	100.0	107.0	117.0
1997/99	93.5	102.5	111.0	128.0

Figure 1 An Index of Morning Peak Car Traffic Growth 1988/90-1997/99

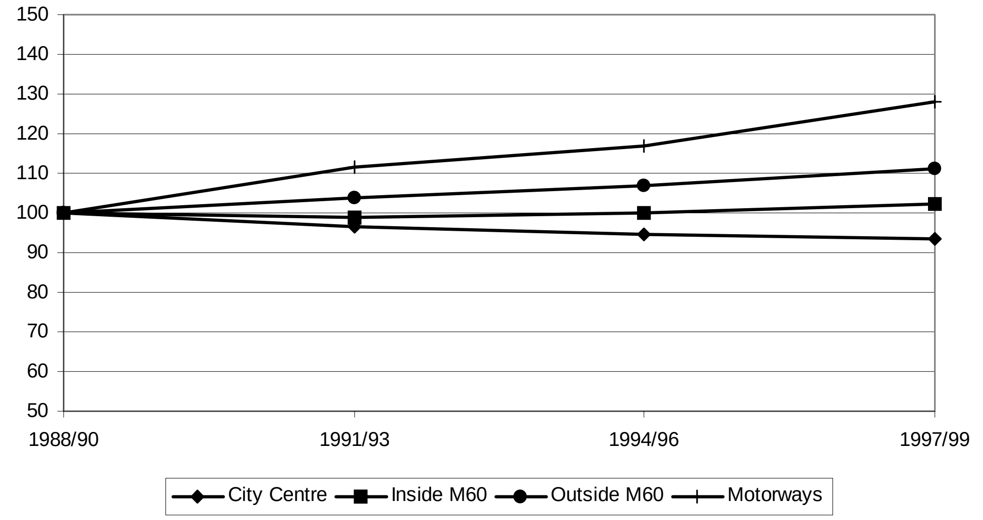
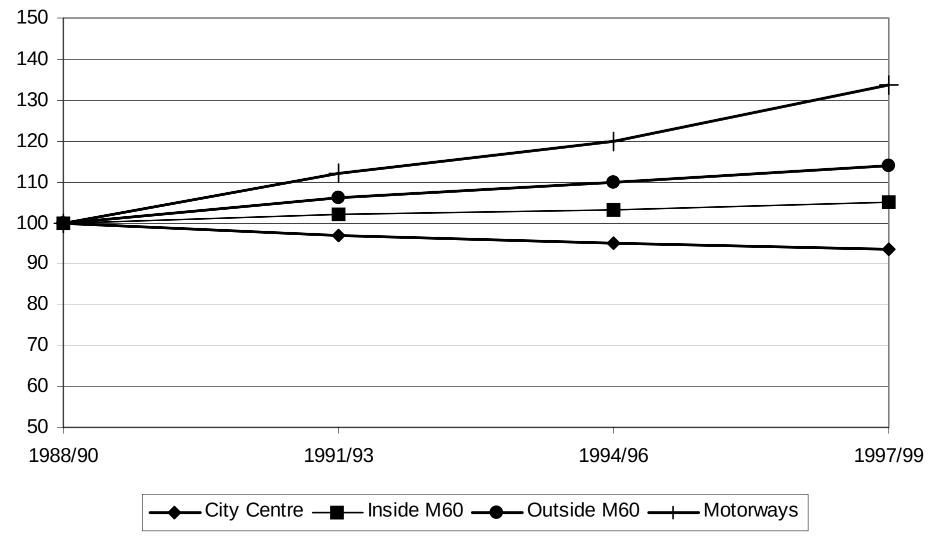


Table 2	**An Index of 12 Hour Car Traffic Growth 1988/90-1997/99**			
	City Centre	Inside M60	Outside M60	Motorways
1988/90	100.0	100.0	100.0	100.0
1991/93	97.0	102.0	106.0	112.0
1994/96	95.0	103.0	110.0	120.0
1997/99	93.5	105.0	114.0	133.5

(Source: Greater Manchester Transportation Unit)

Figure 2 An Index of 12 Hour Car Traffic Growth 1988/90-1997/99



2.5 Traffic flows within Manchester City Centre have decreased steadily throughout the nineties. This may be a reflection of the increasing success of the Inner Relief Route and Metrolink in reducing traffic within and through the centre. The area within the motorway box has had a smaller increase in traffic flows than that outside. Traffic flows on Motorways and Trunk roads show twice the rate of increase of principal roads in the outer area.

