

Strategic Environmental Assessment Statement by the Royal Borough of Kingston March 2006

Introduction

Background

1. Strategic Environmental Assessment (SEA) has been conducted during preparation of the LIP. In November 2004 a 'Scoping Report' was drawn up with initial proposals as to which issues would need detailed attention. Four statutory environmental consultees, the Environment Agency, English Nature, the Countryside Agency and English Heritage were invited to offer their views. The Environment Agency took up that offer, submitting a useful checklist of issues they felt the LIP should cover. English Heritage also replied in April 2005 and the Countryside Agency in May 2005 after earlier deadlines had passed so their views help inform the final LIP and this Statement.
2. During the period to early March 2005 an Environmental Report was written and was published to accompany the consultation draft Local Implementation Plan. The report provided an inventory of environmental issues in the Borough, defined the environmental baseline and explained the range and level of coverage (the scope). It looked at alternative ways to achieve LIP objectives and, based on forecast environmental effects, made a proposal on the best alternative. The report covered mitigation measures and discussed how progress could be assessed and monitored.

Requirements of the SEA Statement

3. SEA Regulations 16.3c)(iii) and 16.4 require that a 'statement' be made available to accompany the plan, as soon as possible upon adoption of the LIP. This statement must contain the following information:
 - A) How environmental considerations have been integrated into the LIP;
 - B) How the Environmental Report has been taken into account;
 - C) How consultation responses have been taken into account;
 - D) Reasons for choosing the LIP as adopted, in the light of other reasonable alternatives dealt with;
 - E) Measures that are to be taken to monitor the significant environmental effects of the implementation of the LIP.

In addition, all consultees need to be made aware of both the adoption of the Plan, and the availability of the LIP and the accompanying statement.

Purpose and Timetable

4. An important function of the Statement is to show what action has been taken by the Borough during the development of the SEA and LIP, to produce a better environmental outcome. The Statement justifies the choices made in the adopted LIP, therefore making it a transparent process. The full list of documents produced at different stages of the SEA process are shown in table 1.

Table 1: Explanation of existing LIP and SEA documents and their availability

Documents produced to date	Purpose	Availability
The SEA Scoping Report Nov 2004	Initial scoping consultation	RBK Website
The Consultation Draft LIP March 2005	Consultation	Website and libraries *
Environmental Report March 2005	Consultation	Website and libraries
Final LIP November 2005	Submission seeking approval	Website until approved
Approved LIP March 2006	Statutory Document	Website and libraries

Council's website at www.kingston.gov.uk/local_implementation_plan

In this website address the spaces either side of implementation are underlined.

*When the Approved Local Implementation Plan is available the consultation draft will be removed from the website and libraries to prevent any confusion.

5. All SEA documents have been written by Council officers, predominantly from the Highways and Transportation department within Environmental Services. There was also input from Environment and Sustainability department within Environmental Services, and from the Environmental Health section within Community Services. External input to the drafting of the Environmental Report came from local organisations and individuals with expertise in environmental issues such as Kingston Friends of the Earth and members of the former LA21 group.
6. This Statement has been drawn up to accompany the final Local Implementation Plan submitted to the Mayor and GLA in November 2005. If the Plan is not adopted as submitted, and any changes have implications for the SEA Statement, it will be modified accordingly. Therefore the SEA Statement will only be available to the public once the LIP reaches 'Adopted' status. Both documents will be placed on the RBK website and in the libraries.

How environmental considerations have been integrated into the LIP

7. Regardless of the requirement to carry out SEA, environmental considerations would have been prominent during LIP preparation. However the formal SEA process was valuable in ensuring comprehensive consideration at every stage, and involving the public and other stakeholders in a consultation process. The factual information collated by the Council and the feedback from consultees has positively influenced the final shape of the LIP.
8. Environmental considerations are dealt with at the RBK macro level and, where appropriate, at the micro level. A macro level example is that the multiple environmental benefits of cutting traffic levels help justify the LIP objective to achieve this. They add weight to a case also built on the desire to:
 - reduce congestion,
 - free up roadspace for use by non-car modes in order to promote modal shift
 - reduce obesity and improve fitness and health

The strength of the environmental argument in favour of traffic reduction has helped the Council decide to set more ambitious reduction targets than those set by the Mayor of London for South London boroughs. The Local Implementation Plan guidance of July 2004 had set a sub-regional target of no more than 4% growth borough wide, and a 1% fall in town centres, between 2001 and 2011. RBK has opted for 3% decline borough wide, and a 5% fall in Kingston town centre, between 2001 and 2011.

