

Road Traffic Reduction Act 1997

Statutory Report

1. INTRODUCTION

AREA OF COVERAGE

1.1 The Road Traffic Reduction Act (RTRA) 1997 requires Leicestershire County Council as a “principal council” to prepare a statutory report relating to levels of traffic in its area. The RTRA 1997 under subsection (6) makes provision for the Secretary of State to issue guidance on the statutory reports and this was given in March 2000 as Part III of the DETR Guidance on full Local Transport Plans. This is hereafter referred to as “the Guidance”.

1.2 The Guidance states that RTRA reports should be an integral part of Local Transport Plan (LTP) preparation recognising the special circumstances of different authorities and parts of the country. In the case of Leicestershire County Council, there are two LTPs for which statutory RTRA reports are required.

1.3 This RTRA report meets the statutory requirement for the areas of the county outside the Central Leicestershire area as described in the Leicestershire LTP. For the substantial areas of the county which lie within the Central Leicestershire area, the statutory requirement is met by a completely separate RTRA report prepared jointly by Leicester City Council and Leicestershire County Council.

OVERALL CONTEXT

1.4 The RTRA was a final item of legislation prior to the general election in 1997. As such, it does not stem from Government’s 1998 White Paper on transport. RTRA reports are required to contain an assessment of existing levels of local road traffic, a forecast of growth and targets for reducing the level of traffic or its rate of growth. The RTRA option of not setting targets for part or all of the area requires the report to give a clear statement of the County Council’s reasons for not setting such targets.

1.5 In the RTRA, local road traffic consists of “mechanically propelled vehicles”, effectively all vehicles except pedal cycles, trailers and caravans. RTRA 1997 does not apply to any trunk roads, including those “non-core” trunk roads, the A6 and the A47 east of Leicester, which are intended by the Government to be “de-trunked” during the LTP period.

1.6 As anticipated in the RTRA 1997, the Guidance deals with the matter of consultation in connection with the preparation of statutory reports. Given the close relationship between LTPs and RTRA reports, the Guidance states that the same consultation processes are appropriate for both purposes. The extensive consultation and participation, as relevant to this RTRA report, is described in Appendix B of the Leicestershire LTP.

NATIONAL TRAFFIC REDUCTION

1.7 Whilst the RTRA 1997 does not apply to trunk roads, the Government’s obligations on these routes are within the scope of the Road Traffic Reduction (National Targets) Act 1998. This required the Government to produce a report with targets for road traffic reduction in England, Wales and Scotland.

1.8 The above 1998 Act recognises that the Government may consider other targets or measures as more appropriate in reducing the adverse impacts of road traffic, but states that the reasoning must then be published in a report together with an assessment of the impact of such other targets or measures.

1.9 The Government’s first report under the 1998 Act was published in January 2000 and was entitled Tackling Congestion and Pollution (TC&P). This report makes a robust case for not setting road traffic reduction targets at the national level and by implication on the trunk road network, none of which is covered by the provisions of the RTRA 1997.

1.10 In choosing not to introduce road traffic reduction targets nationally, the Government’s reasoning in TC&P is that targets and policies should be focussed on desired outcomes relating to the actual impacts of traffic and growth, as distinct from measurements of the quantities of national traffic and growth.

1.11 The Government’s approach to national traffic volumes, and the absence of any traffic reduction targets for trunk roads, is considered to be an important influence on what can reasonably be expected on local roads with regard to traffic reduction targets in RTRA 1997 statutory reports.

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ORDER OF REPORT

1.12 RTRA 1997 requires an assessment of existing levels of traffic, a forecast of traffic growth and targets for reducing traffic or its growth. In the light of TC&P, the County Council's approach to setting traffic or growth reduction targets is the key issue to be addressed in this report.

1.13 The possible arguments for or against local targets do not obviously arise from actual traffic volumes and forecasts. The key issue of targets is therefore taken as the first topic in this report in Section 2 below. Consideration of the proposed targets is desirable before examining the adequacy and relevance of the subsequent sections of the report which cover traffic levels, forecasts and data compatibility.

1.14 The Guidance draws particular attention to the National Road Traffic Forecasts (NRTF) 1997 and the categorisation of vehicles, time periods, roads, area types and forecast years. The Guidance states that adoption of these definitions would assist the Government with future work outlined in TC&P. Section 3 of this report deals with data collection and issues of compatibility with Government methodology.

1.15 The RTRA 1997 statutory requirement for the presentation of an assessment of existing traffic is met by the traffic data and descriptions in Section 4. The further statutory requirement of a forecast of future traffic is addressed by Section 5 and looks to a single forecast year of 2006 which is indicated as the preferred year in the Guidance.

2. REDUCTION TARGETS

GENERAL REQUIREMENTS

2.1 The RTRA requires the County Council to set targets for reducing the level of local road traffic or its rate of growth. There is the option of not setting targets for part all of the LTP area if to do so is seen as inappropriate. In such circumstances, this RTRA report is then required to clearly explain the County Council's reasons for not setting targets. Because this requirement relates to part or all of the LTP area, the RTRA report needs to explain any separate reasoning about targets which may relate to different parts of the LTP area.

2.2 The Government will, of course, want to satisfy itself that the County Council has given proper regard to its obligation under the RTRA and to the Guidance. The main purpose of this section of the report is to review all the LTP measures in terms of their relevance to traffic reduction in the light of the many requirements in the Guidance relating to RTRA targets.