2.6 Traffic Flows between 1988/90 and 1997/9 increased less in the peak period than in the 12 hour period in all areas and on all road types, almost certainly due to the increased strain on road capacity in the morning peak.

2.7 Finally, Table 3 present a summary of the observed growth in car flows on A and B roads in Greater Manchester, between 1991 and 1999. Average annual car flows were 5% higher in 1999 than in 1991. Growth was disrupted in the early 1990s due to the economic recession, but has recovered since.

Table 3 Annual Car Kilometres 1991-1999 (millions)

Year	A & B Roads	Index
1991	5957	100
1992	5796	97
1993	5941	100
1994	6004	101
1995	6084	102
1996	6198	104
1997	6189	104
1998	6160	103
1999	6271	105

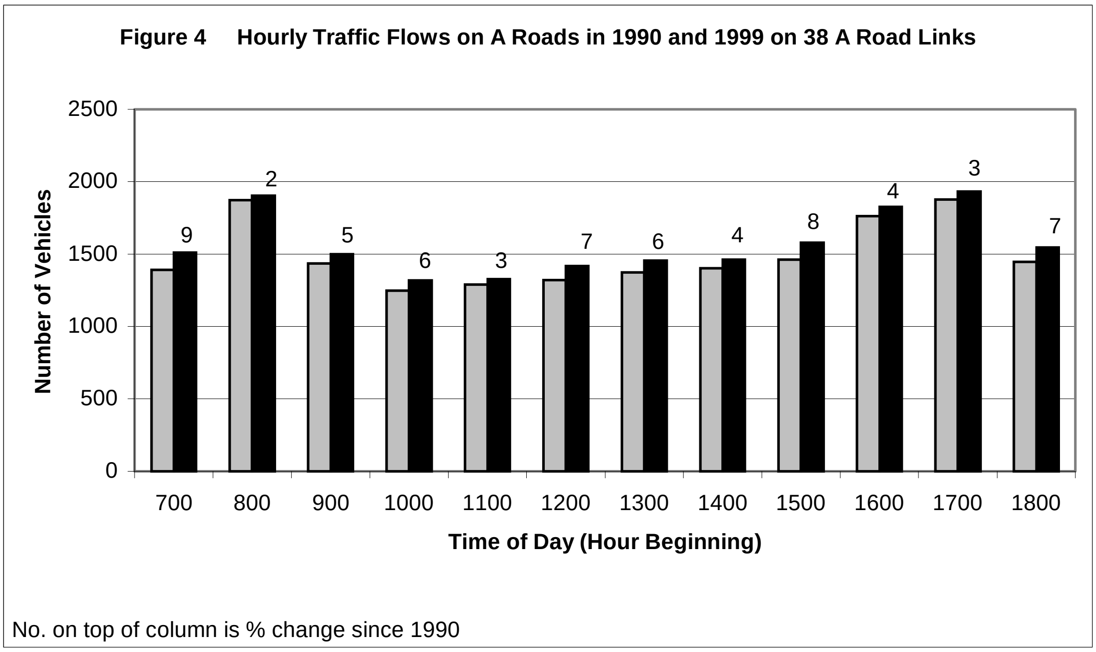
Source: GMTU and NRTC counting programme

Peak Spreading

2.8 One of the phenomena of increasing traffic levels has been the spreading of the peak period. In illustration, the ratio of traffic travelling in the morning peak hour (0800-0900) to traffic travelling in the morning peak period (0700-1000) fell steadily between 1980-82, and 1997-99:

- Motorways 0.45 to 0.37
- Other roads 0.44 to 0.40

2.9 This is a result of increasing congestion, which causes people to travel outside the core of the peak either by choice or by a passive effect in which journeys spill out of the peak simply because they take longer. Growth in the peak periods has occurred mainly at the beginning of the morning peak and at the end of the evening peak, as illustrated by Figure 4.



Traffic Speeds

2.10 The increased traffic levels have resulted in reduced traffic speeds. Regular surveys of radial journey times in Greater Manchester have indicated that between 1984-1996 journey times have increased by 58% on average in the morning peak hour on nine routes inbound to Manchester City Centre. The increases varied significantly by route, ranging from 34% on the A6 from Hazel Grove to 101% on the A580 from Boothstown. In the evening peak, in the outbound direction, the increase ranged from 15% on the A6 to 52% on the A57/M67. The average outbound increase was 28%. These increases are significantly greater than observed peak hour growth, indicating that the network is at or close to capacity in some locations.