9. Examples of micro level responses are that, in response to concerns expressed about bio-diversity by organisations consulted, a clear commitment to follow best practice during verge cutting has been included in chapters 3 and 5 of the LIP. The need to reduce noise outside sensitive locations such as hospitals and schools has led the Council to programme a new automatic traffic counter outside Kingston Hospital.

How consultation responses have been taken into account

10. The Council's Environment and Neighbourhoods Overview Panel considered the Environmental Report on 21 April 2005 and made some comments which are publicly available in the minutes of that meeting and reproduced below

The Panel **AGREED** to:

A) note and commend the work undertaken in completing this first Strategic Environmental Assessment (SEA) for the Borough and urge the Executive to utilise this experience in future SEAs prepared by the Council;

B) notwithstanding the budgetary implications, support and urge the Executive, to proceed with the innovation of using coated salt crystals to help neutralize the burning effect of salt sprayed on roads whilst retaining the de-icing properties (Para 19 of the Environmental report);

C) request that the Strategic Environmental Assessment Statement which is to be written to accompany the final Local Implementation Plan provide a fuller assessment of Richmond Park traffic issues. This assessment should allow negative environmental effects on Borough residents living in alternative routes to be compared with positive effects for the flora and fauna of Richmond Park arising from any decision to reduce traffic levels in the Park (Para 20 of the Environmental report);

D) support the use of modified roadside lighting and solar panels in roofs and south facing walls of Council car parks and in south facing noise barriers as a means of promoting the conversion to more energy efficient lighting (para 39 of the Environmental report);

E) support the audit of the Borough's street furniture (para 57 of the Environmental report);

F) not support the implementation of congestion charging as an alternative to a strong sustainable transport policy as a means of reducing traffic levels and environmental impacts (para 69 of the Environmental report);

G) support the replacement of any trees felled on a 2 for 1 ratio so as to retain the borough's leafy appearance (para 17 & 70 of the Environmental report);

H) amend Table 6, Biodiversity, Landscape/Townscape entry to read 'reduce the impact on rare and declining species and those of local importance';

I) request that the SEA Statement refer to taking transport related opportunities to increase the habitat for wildlife, for example by encouraging:

- the creation of hibernation, nesting and bat roosting sites within planning applications both in terms of building and in terms of planting to benefit all our wildlife;
- planting of shrubs for birds and nectar feeding insects such as butterflies;
- healthy populations of insects and meal worms, which are vital food sources for London's song bird population which is in decline.

11. The above comments have been taken into account as appropriate within the LIP or passed to the Landscape and Arboricultural Unit.

12. All those sent the summary or full consultation draft Local Implementation Plan electronically or by hard copy were also sent the Environmental Report or provided with details of how to view it on the website or in libraries, or request hard copies. With the exception of Transport for London a very modest level of feedback was received from other consultees on environmental issues. The TfL comments were detailed and have influenced the content of this statement and the decision to write an addendum to the Environmental Report.

13. There has been some modification to the LIP following feedback on specific environmental issues. In addition an Environmental Report addendum has been written and placed on the website. This adds new material to correct a few omissions from the Report; for instance a non-technical summary of the Report. In view of comment received on the wording of the Environmental Report the

addendum also states agreed changes. The addendum is included as annex 1 to this Statement.

14. The LIP now refers to a dock in Kingston, at the southern end of Canbury Gardens, used by an educational charity's barge. The adjoining site has been used in the past for interchange from barges, and in planning improvements to the site the Council is retaining the possibility of future freight use. The Council would co-operate with TfL and any water freight operator seeking to establish freight interchange there. However that would be in a context of protecting the environment of the Thames. Paragraph 3.27 says [The Council] would however wish to ensure that any significant increase in use of the Thames should only be considered where suitable for flora and fauna, compatible with recreational use and where the impact on adjoining land is acceptable.
15. The Borough policy statement's coverage of environmental effects and assessment has been strengthened (see paragraphs 3.108 to 3.113 of the LIP). There are now references to the need for quiet road surfacing, avoidance of local noise impacts from traffic calming measures, promoting more outlets for LPG or CNG fuels and extending charging points for electric vehicles. There is also positive support for use of solar and wind power to provide power to parking ticket machines and street lamps.