2.3 The Guidance requires that the points at which RTRA targets are set should also be those for which traffic forecasts are provided. As explained above, Section 5 of this report is concerned with a single forecast year of 2006, the preferred year given in the Guidance. Apart from fitting the five yearly pattern of Government national forecasts, the year 2006 is also the end of the first 5 year LTP period.

2.4 The Guidance does not favour the use of "aspirational" targets for which no means of achievement have been identified or appraisal carried out. RTRA targets are required to be challenging but achievable. RTRA reports are required to indicate which measures within the LTP are expected to contribute to road traffic reduction and the relevant significance of the measures in achieving any RTRA target(s) that have been set.

2.5 The Guidance also requires that RTRA targets be framed and set in the light of the likely level of resources available to implement LTP traffic reduction measures.

LOCAL REASONS FOR REDUCTION

2.6 Apart from the RTRA 1997, the Guidance recognises that the County Council may have a variety of motives for wishing to reduce traffic levels or their rate of growth. These include road safety, local amenity, less congestion, the local economy or improving air quality. Whilst these are all excellent reasons for wanting less traffic or growth, the relative influence of traffic levels is an important consideration.

2.7 The effects of traffic growth on road safety can be usefully considered by reference to historic trends in accident numbers. In most methods of appraisal it is assumed that all accident frequencies increase in direct linear proportion to vehicle mileage. However, for many years, the opposite has occurred, with the more serious accidents declining as vehicle mileage has continued to increase.

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2.8 There is every reason to expect that any future traffic growth will be accompanied by fewer accidents, particularly those of the more serious type. This outcome will depend on the future continuation of the long established and rigorously targeted approach to all forms of accident reduction. In contrast, a non targeted approach involving a marginal reduction in traffic or its growth, would probably be one of the least effective ways of reducing accidents.

2.9 With regard to local amenity, it is again considered that a marginal reduction in traffic or its growth, at least to 2006, would not be perceived as solving any particular amenity problems. In the case of noise, no measurable difference is brought about by small changes in traffic volumes. The position is somewhat similar with severance and the effects of traffic on pedestrians and cyclists. For all these sorts of problems there are proven LTP measures which can be effective at all likely levels of traffic between now and 2006.

2.10 Whilst safety and amenity offer little justification for traffic reduction, congestion is highly sensitive to marginal changes in traffic volumes. Clear evidence of this is the effect of half term week traffic reductions when there is a fraction of the normal school term time congestion. There is also the inevitable and obvious deterioration in air quality when far more vehicles are concentrated in a length of road because of congestion.

2.11 Apart from poor air quality, congestion also causes higher fuel consumption and hence CO₂ emissions. At congested times drivers often resort to longer routes which cause an increase in traffic (vehicle mileage) and yet further additional CO₂ emissions. These environmental consequences are good reasons for avoiding influences or measures which introduce or exacerbate congestion.

TACKLING CONGESTION

2.12 Congestion is obviously damaging to the local economy, particularly when business activity is drawn to the competition in less congested areas. Often such areas are more dependent on car travel and the consequence is further traffic growth. Congestion can also act as a brake on regeneration in areas where the transport impact of development cannot be accommodated in an uncongested way.

2.13 From the above considerations, it seems logical to argue that the most important reason for traffic reduction is tackling congestion. This is particularly so when proper account is taken of the damage that congestion causes to air quality, CO₂ emissions, vehicle mileage due to longer detour routes and not least the local economy. Tackling congestion, particularly in urban areas, is a core aim of Government policy.

TRAFFIC REDUCTION POTENTIAL

2.14 Overall levels of traffic are the product of the number of motor vehicles and their annual mileage. Overall traffic reduction cannot occur unless vehicle numbers and/or their annual mileage are reduced. It is considered that the numbers of vehicles cannot be reduced or constrained by reasonable means locally or nationally. There is a possible exception in the case of heavy lorries, as higher maximum weights are encouraged to enable bulk freight movements to be carried by fewer vehicles.

2.15 The scope for traffic reduction would appear to depend almost entirely on possible measures which would have the effect of reducing annual mileages of the various types of vehicle on the road. With the current lack of capacity in the rail network, there are doubts as to what will be achieved in shifting much freight from road to rail. It therefore seems reasonable to conclude that achievable traffic reduction depends almost entirely on bringing down the annual mileages driven by cars.

2.16 From Government statistics, the average annual mileage driven (1995/97) was 8,330 in privately owned cars and 22,610 in company provided cars. Whilst the latter are about 11% of all cars, they account for around 25% of all car traffic purely because of their higher annual mileage. On motorways, it is considered that as much as 50% of traffic is home to workplace journeys and business travel in company cars.

2.17 When considering the scope for reducing annual mileage, there may be relatively easier reductions to be achieved in company car mileages as compared with individual private car mileages starting from a much lower base. There is also scope for further mileage reductions if, in the future, more of the total cars on the road are privately owned rather than company provided.

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METHODS AVAILABLE

2.18 The amount of car traffic on a road can be influenced by both demand and supply side measures. Demand side measures are either direct or indirect. Congestion is when demand exceeds supply. Tackling congestion requires demand and supply to be more in balance.