2.11 A comprehensive survey of speeds in Greater Manchester conducted by the DETR in 1993 and 1996/97 indicated relatively small changes, but nevertheless reducing speeds on non-motorway roads:

- Peak 17.4 to 17.1 mph
- Off-peak 22.1 to 20.8 mph

Factors Influencing Traffic Growth

2.12 The growth in traffic has been influenced by a range of further, economic, social and demographic factors. Data from the 1981 and 1991 censuses and more recent data from the Office for National Statistics reveal that in Greater Manchester:

- Average household size fell from 2.69 persons in 1981 to 2.49 in 1991 and 2.41 in 1996.

- Single person households increased from 23.8% in 1981 to 27.5% in 1991.

- The number of cars owned increased 29% between 1981 and 1991.

- The percentage of households with 2 or more cars increased from 12% in 1981 to 20% in 1991, whilst those with no cars fell from 47% to 38% in the same period.

- Car ownership is concentrated in households with one or more employed residents. In 1991, 84.3% of employed residents lived in car owning households and 73.3% of households without anybody employed did not have a car.

2.13 The trend to smaller households tends to encourage car ownership and reinforce the effects of increasing affluence on car ownership. The National Census for 1981 and 1991 and the 1998 Labour Force Survey show for Greater Manchester that:

- The percentage of the workforce travelling to work by car increased from 52% in 1981 to 61% in 1991 and to 74% in 1998.

- Travel to work by other modes fell significantly, particularly by bus, which carried 23% of journeys to work in 1981, but only 10% in 1998.

- The majority of the increase in people driving to work is due to a very significant increase in the number of women driving. Between 1981 and 1991 they increased by 91%, compared with 10% for men.

- People living in car owning households are very likely to use a car to travel to work. In 1991, 68% of people living in households with one car and 87% of those living in households with two or more cars did so.

2.14 To some extent people's choice of mode depends upon the relative costs of travel by those modes. Throughout most of the 1990's the cost of unleaded petrol rose less swiftly than bus, Metrolink and rail fares. However, recent increases in fuel tax have meant that the rise in fuel costs (27%) between 1990 and 1999 are on a par with rail fare increases (24%), slightly greater than the rise in bus fares (20%) and significantly less than the rise in Metrolink fares (71%)[1].

Car Occupancies

2.15 Regular surveys of car occupancies during the morning peak at 10 sites in Greater Manchester have indicated an increase in the percentage of driver-only cars from 76% in 1984 to 83% in 1999 and a fall in average occupancy from 1.31 to 1.21 persons. The evidence suggests that former passengers

[1] Bus costs relate to a single trip of 3.5 miles.
Metrolink costs relate to a return ticket for a 3 zone journey.
Rail costs relate to a return ticket for a 9.5 mile journey.

have now become car drivers in the main, helping to fuel the increase in car traffic.

Summary of the Present Situation

2.16 The brief analysis above of trends in travel in Greater Manchester covers changes in the eighties from National Census data, and changes in the nineties from observations of traffic levels. Looking first at the changes in the eighties, key changes included:

- an increase in car ownership of 184000 cars throughout the area

- an increase of 127000 cars per day in the use of cars for travel to work

2.17 Such changes were not peculiar to Greater Manchester. They reflect the aspirations of many households to secure ownership of a car (or another car) and obtain the convenience and flexibility which, in the absence of congestion, such ownership brings.

2.18 However, the increase in car ownership and the use of the cars for travel to work resulted in much increased congestion and its resultant delays and pollution. The extent of the changes over ten years was considerable, equivalent to the number of daily car driver trips to work increasing by 1000 per month throughout the whole of the ten year period.

2.19 Travel choices made by individuals have had a significant impact on the levels of traffic and its effects of congestion and pollution. Our policies are aimed at influencing this choice, without having a detrimental effect on regeneration and economic growth. We recognise that change will not be immediate as there is still a considerable latent pool of demand for car travel. Our policies will need to be reviewed and revised as necessary to achieve our goal of reversing recent trends in travel.