Assessment of Richmond Park traffic issues

16. Although Richmond Park is outside the boundary of the Borough it is an important leisure resource for Borough residents. It is also a site of national and international importance for wildlife conservation. Among the reasons for its SSSI and National Nature Reserve status are its 1,000 species of beetle, its ancient oaks, its deer herds and endangered species of fungi. It contains half the acid grassland in London.
17. The Royal Parks Agency have the power to determine which vehicles may use roads within the Park and all lorries are banned (other than for delivery to park premises). The Agency is concerned about the impact of car traffic on the biodiversity of the Park and its role as a place for leisure. Attempts to limit through traffic have been resisted by adjoining Boroughs including RBK because of concerns that the diverted traffic would increase congestion and further degrade the environment of certain residential roads.
18. The Park is only open to traffic during daylight hours so during December and January some a.m. and most p.m. peak traffic is obliged to use Borough roads. This provides a reasonable approximation of the traffic conditions that would be experienced year round if through traffic could no longer use the Park.
19. The Council has placed an automatic traffic counter at the Kingston Gate entrance (northern limit of Queens Road) and this shows that the weekday average for total traffic entering the park via this gate in June 2004 was 6,700 vehicles in the 12 hours from 7.00 a.m. to 7.00 p.m. The busiest hour was 7.00 a.m. to 8.00 a.m. with volumes peaking at 1,260 vehicles. This is a higher peak volume than many of the A roads in the Borough including the A243 red route. The equivalent 12 hour time period in December 2004 saw a weekday average for total traffic entering the park of 4,224 vehicles. The total is restricted because the gates shut by or soon after 4.00 p.m. Traffic levels tend to be higher in winter than summer so, in approximate terms, 3,000 drivers who would have preferred to use the Park are displaced onto

Borough roads during the evening peak and the early part of the morning peak in mid winter.

20. Preventing through traffic using the Park at all would transfer the majority of the recorded traffic crossing the Park via Kingston Gate onto RBK roads. Some car trips would no longer be made but transferring traffic would probably mean at least 6,000 more vehicles from 7.00 a.m. to 7.00 p.m. in the summer and up to 4,000 vehicles from 7.00 a.m. to 7.00 p.m. in the winter. The vehicles would partially disperse around the network but tend to converge on the Richmond Road and Kingston Hill corridors, flowing predominantly north in the morning and south in the evening. Residents of Queens Road, Park Road, Crescent Road and the residential roads that link them, which lead to the Kingston Gate, would see traffic drop substantially. The net effect would be that noise, air quality pollutants and severance effects would rise overall though the intense effect experienced near Kingston Gate would diminish. Any additional congestion on bus routes such as the 65 which uses Richmond road would hamper the Council's target to reduce journey times on LBI routes and its efforts to encourage greater use of buses by car drivers. Bus services in Tudor drive could also see more delays.

How the Environmental Report has been taken into account

21. The Report was prepared in a simultaneous process with the consultation draft LIP so that document was consistent with the Report's contents. The most important environmental consideration the LIP needed to take account of was the role of road transport in climate change and air quality. Although technology has and will reduce individual vehicle emissions that damage air quality, the same cannot be said of CO2 emissions. The technology exists to make vehicles far more fuel efficient but the real cost of fuel remains too low to incentivise car makers and car buyers. As a result CO2 emissions will broadly mirror traffic levels and the surest way to bring overall emissions down is to reduce traffic levels.
22. The vision of reducing traffic levels is ambitious but, on environmental grounds, essential. Illustrating the size of the change needed, the Sustainable Development Commission has recommended to Government a 50% cut in carbon emissions from road transport on 1990 levels by 2025.¹ In addition to the climate change and air quality benefits there are gains related to noise, road safety, severance of communities and shopping centres, fitness and obesity levels. Minor benefits to flora and fauna are also available and falling traffic creates opportunities to improve the social environment of residential streets and permit them to become 'Living Streets'.

Reasons for choosing the LIP as adopted, in the light of other reasonable alternatives dealt with

23. In writing a local plan to help implement a London wide strategy the 'reasonable' options available to RBK are quite limited by the content of the strategy. They are further limited by the fact that the Council's Borough Policy Statement is committed to "putting the environment at the heart of everything we do". Therefore courses of

¹ Climate Change Programme Review: the submission of the Sustainable Development Commission, September 2005.

action which conflicted with the Mayor's Transport Strategy or the Council's environmental objectives were not deemed reasonable. The main 'options' were between different ways to achieve objectives like traffic reduction, and the degree of ambition in setting targets. It could be considered reasonable to set targets by extrapolating existing trends but the Council has in fact set what it believes to be more stretching targets. This is an area where informed judgement has to be exercised because the future is uncertain and some of the underlying factors that influence variables like traffic levels, mode share and casualties can change significantly over time.