2.19 Half term week throughout the LTP area is an obvious period of reduced car use, when there is less excess of demand over supply of congested road capacity. It is also an example of an indirect demand side influence because fewer car journeys are made for reasons not connected with the ease or cost of car travel. Other indirect demand side influences happen when alternatives to car travel, such as cycling, are adopted by former car users without any change in the ease or cost of car travel.

2.20 Direct demand side influences require changes in the ease or cost of car travel which do not affect the supply side of congested road capacity. However, spare road capacity may be "reallocated" without affecting the balance of demand over supply. Increased fuel costs, parking shortages, and road tolls are the more obvious kinds of direct demand side measures which aim to reduce traffic and congestion.

2.21 The only other influence is what happens to congested road capacity. If this determinant of the supply side is reduced or "reallocated", traffic throughput can be locally constrained in an obvious way. However, affected traffic movements are very likely to spread outwards to adjacent time periods (e.g. peak spread), or longer detour routes which can only result in increased car mileage. Only if correspondingly fewer car journeys are made, can any network traffic reduction be achieved in this way.

2.22 Apart from having the opposite effect of traffic reduction, forcing down congested road capacity, without a corresponding increase in alternative means of travel, can only cause more congestion. Any deliberate increase in congestion to restrain car use, would damage the local economy, and count against tackling congestion and pollution.

2.23 In the short to medium term, therefore, it is concluded that the only reasonable means of reducing traffic will involve indirect and direct influences on car travel demand.

RESULTS OF CONSULTATION

2.24 The results of public consultation are given in Appendix B of the Leicestershire LTP. Not surprisingly, there was positive support for better alternatives to the car without reducing the ease or cost of car travel. A widespread indirect approach to reducing the demand for car travel is a dominant theme of the LTP.

2.25 Major direct demand side measures are not proposed in the LTP. There are, however, certain direct demand reductions in the LTP which have gained positive public support. This is because such measures will be closely associated with the introduction of alternatives.

2.26 The Guidance has required the County Council to liaise with the Highways Agency at an early stage to take account of:-

- ❑ Possible implications for trunk road traffic of RTRA targets set and any measures to be implemented to achieve them.
- ❑ Any measures by the Highways Agency to manage demand on trunk roads which could affect traffic on local roads.

It was clear at the provisional LTP stage that there were going to be no matters of relevance under either of the above considerations.

2.27 The one RTRA issue which cannot be addressed by LTP measures is the effect of worsening trunk road congestion resulting in diversion onto less safe and less suitable local roads. This problem will be addressed by the Government's Multi-Modal Study (MMS) of North-South movements along the M1 corridor in the East Midlands, the more focussed MMS of the A453 corridor from M1 junction 24 to Nottingham and the soon to be commissioned Birmingham-Nottingham wide corridor MMS.

IMPACT OF LTP MEASURES

2.28 The guidance requires RTRA reports to indicate which measures within the LTP are expected to contribute to road traffic reduction. Table 7.2 in the LTP details all the specific objectives and measures proposed. In the column of the table with the specific objective entitled "promote less car use" are all the linkages with the many LTP measures which will contribute towards the intended outcome of traffic reduction or less traffic growth.

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2.29 For the many indirect demand reducing measures in the LTP, it is thought to be not possible to predict likely outcomes in terms of reduced traffic or growth. Because they are indirect measures, any possible associated RTRA targets would tend to be “aspirational” and therefore discouraged by the Guidance.

2.30 The only LTP measures of direct RTRA relevance are considered to be those which cause direct and verifiable reductions in car journeys or mileage and hence overall traffic levels. Such measures do not include supply side restraint such as traffic calming which can be intended to displace traffic onto more suitable routes, often with some increase in vehicle mileages. The relevant LTP measures are now considered below.

SCHOOL TRAVEL BY CAR

2.31 Car arrivals at schools will be reduced by the progressive introduction of School Travel Plans (STPs). The overall LTP target is for the build up of STPs to eventually cover all schools in the LTP area. It is envisaged that it will take until 2011 or beyond to fulfil this achievement.

2.32 For the year 2004/5 the target is for 120 of the 211 schools in the LTP area to have STPs in place. For all the schools with STPs, there will be the target of a 25% reduction in car arrivals. This reduction target of 25% is derived from the surveyed outcomes at primary schools during the “Walk to School” weeks from 1997 to 1999 together with an allowance for possible changes in car sharing.

2.33 By the national forecast year of 2006, the number of schools with STPs should be approaching 150 in total. The effect of this LTP measure will be a genuine traffic reduction subject to ongoing verification through the STP monitoring arrangements.

2.34 The guidance raises the question of how RTRA targets relate to the problems caused by traffic levels or growth in the LTP area. In the case of school travel, the main traffic level problems are congestion and car dominance outside schools. Very clear benefits are to be expected with 25% fewer car arrivals. STPs will also help tackle congestion along routes to school in term time, and also challenge the car dependent lifestyles of young people in ways which can reduce traffic growth in future years.

WORKPLACE TRAVEL BY CAR

2.35 Car mileages to and from the workplace fall into two distinct categories which need to be considered:-

- ❑ Commuting between home and workplace.
- ❑ Travel on business during working time.

For both categories of car mileage, the LTP includes a Travel Plans (TPs) measure for progressive introduction during the LTP period.