2.20 The analysis of observed traffic flows in the nineties shows much smaller changes than occurred in the eighties. Reasons for this may include the level of congestion itself restraining traffic growth in the peak, and slower economic growth. Traffic growth was noticeably lower within the MORR where car ownership levels are lower and public transport services – including Metrolink – generally better than elsewhere. However, bus fares throughout most of the nineties continued to increase more quickly than the costs of all other modes. This is at present changing and the impact of this together with Quality Bus Corridors and more Metrolink routes may be seen in future years.

3. TRAFFIC FORECASTS

3.1 Our forecasts of future travel within the Greater Manchester and informed by forecasts produced by the Greater Manchester Strategy Planning Model (SPM) as described in Section 3 of the LTP.

3.2 The SPM consists of a number of linked programs, of which the primary components are:

- START – a multi-mode transport model;
- External Forecasting Model (EFM) – estimates changes in trip pattern on the basis of planning data, on the assumption of static transport time and money costs;
- Evaluation (EVAL) – calculates operational, accessibility and environmental indicators from START model outputs;
- DELTA – land-use model with development, transition and growth, location and relocation, employment status, urban quality and car ownership modules.

3.3 It is linked to a detailed highway model, the Sub-Regional Highway Model, and a detailed public transport model specifically developed for the SPM. These supply the travel costs, at least for the initial year.

3.4 START and the EFM are run every fifth year (1991, 1996 ….. 2021) whilst the other two models are run every year. The outputs from START allow EVAL to recalculate accessibility and environmental indicators for input to the land-use model. The land-use model produces forecast changes in population, households, trip attracters and car ownership by zone. It can vary car ownership according to the relative accessibility arising from car travel compared with other modes.

3.5 For years when the transport model is not run, the outputs from the land-use model feed into EVAL to allow the accessibilities to be recalculated. Otherwise, they feed into the EFM to allow the demand matrices output from the previous transport model run to be factored to reflect the impact of changes in the planning data on transport demand, assuming no change in transport costs. Changes in these costs arising from the changed demand are taken into account in the next run of the transport model.

3.6 The SPM has 49 zones covering the study area (Greater Manchester plus Glossop, Poynton, Wilmslow and Alderley Edge), 9 zones covering the major urban areas around Greater Manchester and 6 zones representing the rest of the county. Eleven of the study zones represent major centres, including the Airport and the Trafford Centre.

3.7 Forecasts were produced for every fifth year 1991-2021.

3.8 The SPM was used to model both the LTP Strategy and a Reference Case against which the Strategy could be compared. The Reference Case can be loosely described as ‘business as usual’.

The Reference Case

3.9 There are two key elements to the philosophy behind the Reference Case:

- Transport supply changes other than those already committed should be minimal;
- Land-use change should not be tightly constrained by planning policy but should be able to respond to the effects of changes in transport supply.

Forecasting Assumptions

3.10 For the Reference Case, we assumed little change in historic transport trends (service level changes etc), and no significant investment in new transport infrastructure beyond 1996, other than the completion of the remaining link in the M60 Manchester Motorway Box.

3.11 The key changes in transport supply between 1991 and 1996 were estimated from observed data:

- Bus fares increased by 13% in real terms and rail fares by 7%;
- In the am peak period Metrolink fares declined by 9% and increased by 3% at other times of day;
- Car ownership grew by 11%, with some decentralisation of the population from the older urban areas to the periphery of the study area.

The modelling assumptions concerning changes between 1991 and 1996 are also common to the LTP Strategy.

3.12 We assumed that the final link (Denton to Middleton) of the M60 Manchester Motorway Box would be completed in the 5 year period 1996-2001. The Trafford Centre retail development was also included, as it opened during this period.

3.13 Other key forecasting assumptions between 1996 and 2021 are:

- Incomes (and values of time) increase by approximately 2% per annum in real terms, in line with central HEN2 projections;
- The fuel price duty escalator continues at 5% per annum to 2001 and thereafter at 2.5% per annum to 2006. Central HEN2 assumptions apply thereafter;

- Public transport fares (bus, rail, Metrolink) increase in line with average incomes, in line with the long-term historic trend.

Demographic and Economic Scenario

3.14 The key features over the period 1991-2021 are that:

- the population of the Study Area increases by 2%;
- the number of households the Study Area increases by 20%;
- the number of jobs in the Study Area increases by 0.26%;
- all household incomes of increased by 2.24% pa;
- the reference price of ‘Other goods and services’ (ie everything except housing and transport) remains constant.