24. The Environmental Report considered the advantages and disadvantages of using road pricing to help the Council reduce traffic levels. Since no additional initial funding was assumed a road pricing scheme could only have been implemented at the cost of reduced expenditure on other transport programmes. If the road pricing scheme proved to produce higher income than its operating costs then eventually a revenue stream would be available for use on other transport programmes. The possibility of this outcome was not considered strong enough to outweigh the certainty of reduced expenditure on other transport programmes and schemes at the outset.
25. Since the Environmental Report was completed the Government has begun speaking more seriously about road pricing. It has made it clear that awards from its Transport Innovation Fund (which starts in 2007 and will reach £2 billion a year by 2012) will be strongly directed to authorities that have serious proposals on road pricing. Transport for London is seen as a front runner, having already gone out to tender on the technology needed to extend road pricing beyond central London. TfL have estimated that a 15p/km charge on outer London roads would cut congestion by 40%. If TfL do attract new resources that could cover the initial costs of road pricing in Kingston then the earlier Environmental Report judgement would probably be reversed and Kingston would be interested in participating on environmental grounds. This would be as an addition to the Local Implementation Plan strategy and would be expected to accelerate reductions in traffic and assist the Borough's progress on environmental performance indicators.
26. Returning to the overall strategy adopted in the LIP, the combination of policies offer a practical way for the Borough to play its part in environmental improvement, particularly of air quality, and in limiting global warming. They move the Borough in the direction of a sustainable transport system, accessible to all and strike a balance between the needs of residents, visitors and businesses. The speed of improvement is the best achievable within existing constraints such as public/political acceptability of constraints on car use and parking. The LIP strategy to 2011 will, if it succeeds in its aims, provide a basis for more ambitious improvement in the subsequent LIP because the public, local business interests and politicians will have observed the way both their environment and economy have improved while the Borough has become less car dependant, non-car options have flourished and social inclusion has improved.

Measures to be taken to monitor the significant environmental effects of implementing the LIP

27. The Council will monitor the significant effects, both positive and negative, of the LIP. The variables to be monitored are shown in the following table and have been

selected as providing the best combination of practicality and significance. The two air quality pollutants that underlie the Borough's need for an Air Quality Action Plan are stated first, followed by some less problematic air quality pollutants monitored by the GLA. Expanded versions of this table will be reproduced in the LIP Annual Progress Report and will create a consistent monitoring regime so that year by year changes and trends can be identified. The final column indicates who has responsibility for monitoring the variable shown. Timing of data collection will vary but the most up to date statistics for each monitored effect will be placed in the Annual Progress Report, expected to be published each summer.

Table 2: Environmental Variables

<u>Air Quality Pollutants of Concern</u>	<u>Variable</u>	<u>Responsible Body</u>
NOx	<u>Annual mean parts per billion</u>	RBK
PM10	<u>Exceedence of 24 hour mean limit</u>	RBK
<u>Other Air Quality Pollutants</u>		
SO2	Tonnes emitted	GLA
CO	Tonnes emitted	GLA
VOCs	Tonnes emitted	GLA
Benzene	Tonnes emitted	GLA
Butadiene	Tonnes emitted	GLA
<u>Global Warming Pollutants</u>		
CO2	Tonnes emitted	GLA
<u>Noise</u>	Noise complaints	RBK
<u>Casualties</u>	Based on table 9.1 in LIP	RBK
<u>Mode Share</u>	Shares for work trips, education trips and for all non-car trips will be reported	TfL
<u>Traffic</u>	Million vehicle-kilometres (DfT) and ATC traffic counts (RBK)	DfT and RBK
<u>Material Assets</u>	Carriageway and footway BVPIs. Recycled aggregate %.	RBK RBK
<u>Biodiversity</u>	Rare species recorded	RBK
<u>Obesity</u>	Proportion of RBK's children who are obese	Primary Care Trust

Conclusion

This statement concludes the formal SEA process but attention to the environmental effects of transport will be continuous during the period covered by the Local Implementation Plan. The policies within the LIP are not set in stone and if new technology or other developments enable the Council to move at a faster pace in terms of environmental improvement they will be taken. The monitoring data will be analysed and, where trends are unsatisfactory, used to justify policy modification with the aim of bringing trends back on course.