2.36 Apart from traffic reduction, TPs bring benefits to the workplace by reducing parking requirements and the costs of business travel. For privately owned cars, TPs should reduce annual mileages through car sharing and the use of alternative means of transport for both commuting and business travel. In the case of company provided cars, and as described in the Government’s TP resource pack, the aim should be to bring in alternative arrangements, such as higher direct remuneration and pool cars, which can reduce fleet size, annual mileages and business travel costs.

2.37 TPs are considered to be the traffic reduction measure with the most potential over the medium to long term. However, it is too soon to set actual reduction targets as there is insufficient outcome information on which to base challenging but achievable targets. The LTP targets are set for the number of TPs but not the extent of the traffic reductions each might achieve. As such the targets do not meet the Guidance criteria for RTRA targets.

2.38 For the year 2004/5 the target is for 20 of the 63 organisations employing more than 250 people to be committed to implementing TPs. In addition to the LTP target of 20, the County Council will lead the process from the Central Leicestershire LTP area with its programme for the County Hall TP in 2001/2. By the forecast year of 2006, the first 20 TPs in the LTP area should be well established and reducing traffic.

2.39 Traffic reductions through TPs will be the subject of targets and monitoring specific to each individual TP and will be geared to what is appropriate to each organisation as informed by commuting and business travel surveys at each workplace. For County Hall, the detailed travel surveys are now being analysed for the next stage in the formulation of the 2001/2 TP.

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PARKING MANAGEMENT

2.40 This LTP measure is aimed at making parking less convenient when regularly driving to work in town centres. It also embraces the Government's approach to parking in Planning Policy Guidance Note 13 – Transport (PPG13). This Government policy includes a restrictive approach to the provision of new parking spaces, as proposed in planning applications.

2.41 In town centres the LTP measure seeks to reduce commuter parking in favour of shorter stay visitor parking and also resident parking. In conjunction with the Borough and District Councils, the measure will involve on-street restrictions and charges off-street to favour short stay parking.

2.42 Better enforcement and reserved parking for residents is expected to result in more town centre commuters arriving other than by car. There is, however, no obvious basis for the appraisal of achievable traffic reductions, particularly over the whole day. It is therefore not considered to be an appropriate measure for association with any RTRA targets.

ROAD FREIGHT REDUCTION

2.43 Whilst there is marginal scope for more freight on waterways, the main opportunity for reducing lorry traffic is to send more goods by rail. It is not yet known, however, what the Government policy will be towards rail freight in terms of public investment through the Strategic Rail Authority (SRA).

2.44 At present, less than 10% of freight tonne mileage is by rail. It is thought that a rail market share of up to 25% could be achieved. It remains to be seen whether the SRA will aim to achieve such an increase. It is therefore concluded that road freight reduction is not for the County Council to consider as part of LTP or RTRA targets.

TARGET RELATED DATA

2.45 Because RTRA targets must relate to measurements of traffic volume, the only measure considered relevant in the LTP is the implementation of School Travel Plans (STPs). The target is an average 25% reduction in car arrivals at school.

2.46 The selection of pilot schools to lead the way with STPs has yet to be finalised and therefore current pre STP car arrivals have not been surveyed at any schools in the LTP area. The relevant information will be established and monitored using in school survey methods as opposed to traffic counts of the type used to monitor overall traffic levels.

2.47 The remainder of this report is concerned with traffic volumes on the road network and is not related to the single RTRA target for car arrivals at school. It is also unlikely that future traffic monitoring using traffic count data will be sufficiently sensitive and statistically reliable to measure the overall network traffic reductions due to STPs.

2.48 From the above it may be seen that the one RTRA target in this report does not arise from any assessment of existing traffic nor any forecast of growth as intended by the legislation. It was mainly for this reason that the order of the report was chosen to deal first with targets and subsequently with existing traffic volumes and forecasts.

3. EXISTING TRAFFIC

METHOD OF ASSESSMENT

3.1 The Guidance is not prescriptive about the basis of local traffic data and forecasts and encourages the County Council to make maximum use of existing information. For RTRA requirements, no further traffic counts have been carried out. The Guidance states a preference, but does not require, compatibility with National Road Traffic Forecast (NRTF) definitions. The implications are the subject of Section 5 of the report on data compatibility.

3.2 The National Traffic Census (NTC) is the basis of the Government's figures for the annual vehicle kilometres on non-trunk A roads in the LTP area combined with the County Council A roads in the Central Leicestershire LTP area. These figures are used in the Standard Spending Assessment (SSA) in each annual spending round for the Government's revenue funding of County Council local road maintenance. The NTC does not similarly cover B and minor roads because there are too many of them.

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3.3 The Guidance clearly describes how the local non-trunk A road vehicle kilometres are derived and suggests how the method might be locally extended to include B and minor roads by carrying out local surveys, or by setting up census points additional to those used for the NTC. However, the Guidance also states that there is no requirement to produce “aggregate” assessments in this way.

3.4 Having considered the practicalities and costs, this RTRA assessment is based only on existing data, but does aim to provide the initial platform or baseline for LTP traffic monitoring. No such measurement of outcomes is required by the RTRA, but traffic growth is part of LTP monitoring. It was therefore considered that any RTRA assessment work on existing traffic should be compatible with LTP monitoring.