Planning Policy Assumptions

3.15 The key assumptions are that:

- the planning scenario is based upon entering planning permissions (ie creating available space for development) for the space categories of residential, retail, office and industrial;
- planning permissions for the period 1996 to 2021 assume an equal number for each year, so allowing continuous development and are based on the estimates of AGMA planners;
- development costs are higher for brownfield sites than for greenfield;
- allocations of retail planning permissions 1996 to 2021 assume that there is an additional 10% over the 1991 stock in the various central area zones, and 5% in all other zones. The exception is the Trafford Park development, which is added exogenously in 1997. The projections have been checked for consistency with Law and Dundon-Smith (1994a);
- demolition does not occur after 1996;
- allocations of land for housing are based upon information from the Greater Manchester Strategic Planning Framework, converted into the amounts of housing floorspace required. Given the lack of forecasts by sector from TEMPRO (the national trip end forecasting model and planning database), the same growth factor is used for each sector;
- the permitted increase in office space is set at 6% of the 1991 stock, appropriately amended using more specific data from Law and

Dundon-Smith (1994b), and the North West Regional Strategic Guidance(?);

- industrial space is treated the most simply, with a permitted increase of 5% of the 1991 stock, throughout the area.

The LTP Strategy

Forecasting Assumptions

3.16 The forecasting assumptions for the LTP Strategy are the same as those for the Reference Case except in respect of the transport network. The LTP Strategy includes 4 new Metrolink lines and 9 Quality Bus Corridors (QBCs) for which funding has already been allocated:

- Metrolink
  - Manchester Airport
  - Ashton-under-Lyne
  - Oldham-Rochdale
  - Eccles
- QBCs
  - Manchester-Eccles-Peel Green (A6/A576/A57)
  - Leigh -Bolton (A579/A676)
  - Manchester-Hazel Grove (A6)
  - East Lancashire Road (A580/A6)
  - Lees-Oldham-Manchester (A669/A62)
  - Rochdale-Oldham-Ashton-Hyde (A671/A627
  - Bury-Manchester (A56/A665)
  - Stalybridge-Ashton-Manchester (A635/A6017/B6390)
  - Hyde-Manchester (A57)

The strategy does not include the major schemes for which funding is being sought in this year's (2000) LTP submission. Nor does it include the Manchester Inner Relief Route (Regent Road to Gore Street) scheme for which funding has been allocated, as its effects, in conjunction with complementary schemes in the City Centre, are deemed to be substantially neutral.

3.17 Given the nature of the SPM, it was not possible to model the minutiae of the scheme proposals such as selective vehicle detection and bus gates. As a consequence, we assumed that the QBCs have a bus lane 70% of their length (longer than will generally be the case) and that buses would run 20% faster on average elsewhere.

3.18 It was also assumed that the design of the QBCs would have no significant impact on highway capacity and have a neutral impact on traffic flows.

3.19 The through-ticketing, improvements to the bus stop environment, etc., that form part of the Integrate project are accommodated by a change in the modal constant of the PT modes:

- Metrolink – a reduction of 2.5 cost minutes (relative to car)
- Rail & Bus – a reduction of 5 cost minutes (relative to car)

The modal constant is that part of the generalised costs of the PT modes (fare, in-vehicle time etc) which reflect other less tangible costs that people associate more with PT travel and less with car travel, e.g. lower convenience and comfort.

Forecasting Changes in Highway Link Flow

3.14 The SPM produces forecasts of changes in vehicle mileage, numbers of trips by mode, trip distribution, and population and planning statistics at the SPM zone level. To obtain an understanding of how these forecasts affect link flows it is necessary to interface the outputs with a county-wide highway assignment model. Normally, this interface would be with the Sub-Regional Highway Model (SRHM) that was developed in conjunction with the SPM to provide highway costs and the mechanism for more detailed highway modelling. In the event, the Greater Manchester Strategic Traffic Model (GMSTM), was used to facilitate subsequent air quality modelling.

3.15 The GMSTM is validated to the same standard as the SRHM and has the advantage of being linked with the Emissions Inventory for Greater Manchester (EMIGMA), which is used for forecasting emissions from vehicles and other sources of pollution. Given that the changes in car travel arising from the implementation of the LTP were forecast to be low (see Section 4), we concluded that its effects on route choice on the highway network would not be significant. A simplified approach was therefore implemented.