Royal Borough of Kingston: Environmental Report Addendum
November 2005

Introduction

This addendum adds further detail to the Local Implementation Plan Environmental Report (March 2005) in the form of:

- an outline of the Local Implementation Plan (LIP) and its main objectives
- the LIP's relationship with other plans and programmes
- an analysis of international, national, regional and local plans which concern environmental protection and have informed the development of the LIP and its SEA
- a description of the duration of environmental effects and any secondary, complementary or synergistic effects
- a note on the methods used to assess LIP effects
- more information on what will be monitored, how it will be conducted and by who
- a non-technical summary of the Environmental Report

Outline of the Local Implementation Plan (LIP) and its main objectives

The LIP contains the transport strategy to be pursued by the Borough up to 2011, coinciding with the period covered by the Mayor's Transport Strategy and contributing to that Strategy's implementation in this Borough. The LIP philosophy is to comprehensively reduce the need to travel, in terms of frequency and distance but to selectively increase the opportunity to travel if this is needed to provide adequate accessibility. The overall expectation is that the Borough's economic and social needs can be supported without any increase (and in fact a small decrease) in traffic as a result of greater reliance on non-car forms of transport. This will lead to an improvement in air quality and make an important local contribution to limiting global warming. The LIP will improve accessibility and social inclusion and the Council will continue working closely with the Mobility Forum and voluntary sector partners in Kingston. The Council will take an active approach at the sub-regional level to advance medium and long-term public transport priorities on orbital movement and links between regional centres.

LIP objectives are:

- To restrain demand for travel as a whole
- To make non-car means of transport more attractive, thereby reducing reliance on the car
- To reduce congestion on the road network
- To improve accessibility to town centres and other important facilities for non-car users
- To make efficient use of our limited road space

- To maintain our transport assets at an appropriate level and at least meet national highway condition standards
- To improve road safety and the quality of streets in respect of security, noise, air quality and visual appearance
- To make social inclusion and equality considerations central to our transport policies.

The LIP contains several targets which quantify the progress being aimed for. The most important are to bring the car share of all trips by Borough residents (53% in 2001) down to 50% by 2006 and 45% by 2011 so that 55% of trips will be made by other means in 2011. That will permit a slight decrease in absolute levels of car use in the Borough's town centres (down 5% by 2011) and in the remainder of the Borough (down 3% by 2011). Compared to the 1994 to 1998 average, the numbers of killed and seriously injured on the roads will fall by between 40% and 55% by 2010, depending on the class of road user. All schools will have travel plans, cycle use will double and walking trips per person will rise 10%. The condition of roads and footways will be brought up so that all are at a safe and serviceable standard by 2011.

As part of the consultation process a Local Implementation Plan Consultation Draft Summary was produced in March 2005. This remains available by request from Caroline Stanyon, LIP team, 020-8547-5204.

LIP relationship with other plans and programmes

The LIP is influenced by a wide range of other plans whose content has some bearing on transport and environmental policy in the Borough. In approximate order of importance to the LIP's contents these are:

Plan or Programme	Area of Influence
Mayor's Transport Strategy	All aspects
The London Plan	Population and employment forecasts, land use policy, parking policy, social inclusion objectives.
Borough Policy Statement	Objective to promote alternatives to the car and achieve a sustainable future, and reconcile economic development with "putting the environment at the heart of everything we do".
RBK Community Plan	The Plan contains the aspirations of the community which, wherever possible, the LIP seeks to deliver.
SWELTRAC Policy	South West London transport improvements which the LIP seeks to deliver.
South London sub-regional development framework (SRDF)	Regional aspects of planning and transport
Disability Discrimination Act (1995)	Equality aspects of transport policies
RBK Air Quality Action Plan (2005)	Air quality improvement
National Motorcycling Strategy (2005)	PTW policy

Analysis of international, national, regional and local plans which concern environmental protection and have informed the development of the LIP and its SEA

It is assumed that local and regional plans have already taken into account national and international obligations and objectives. Only the most relevant international and national plans are therefore listed.