3.5 Government advice on traffic monitoring makes clear that traffic counts on many days are required to detect year on year trends in traffic growth. Because of normal day to day fluctuations, single day manual counts at the same location in two successive years cannot give any realistic or statistically valid indication of traffic growth.

3.6 The LTP traffic monitoring will depend on an increasing number of continuous automatic count sites using inductive cable loops cut into the carriageway. The continuous count data will be uploaded into a new TARA database, which is currently being commissioned.

3.7 This new traffic flow database will allow comprehensive analyses and reporting so that year on year movements in growth can be detected at particular sites or for groups of sites in particular areas. Due to computer upgrading, the TARA database has not been available to assist the production of this report.

COUNT TYPES AND TIME PERIODS

3.8 In monitoring continuous automatic count data, it is not possible to classify different vehicle types in the normal way that is possible with single day manual classified counts. The results will therefore consist of all vehicle types combined. The TARA database can report using any specified time periods including those used for NRTF. At this stage, however, it is intended to only look at daily 24 hour traffic flows averaged over the whole 7 day week.

3.9 All the continuous automatic count sites have had data extracted for the three weeks in May 2000 which did not include a bank holiday. The average daily traffic flows for this 21 day period were then calculated.

3.10 In addition to the continuous count data, the full set of 1999 Government one day 12 hour manual counts has been used to complete the statutory assessment. The latter manual counts are carried out by the County Council for the Government on a contract basis. The 12 hour day from 07:00 to 19:00 comprises the NRTF periods 3 to 9 inclusive.

3.11 The 12 hour totals have been increased by 15% to give an equivalent 16 hour (Mon-Fri) daily flow. It has then been assumed that this is the same as the 24 hour (Mon-Sun) daily flow as given for the continuous count sites. This assumes a mid-range value of 365 for the M factor as used in COBA to convert a 16 hour (Mon-Fri) figure to a whole year flow. Given the normal tolerances in manual single day counts, seasonal adjustment factors were considered unsuitable, particularly without any TARA based studies of local seasonality.

3.12 The types of roads used for this RTRA assessment are all the non-trunk A roads as well as the B roads in the LTP area. However, traffic figures are not yet available for many lengths of the less important B roads.

RESULTS OF ASSESSMENT

3.13 The results of the assessment are given in the form of a traffic flow map at the end of this report. It is this map that comprises the statutory assessment of existing traffic. The traffic flows are the most up to date figures available.

3.14 The traffic flow map highlights the most important two types of non-trunk road in the LTP area and gives the daily or equivalent daily traffic flows at all the continuous count sites in May 2000, as well as the Government’s manual count sites for stipulated days in 1999.

3.15 The traffic flow map is the baseline for future traffic monitoring, which will involve further continuous count sites together with comprehensive analyses using the powerful reporting facilities in the new TARA traffic flow data base.

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3.16 The traffic flow map separately shows the continuous count sites which are connected by telephone line to the City and County Council Area Traffic Control centre located in the city centre of Leicester. During the three weeks in May 2000, some of these sites were not working, but a 999 value on the map marks the places where such data are normally available.

4. FORECAST TO 2006

APPROACH TO FORECASTING

4.1 The baseline for forecasting is the traffic flow map at the end of this report. The single forecast year is 2006 as recommended in the Guidance. The forecasting process has then involved an examination of likely percentage increases in the traffic flows shown on the map over the six year period from 2000 to 2006.

4.2 The actual forecast is the most likely single percentage value for the whole LTP area, having examined all the various sources of information. This percentage value can then be used with the traffic flow map to give the predicted 2006 daily flows at any of the locations with figures shown on the map.

4.3 For reasons given below, including the very low growth rates in recent years, it is considered not unreasonable to regard the Government's 1999 manual count figures as equivalent to 2000 values for the purposes of the baseline and forecasting.

GUIDANCE REQUIREMENTS

4.4 When there is no "aggregate" extended assessment of vehicle kilometres, as rejected for practical and cost reasons, the Guidance states the importance of relating the data to the objectives and measures in the LTP. However this RTRA assessment uses all the suitable and available data and is therefore unrelated to any individual LTP objectives.

4.5 What the traffic map figures do provide are spot readings of traffic flow at numerous points where future readings will enable growth to be monitored in what is considered to be an affordable and realistic way. Because of this, the data presented relate to the overall LTP aim of moderating general traffic growth, rather than any particular strategies or locations.

4.6 The guidance points out the scope for using the NTC data for historic traffic trends in association with forecasting. As described in Section 5, however, there are NTC and NRTF differences of definition which have to be accepted, although the SSA components of the NTC are particularly suited to RTRA assessments which exclude trunk road traffic.

4.7 The guidance gives various reasons for the uncertainties of traffic forecasting and the many possible causes of traffic growth. It is thought appropriate in this context to suggest that most of the causes of traffic growth are beyond the control of the County Council.

4.8 The desirability of a local traffic model is featured at several points in the guidance. The advantages for forecasting are that particular local circumstances, such as land use, can be properly reflected in RTRA forecasts. Unless needed for other purpose, however, the extended timescales and high data collection costs make modelling an unrealistic option for RTRA forecasts in more rural areas.