3.16 A set of 2006 traffic assignments (AM peak hour, PM peak hour and an average inter-peak hour) were produced for the Reference Case. These assumed traffic growing at the NRTF low growth rate, with peak spreading occurring in the peak hours in accordance with GMTU's model of peak spreading that has been developed from observed data. A set of factors were then produced for each SPM zone based on the ratio of vehicle miles for the LTP Strategy and the Reference Case. Links in each SPM zone were identified and their Reference Case volumes factored accordingly to produce an estimate of volumes for the Strategy. New vehicle speeds and times were derived from the speed-flow curves associated with the links.

3.17 As most of the vehicle mileage changes forecast by the SPM were changes in car miles, the car-loaded network was factored accordingly before adding it to the LGV and OGV loaded networks. The resulting link volumes allowed comparison of changes in volumes on cordons and screenlines that are used for transport monitoring purposes in Greater Manchester.

4. FORECAST GROWTH

4.1 Table 3 presents the forecast growth in vehicle mileage by area for both the reference and strategy cases. Before considering the table it should be noted that the SPM has underestimated the observed growth in traffic on motorways since 1991. We are of the view that the forecast of traffic using the motorways in 2011 is also likely to be an underestimate, especially as the forecast growth in that traffic is similar to, rather than significantly more than that on all-purpose roads. Nevertheless, we consider that it is instructive to include the figures in the tables, as they are indicators of the change that the Strategy is forecast to bring about.

4.2 In considering the results, it should be borne in mind that the changes in vehicle kilometres are relative to 2001, and the effects of the completion of the M60, Denton to Middleton scheme in Autumn 2000, will already be accounted for in the 2001 forecast. Therefore, relative to today's traffic levels, the increase in traffic inside the M60 will be considerably lower than forecast.

Table 3 Forecast Growth in Vehicle Mileage 2001 to 2011 (2001 Index = 100)

	Strategy		Reference Case	
	AM Peak	**Daily**	**AM Peak**	**Daily**
Regional Centre	109.5	115.9	110.0	114.8
Key Centres	112.0	113.5	113.6	114.1
Inside M60	110.7	111.4	112.8	115.2
Outside M60	107.7	109.8	109.0	110.8
Motorways	109.7	112.9	109.2	114.1

4.3 The forecasts indicates that for both the reference and strategy cases growth in vehicle mileage will be greatest inside the M60 Manchester Outer Ring Road (MORR). This is contrary to the past trend described in Section 1. Our view is that the change in trend is attributable, in part, to the planning policies in the Plan, which seek to reverse the past trend of decentralisation of population and employment. Table 4 illustrates the forecast of change in key demographic indicators.

4.4 The SPM forecasts a recovery in households and employment and inside the M60 Motorway Box, which is reinforced by the LTP Strategy, which improves accessibility. In general, the population remains static, indicating an decrease in household size. Smaller households tend to make more trips per person than larger households, which explains in part the increase in vehicle mileage.

4.5 Table 5 presents the forecast change in person kilometres within the study area by car and public transport modes between 1991 and 2011. At the beginning of the 5-year plan period (2001). We do not expect the Strategy to

Table 4	Population and Employment (Index compared with 1991 = 100)								
	Households (number)			**Population (number)**			**Employment (number)**		
	1991	**2011**		**1991**	**2011**		**1991**	**2011**	
Reference Case	**No.**	**No.**	**Index**	**No.**	**No.**	**Index**	**No.**	**No.**	**Index**
Regional Centre	801	1174	146.6	1232	1794	145.6	105770	107730	101.9
Inside MORR	283362	309889	109.4	672957	672745	100.0	286666	299995	104.6
Other Centres	9655	10677	110.6	19641	21975	111.9	81596	74628	91.5
Rest of Study Area	735473	8931009	113.0	1861191	1868681	100.4	616554	620432	100.6
Total	1029290	1152750	112.0	2555001	2565194	100.4	1090586	1102786	101.1
Strategy									
Regional Centre	801	1800	149.8	1232	1822	147.9	105770	115930	109.6
Inside MORR	283362	313776	110.7	672957	675959	100.4	286666	299995	104.1
Other Centres	9655	10875	112.6	19641	2275	115.8	81596	76574	93.8
Rest of Study Area	735473	826910	112.4	1861191	1864847	100.2	616554	611918	99.2
Total	1029290	1152761	112.0	2555001	2565368	100.4	1090586	1102788	101.1

have a significant impact impact on travel. Consequently, the Reference Case figures have been used to represent the situation in 2001.