Plan or Programme	Area of Influence
International	
EU Birds Directive 79/409/EC	Biodiversity and the protection of endangered species of bird
EU Habitats Directive 92/43/EC	Biodiversity and the protection of key habitats
Kyoto Protocol on Climate Change (1997)	Sets the obligation for signatories to reduce greenhouse gases by, in the UK's case, at least 12.5% below 1990 levels by 2008 to 2012
National	
Environment Act (1995)	This Act required the preparation of a national air quality strategy and a system of Local Air Quality Management by local authorities.
Road Traffic Reduction Act (1997)	Established a duty on local authorities to reduce traffic or reduce the growth rate of traffic
National Road Safety Strategy (2000)	Basis for road safety targets that have been adopted (or bettered) by London and by individual local authorities
Environmental Assessment of Plans and Programmes Regulations 2004	Domestic legislation to implement EU directive on SEA
UK Sustainable Development Strategy 1999 (revised March 2005)	Overall sustainability considerations including resource consumption
Regional	
Mayor's Air Quality Strategy (2002)	Road vehicle emission reduction
Mayor's Biodiversity Action Plan (2002)	This contains 72 proposals to protect and care for London's biodiversity. Greening the built environment is especially relevant to the LIP
Mayor's Municipal Waste Management Strategy (2003)	Directs Boroughs to ensure waste is handled in a sustainable manner
Mayor's Energy Strategy (2004)	Sets target to reduce CO2 to at least 20% below 1990 levels by 2010
Mayor's Ambient Noise Strategy (2004)	Prioritises the need to cut noise from transport, especially road vehicles

Description of the duration of environmental effects and any secondary, complementary or synergistic effects

Air quality limits are set to take both the peak concentration and the duration of medium and high concentrations into account. Research indicates that, whilst exposure to vehicle pollution will not cause asthma or other similar respiratory diseases, it can adversely affect those who have an existing predisposition or susceptibility. These effects may vary with pollution levels. Studies show that when these levels increase, so do admissions to hospitals; particularly amongst the elderly and those having heart and lung disorders. Locally the Kingston Primary Care Trust has identified rising admissions year on year for patients over 65 with respiratory problems. They have used data from the Meteorological Office in conjunction with virology data in a pilot project to predict when patients with chronic breathing problems would become unwell. This allows pre-emptive treatment at home and reduces hospital admissions. The approach should be extended to all GP surgeries by late 2005.²

There is a connection between climate change and air quality in two areas. The first is that summertime smog and air quality problems are exacerbated by high temperatures, which also contribute to health problems for vulnerable groups with respiratory diseases. Past CO₂ emissions already make further rises in temperature inevitable and unless radical measures are taken to limit future CO₂ emissions the temperature rises will strongly accentuate the negative consequences of a given level of air pollutant emissions.

The second and rather paradoxical synergistic effect is that reducing air pollutant emissions, especially those that affect the atmosphere well above ground level, will in turn reduce their blocking effect and will allow more sunlight to reach the earth, accentuating global warming.

These synergistic effects make it all the more pressing to limit emissions of both global warming gases and air quality pollutants.

Methods used to assess LIP effects and technical difficulties encountered

In order to test the effect of a variable being studied one needs, ideally, to hold all other variables constant. This can be done in a laboratory but is almost never possible in the transport area where numerous real world variables affect outcomes like traffic levels, congestion, casualties, patronage of buses and trains, levels of walking and cycling and so on. There is therefore always a subjective element in assessing the effects of an intervention or combination of interventions. The Council relies on the expertise of officers in particular fields to apply a common sense test to any data; to analyse to the best of their ability how other variables have affected or may affect outcomes. At times two elements of the LIP may at least temporarily detract from each other, for instance a stepped up programme of road or bridge maintenance may worsen congestion and air quality while the work is underway. When the Council report on progress in the LIP Annual Progress Report the environmental results will be accompanied by an explanation in cases where this has occurred. Windfall gains from variables the Council does not control will also be mentioned, for instance favourable weather.

² Source: Paragraph 4 of Appendix N covering Provision of beds – Kingston Hospital, considered at Executive on 26 July 2005

In some cases annual surveys are used, for instance to record rare species in the Borough, to make screenline counts of cyclists or to record the condition of roads or footways. In other cases continuous automatic surveys are conducted at fixed locations, notably of traffic counts and air quality.

What will be monitored, how it will be conducted and by who

Table 6 in the Environmental Report has now been updated as follows.