4.9 Away from conurbations and hinterlands, such as the Central Leicestershire LTP area, particularly where traffic growth is less of an issue, area wide traffic modelling is unlikely to be adopted as a forecasting or evaluation tool. Although the County Council has a number of local traffic models within the LTP area, these exclude the large mainly rural expanse of the County for which traffic forecasting is required.

4.10 Whilst the Guidance accepts that the impact of some policies may be quantifiable without a local traffic model, it states that it is important to ensure that full advantage is taken of the "disaggregations" that the NRTF 1997 offer. However, the Guidance is unclear on how NRTF "disaggregations" can be applied in forecasting outside modelled areas.

4.11 A particular request in the guidance is to draw attention to local places which will have a significant influence, for example by attracting longer distance traffic onto local roads to gain access. In the LTP area, the East Midlands Airport and associated developments are very much of the type described by the Guidance. However, the main effects of rapid traffic growth, up to and beyond 2006, will be concentrated on the many trunk roads which approach the airport from all directions.

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4.12 Much of the growing airport and related traffic will arrive from outside the LTP area and be routed along the M1 and other trunk roads without having a major impact on local roads. The particular worry, however, is the current lack of trunk road or other transport proposals to mitigate the impacts of development.

4.13 Failure to tackle trunk road congestion, at the same time as rapid airport growth, could have serious consequences with trunk road traffic diverting onto less safe or suitable local roads. These issues are a key challenge for the Government's MMS of North-South movements in the wide M1 corridor through the East Midlands region and also the more concentrated MMS of the A453 corridor from M1 junction 24 to Nottingham.

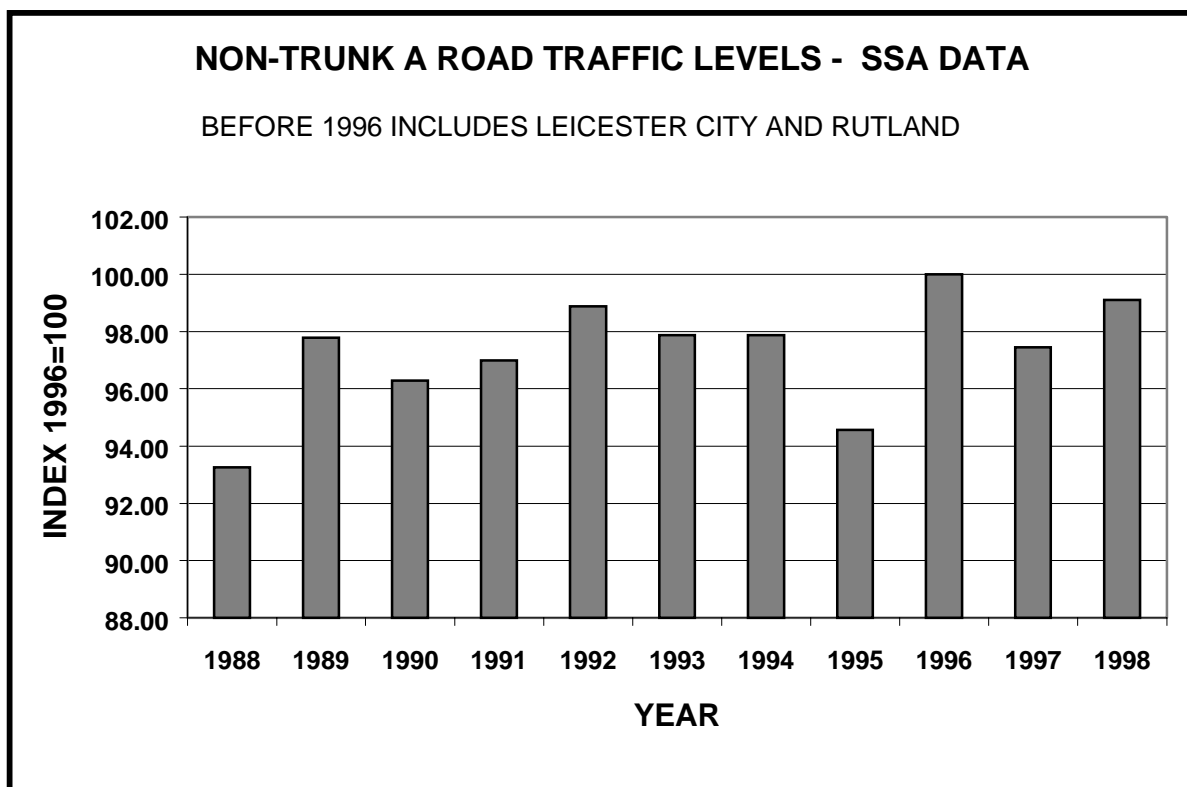
HISTORIC AND FUTURE GROWTH

4.14 A particular requirement for forecasting is a comparison on a consistent basis with past trends. For all the non-trunk A roads in the County including the whole LTP area, the SSA data provide a ready made basis for examining recent trends.

4.15 The table below shows the position from 1988 to 1998, the most recent year available. The table shows that non-trunk A road traffic has grown by around 5%, or 0.5% per annum, over the last 10 years or so. This is very much less than the 2 to 3% NTC national growth on all non-built-up A roads, including trunk roads.

4.16 The indexed figures were derived by dividing SSA vehicle kms/day by road length so as to give the annual average daily flow (AADF) average value for a typical section of non-trunk A road in Leicestershire. This gave figures of around 11,000 AADF over the period 1988 to 1998. For 1996, both the old and new Leicestershire area figures were calculated for indexation of values either side of 1996.