Table 5 Forecast Change in Trip Kilometres Within the Study Area by Mode (Index, 1991=100)

Mode	1991	2001	2011	
			Ref.	LTP
Car	100.0	110.2	119.4	117.9
Bus	100.0	71.0	52.2	64.3
Rail	100.0	78.3	80.1	92.5
Metrolink	100.0	114.6	130.8	248.8
Total Car and PT	100.0	105.6	109.7	110.9

4.6 Table 6 presents similar information for trips with at least one end in Greater Manchester and Table 2 presents the modal shares of trips.

Table 6 Forecast Change in Trips With One End in the Study Area by Mode (Index, 1991=100)

	1991	2001		2006		2011	
Mode			LTP	Ref.	LTP	Ref.	LTP
Car	100.0	114.9	113.9	121.7	119.7	127.9	125.5
Bus	100.0	71.6	78.5	62.3	72.1	54.4	66.3
Rail	100.0	76.8	86.3	75.0	85.4	76.6	86.1
Metrolink	100.0	113.8	281.5	128.4	299.8	130.8	288.5
Total	100.0	107.7	101.6	102.6	103.6	113.4	105.5

4.7 The LTP Strategy is forecast to significantly slow the decline in bus passengers and bus passenger kilometres. A similar effect is also forecast for rail travel. However, it should be noted that the forecast reduction in rail travel between 1991 and 2001 is not supported by the evidence of local monitoring, which indicates that rail travel has not declined and is likely to be as high in 2001 as it was in 1991. The forecasts are therefore likely to underestimate significantly the level of rail travel.

4.8 The SPM forecasts that the observed growth in travel on the existing Metrolink network would continue to at least 2011. It also forecasts that the opening of the 4 new lines would double the trips that would otherwise arise in 2011.

4.9 The net effect of these forecast changes is to show the growth in car travel, but not to reduce it to below today's levels. As the SPM forecasts an overall increase in trip making of nearly 5% between 2001 and 2011, the level of trip making by bus, for example, would have to increase by nearly two-thirds to maintain car trip making at its 2001 level. A significant reduction in car trip making is possible only with very significant increases in travel by other modes.

4.10 Table 8 presents the growth in car travel in terms of vehicle kilometres to illustrate the impact of the forecast changes in travel on the highway network.

4.11 It is welcome that the SPM forecasts indicate that Greater Manchester's policies for reviving the key centres and inner areas of the conurbation are likely to be fruitful, we are concerned that the increase in vehicle mileage associated with this increase in activity may be overstated and having taken this into account when setting our traffic reduction targets.

Table 7 Forecast Modal Shares of Trips Within the Study Area (%)

Mode	1991	2001	2011	
		Ref	Ref	Strategy
Car	79.3	85.6	90.6	86.4
Bus	18.3	10.4	6.5	9.3
Rail	1.5	1.1	1.0	1.2
Metrolink	0.5	0.6	0.7	1.4
Taxi	1.0	1.1	1.0	0.7

5. RTRA TARGETS

5.1 The LTP Strategy is forecast to counteract those economic, social and demographic factors that have driven and continue to drive the growth in car use. However, the Strategy on its own is insufficient to have a significant impact on the very substantial amount of car travel that takes place in Greater Manchester.

5.2 It needs to be supported by other measures that will further improve travel by alternative modes and foster a different public attitude to travel and the choices of mode available. Greater Manchester's 2001-2006 Local Transport Plan describes how it is proposed to support the committed Strategy with other measures, including further Metrolink lines (Didsbury and Trafford Park), further Quality Bus Corridors, an upgraded traffic control system and an expansion of Workplace and School Travel Plans. The programme of monitoring that will accompany this, will guide revisions to the Plan and future 5-year Plans. We expect, therefore, that the forecast of a reduced rate of growth in traffic will become a reality in the short-term and that growth can be curtailed or even reversed in the longer term.

5.3 We have therefore set traffic reduction targets for 2006 and 2011 that are below both trend growth and the forecast of the SPM, to reflect the considerable investment that we propose to make in infrastructure for public transport, walking and cycling and the development of Green Travel Plans and parking strategies.