Objectives	Existing or Potential Indicators	How and by Who
Population and Human Health		
<p>Reduce crime and fear of crime at transport interchanges.</p> <p>Improve road safety particularly for cyclists, pedestrians and motorcyclists</p> <p>Improve physical fitness, by encouraging walking and cycling particularly for short journeys.</p> <p>Improve accessibility of transport for all sections of the community to reach key services (especially health services).</p>	<p>Numbers of incidents of crime against the person at transport interchanges and % change year on year.</p> <p>Number of killed or seriously injured on Borough roads.</p> <p>% of journeys made on foot/cycling.</p> <p>% of residents within 400 metres of a bus stop which is the objective in London Buses 'Guidelines for Planning Bus Services'.</p> <p>Public Transport Accessibility Level (see figure 2.8 in Local Implementation Plan)</p>	<p>British Transport Police</p> <p>Metropolitan Police collect and compile casualty statistics, RBK analyse them to decide local action needed.</p> <p>London Transport Demand Survey</p> <p>London Buses and RBK</p> <p>TfL</p>
Material Assets		
<p>Reduce impact of transport infrastructure on natural resources e.g. by using recycled aggregates in construction and maintenance.</p> <p>Improve condition of pavements and transport infrastructure through regular maintenance.</p>	<p>% of recycled aggregates used in road maintenance projects.</p> <p>BVPI 187 on footway condition</p>	<p>RBK Highway Asset Management section</p> <p>RBK Highway Asset Management section using methods detailed in paragraphs 5.13 to 5.16 in the Local Implementation Plan.</p>
Biodiversity, Landscape/Townscape		

Protect and enhance greenbelt and open spaces.		Loss of greenbelt and open spaces, if any, is recorded by Planning Policy section in the UDP Annual Monitoring report
Reduce the impact on rare and declining species and those of local importance.	Annual recording of numbers and types of rare species in the Borough	RBK Ecology Officer
Enhance streetscape.	Number of projects aimed at improving streetscape.	RBK Neighbourhood Services Department
Noise		
Reduce negative effects of noise from transport infrastructure.	Traffic decreases next to schools and hospitals (using ATC data).	RBK Highways and Transportation data collection section
	Number of noise complaints made in relation to traffic.	Environmental Health Department
Increase use of 'quiet' modes; walking and cycling	Mode share for walking and cycling by RBK residents.	London Transport Demand Survey
Climatic Factors		
Reduce vulnerability of transport infrastructure to effects of climate change (e.g. flooding risk).	Condition of drainage system from highway	RBK Highway Asset Management section
Reduce greenhouse gas emissions from transport sources.	% of journeys made by sustainable modes.	London Transport Demand Survey
	Number of vehicle miles travelled in the Borough.	DfT annual estimate of million vehicle kilometres
Reduce need to travel by private car.	Average new build density	UDP Annual Monitoring report
Air Quality		
Reduce emissions from transport sources in AQMAs.	Emissions data from roadside air quality monitoring stations.	Measured annually and recorded in Air Quality Action Plan progress report and UDP Annual Monitoring Report.
	Traffic decreases in AQMAs.	Whole Borough is an AQMA. Target for traffic decline will be measured annually (see section above).

Non-technical summary of the Environmental Report

The Environmental Report is written in as concise and plain English a style as possible but inevitably it contains some more technical material. For the reader who desires a simpler approach the following non-technical summary should be useful.

The Environmental Report contains an analysis of how the Local Implementation Plan will affect the environment of the Borough and wider effects like global warming. The intention is to see the whole environmental picture at the time a strategy is being drafted so that the strategy itself can be shaped in the most favourable way for the environment. The Report starts by recording the outcome of an earlier scoping report used to determine which environmental topics were significant enough to merit full coverage in the report. These were:

- Biodiversity
- Air Quality
- Energy use, Climatic Factors and CO2 emissions
- Human Health (casualties, noise and obesity)
- Material Assets and Streetscape Issues
- The inter-relationship between environmental factors.

In each case the Report discusses what environmental problems exist, assesses the baseline situation as measured by the current or most recent data, then discusses what opportunities exist to resolve or reduce the problem in future.

Biodiversity in RBK

A long standing problem is the impact of transport on flora and fauna and a resulting reduction in biodiversity. This stems from transport infrastructure and from use of vehicles. Roads and railways tend to form long barriers to wildlife moving across them. This can lead to isolation in pockets of habitat too small to permit a healthy population.