4.17 A notable feature of the table is the year on year fluctuation in values, almost certainly due to the reliance on one day vehicle counts. This suggests the impracticality of trying to monitor local traffic by each year calculating vehicle kilometres this way. Taken over the 10 years, however, the SSA data are a reliable indicator of historic traffic growth on non-trunk A roads in Leicestershire



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4.18 The implications of the SSA growth trend are that the non-trunk A roads locally have had a fraction of the growth nationally on the trunk A roads, many of which are of near motorway standard, particularly those with the highest vehicle kilometres. Within the LTP area, the A42 and A46 are examples of such roads.

4.19 Of particular relevance, is that the recent SSA Leicestershire growth trend of about 0.5% per annum is not far off the national growth trend for minor non-built-up roads of B class and below. In the latter category, the NTC shows hardly any growth during the 1990's.

4.20 The above comparisons are useful when considering what may happen on the LTP area non-trunk A roads in the light of national growth predictions in NRTF and also TC&P. The latter gives figures combined for all trunk and non-trunk rural A roads. This category is probably similar to the NTC category of non-built-up A roads, but includes the increasing number of rural A roads with 40mph limits.

4.21 Similarly, the TC&P category of rural B and minor roads is probably very similar to the NTC category of non-built-up minor roads which includes B roads. Using TC&P growth factors, there is a reasonable basis for considering likely future growth for all non-trunk roads in the LTP area.

4.22 A particular advantage of TC&P forecasts is that different predictions are given according to the extent of implementation of integrated and traffic reducing transport policies.

FORECAST RANGES

4.23 For all A roads nationally, TC&P predicts annual growth of 3.1% without LTP integrated policies. Given LTP funding at recent transport expenditure levels (Scenario A), the predicted annual growth is 3.0%. With double recent expenditure (Scenario B), the predicted annual growth is 2.8%. Introduction of widespread road charges or parking levies (Scenario C) will not occur before 2006 and is not therefore relevant to RTRA forecasting.

4.24 For class B and minor roads the baseline TC&P prediction of 1.1% annual growth drops to 1.0% in Scenario A and 0.8% in Scenario B. Since Leicestershire non-trunk A roads have had annual growth of 0.5%, which is much less

than the NTC levels of 2 or 3% for all A roads, it is considered likely that future growth levels may also be much less on non-trunk local A roads than the annual figures of around 3% in TC&P as described above.

4.25 Because of the historic 0.5% trend, it is considered reasonable to assume that local non-trunk A roads will have the future growth characteristics of national B and lesser roads with predicted TC&P annual growth of around 1% as described above for Scenarios A and B.

4.26 A 1% figure would also lie in the middle of the 0.5% (Low) and 1.3% (High) annual growth, locally predicted for Leicestershire B and lesser roads between 2000 and 2006. These are NRTF local predictions from the Government's SPOT computer programme.

FORECAST CONCLUSION

4.27 From the descriptions, considerations and assumptions above it is concluded that both non-trunk A roads and other local roads in the LTP area will have annual growth of 1% from 2000 to 2006 in line with TC&P national and NRTF (SPOT) local predictions for B and lesser rural roads. Individual traffic flows in 2006 will therefore be 6% above the values shown on the traffic flow map subject to normal tolerances with the manual one day counts.

4.28 The Guidance asks for a contact name for all RTRA reports. All enquiries should be made to Dr Douglas Reid at Leicestershire County Council - Telephone: 0116 265 7103.

5. DATA COMPATIBILITY

GOVERNMENT STANDARDS

5.1 The Guidance encourages, but does not require, RTRA reports to use methods compatible with the Government's 1997 NRTF definitions. These relate to vehicle types, time periods, road types and also types of urban area individually named or classified by size of area in square kilometres. There are other Government definitions which are used in relation to the NTC, economic assessments, such as COBA and allied methods as well as the more recent work in TC&P. There are also differences with respect to County Council requirements and methods.

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5.2 The intention in this section of the report is to highlight the differences in systems of definition and thereby contribute towards the possibility of achieving more consistency both at local and national level. With LTPs and the RTRA encouraging much more data collection, there is the opportunity to comprehensively exchange data in the wider interest. The main points of concern are discussed under the NRTF headings below.

VEHICLE TYPES

5.3 The NRTF categories for “mechanically propelled vehicle” as in the RTRA are:-

- ❑ Cars, taxis & minibuses (< 9 seats).
- ❑ Light goods vehicles (< 30 cwt unladen).
- ❑ Rigid body goods vehicles (Rigids).
- ❑ Articulated goods vehicles (Artics).
- ❑ Buses and Coaches.

The only obviously missing group of vehicles above is motor cycles, also known as powered two wheelers (PTWs), given that agricultural vehicles can be treated as goods vehicles.

5.4 Whilst NRTF definitions are used for forecasting, much Government traffic data is obtained from traffic counts as part of the National Traffic Census (NTC). The reported results for the 4th Quarter of 1999 include the following definitions of vehicle types:-

- ❑ Cars, taxis & small buses (< 16 seats)
- ❑ Light vans (< 3,500kg gross weight)
- ❑ Goods vehicles(> 3,500kg gross weight)
- ❑ Others (m’cycles, buses & coaches)

5.5 A third set of Government definitions exists for COBA and associated methods of assessment for the appraisal of road schemes. The COBA definitions are similar to NRTF above but the combination of Rigids and Artics is split into the Other Goods Vehicle (OGV) 1 and OGV2 categories.