5.4 We have chosen to set targets for car traffic, rather than traffic in general, as goods vehicle traffic has fallen steadily throughout the 1990s and we have no evidence that a reversal of this situation is likely in the near future. Also, car traffic predominates on Greater Manchester's roads and changes in goods vehicle traffic have little effect on overall traffic levels.

5.5 We have also chosen to set targets for the morning peak hour, as well as daily traffic, as the greatest delays, congestion and exhaust emissions occur in the peak. The targets have been set for three areas:

- the Regional Centre
- the Key Centres in combination
- Greater Manchester as a whole

All three are subject to existing monitoring programmes and no extra resources would be required for monitoring the traffic reduction targets.

Targets For Greater Manchester

5.6 Figure 1 shows the observed trend since 1991 in annual car kilometres on Greater Manchester's A and B roads projected to 2011 using the growth in car kilometres between 1996 and 2011 forecast by the SPM for the LTP strategy. This projection follows almost exactly the linear extrapolation of the observed growth between 1991 and 1999.

5.7 The SPM forecasts a 10% growth in vehicle mileage between 1991 and 2001 compared with an observed growth of 5% between 1991 and 1999. We are therefore of the view that the SPM's forecast to 2006 and 2011 is also likely to be an overestimate. Given that the Strategy test does not include the major schemes included in Greater Manchester's 5-year LTP bid or the soft measures such as Green Transport plans that form part of the bid, we consider that a lower growth will be achieved. We have therefore set an index of annual car kilometres on A and B roads of 108 in 2006 and 110 in 2011 (where 100 represents the 1991 index). This is shown in Figure 1.

5.8 We have set the equivalent indices for morning peak hour car traffic at 100 in 2006 and 98 in 2011. Peak hour traffic growth has been only slight during the 1990s and we consider that our policies will enable us to achieve the 1991 traffic level by 2006 and to achieve a reduction in traffic by 2011.

Regional Centre

5.9 As noted in Section 4 the SPM forecasts on change in past trends with an increase in activity inside the M60 and, in particular, within the Regional Centre, accompanied by an increase in vehicle mileage. We expressed our concern that change in trend was overstated and that a lower increase would seem more likely. In the case of the Regional Centre, the increase in vehicle mileage includes not only the traffic on roads inside the Inner Relief Route (IRR), but that on the IRR itself. Given that the final section of the IRR between Regent Road and Gore Street will be opened during the 5-year Plan period, we expect to see a much lower growth of traffic within the IRR

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5.10 In 1997 a monitoring programme was set up so that traffic entering a cordon around each Key Centre, including the Regional Centre, is counted on a three-yearly rotating basis. We have therefore based our targets for the Key Centres on the volume of traffic entering the cordoned area and referenced them to 1997 traffic levels. The targets are presented in Table .

5.11 We expect trip making by all modes to the Regional Centre to increase over time as our regeneration investment strategy bears fruit. We also expect that a larger share of these trips will be made by public transport than in 1997. This is particularly so in the peak when our policy of restricting long-stay public parking places and other soft measures will make public transport more attractive. Consequently, we expect no growth in peak hour car trips between 1997 and 2006 and an increase of only 1% in peak period (0730-0930) car trips. By 2011, we expect to achieve a fall in peak traffic of 5% as our large PT investment programme and other transport policies begin to have their effect on mode choice, particularly for the journey to work.

5.12 During non-peak hours we expect some increase in trips by car to the City Centre. Consequently, we have set our indicator at 103 for 2006, 105 for 2010.

Other Key Centre

5.13 Our indicators for the other Key Centres (Table X) have been set in a similar manner to those of the Regional Centre. Again, the benchmark is the traffic level in 1997.

5.14 We expect that our investment strategy and policies will restrain peak traffic in 2006 to 1997 and permit a reduction in traffic between 2006 and 2011 of 3%. Traffic growth is still likely to occur during other periods of the day and we have set our targets to reflect this.

Table Road Traffic Reduction Indicators for Greater Manchester (Indicator = 100 in Reference Year)

Area	Reference Year	AM Peak Hour		Daily	
		2006	2011	2006	2011
Greater Manchester [1]	1996	100	98	108	110
Regional Centre [2]	1997	100	95	103	105
Key Centres[2]	1997	100	97	104	106

Notes:

1 Traffic flows on A and B roads
2 Traffic entering a cordon around the centre

Figure 1 Index of Annual Car Kilometres on A & B Roads 1991-1999 + Trend & Target