5.6 The main difference between COBA and NRTF is that 4 axle Rigids are grouped with all the Artics in the OGV2 category. Only the smaller Rigids of 2 or 3 axles are placed in the OGV1 category.

5.7 For local classified traffic counts, there are two distinct problems. Firstly, traffic counts for one particular purpose do not quite fit when used for other purposes. For example a manual junction turning count requiring COBA classifications OGV1 and OGV2 is difficult to use for NRTF or other purposes.

5.8 The second problem arises with heavy goods vehicles (HGVs). The LTP measures for Road Freight and Bridge Maintenance or strengthening often depend on restricting HGVs from using selected routes. HGVs are goods vehicles above 7.5 tonnes gross weight which carry reflective rear plates and require the driver to hold an HGV driving licence. All three Government definitions fail to distinguish HGVs from 2 axle Rigids below 7.5 tonnes.

5.9 Examples of non-HGV goods vehicles are the larger sorts of vans used for shop deliveries which have twin tyres at the back but no reflective plates. Such vehicles can be driven without an HGV driving licence and are allowed in the outside lane on 3 or 4 lane motorways. These vehicles are counted within the Government’s goods vehicle categories for genuine HGVs. As a result, traffic figures are often presented which exaggerate the genuine HGV proportion.

5.10 In the majority of County Council manual classified counts, the non-HGV goods vehicles are separated out so that HGV routing and enforcement issues are correctly informed of the relevant goods vehicle volumes. There would appear to be considerable scope for harmonising the various different systems of Government and local classification.

TIME PERIODS

5.11 The NRTF time periods comprise a series of time intervals all starting and ending at zero minutes past the relevant hours. Whilst period No. 4 from 08:00 to 09:00 (Mon-Fri) may be a very typical AM peak hour, local peak hour definitions may be needed, such as the 16:30 to 17:30 PM peak in smaller towns.

5.12 Locally specific peak hours for a range of assessment purposes may not match the NRTF time periods although they are periods with the highest one hour rates of flow. As a result, peak hour RTRA targets may not be NRTF compatible.

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ROAD TYPES

5.13 The NRTF road types listed in the Guidance are as follows:-

- Rural Motorways.
- Rural A road dual carriageways.
- Rural A road single carriageways.
- Rural B roads.
- Rural C and unclassified roads.
- Urban Motorways.
- Urban A road dual or single carriageways
- Urban B and C roads.
- Urban unclassified roads.

The definition of urban and rural areas in NRTF is based on a comprehensive system of urban area types which includes a list of the larger named urban areas, none of which are in the LTP area. For all the other lesser urban areas not named, there are four categories based on area size, the smallest category of which comprises 2,142 urban areas of less than 5 square kilometres.

5.14 In contrast with NRTF, the NTC definition of road types is as follows:-

- Motorways
- Non-built-up A roads
- Non-built-up minor roads (B and others)
- Built-up A roads
- Built-up minor roads (B and others)

Whilst this might appear similar to the NRTF definitions, the definition of "built-up" is a speed limit of 40mph or less. Any such speed limits outside NRTF urban areas result in the "built-up" classification. Faster urban area roads, for example with 50mph speed limits, are "non-built-up" although they are not rural.

5.15 The TC&P definitions are as follows:-

- Rural Motorways.
- Rural A road dual or single carriageways.
- Rural B and minor roads.
- All roads in urban areas

5.16 The TC&P definitions appear to be a useful combination of the NRTF categories listed above. With regard to the statutory requirements, none of the above systems of definition allow County Council A roads to be separately considered from the LTP area trunk A roads which are not covered by the RTRA.

5.17 As part of the Government's Standard Spending Assessment (SSA) for the central revenue funding of County Council local road maintenance, a further set of definitions is used in the Government's required R199 road length information returned by the County Council each year. These definitions are:-

- Non-trunk motorways.
- Non-built-up A roads (not-trunk).
- Non-built-up B roads.
- Non-built-up C roads.
- Non-built-up unclassified roads
- Built-up A roads (not trunk).
- Built-up B roads.
- Built-up C roads.
- Built-up unclassified roads.

In the case of the SSA two categories of A road, the R199 annual road length returns are used, together with previous year NTC traffic counts, to give the Government assessment of vehicle kilometres driven on Leicestershire non-trunk A roads for SSA purposes.

5.18 The SSA definitions appear to be linked to the NTC definitions, but are broken down into more categories. For this report, the SSA system of definitions is the only one which separates trunk and non-trunk roads to suit the RTRA statutory requirements. Although not compatible with NRTF definitions, particularly with respect to urban area types, the SSA definitions do offer a way forward which links with NTC methods of traffic monitoring.

5.19 The difficulty with SSA definitions comes when attempting to apply forecasts based on NRTF or TC&P predictions. Partly because of the lack of standardisation in definitions, this statutory report has involved relatively crude assessment of existing traffic, as well as a 2006 forecast, using minimum definitions which avoid the difficulties outlined above.