There are 1,260 hectares of protected open space in the Borough, 13 sites of importance for Nature Conservation at Grade 1 and 15 at Grade 2. There are also nine Local Nature Reserves (LNR) and one proposed LNR. Air quality is affected by vehicle emissions though rarely at levels sufficient to harm plants. A sporadic but often more serious problem is contamination of watercourses and soil from surface run-off containing oil and fuel, heavy particulates, brake lining dust and heavy metals from the catalytic converters on cars. This all has a devastating effect on the fish population, and aquatic plant life.

The Council's transport strategy will result in land take from additional infrastructure being modest in future. The main form of landtake will be small scale and piecemeal, often resulting from efforts to encourage sustainable transport. Cycle and pedestrian paths built along verges and other green areas are an example. The LIP strategy entails a 'no net loss' approach to any new build or maintenance activity so that, if loss of trees or important habitat is unavoidable at a site, mitigation measures, including replacement, and new habitat schemes take place at another location. The Council will ensure that, during all types of highway maintenance, contractors and council officers use the latest techniques to reduce contamination of watercourses and soil and to manage and maintain the network in a manner that favours fauna and flora e.g. green corridors along road verges.

Air Quality

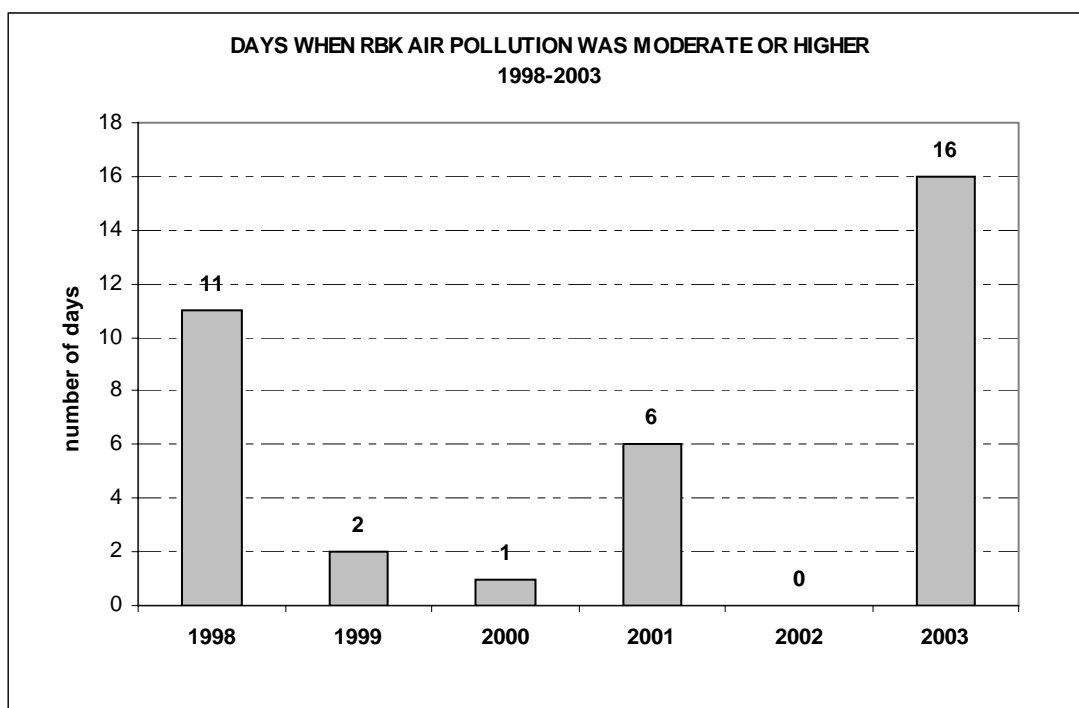
Poor air quality is significant cause of ill health and early death in London. It is estimated that 1,600 deaths are brought forward and 1,500 breathing problem-related hospital admissions per year occur as a result of air pollution. The RBK population is 2% of London's so the RBK share of these totals can be estimated at 32 deaths brought forward each year and 30 hospital admissions.

Most air pollutants are declining due to more stringent emission limits for vehicles. However nitrogen dioxide (NO₂) and fine particle are still above air quality limits and are not forecast to fall sufficiently to meet the limits in the next few years. 58% of the NO₂ and 68% of fine particle emissions in London are from road transport. A further pollutant with health implications is ozone which is normally highest in rural areas.

Specific areas in RBK which exceed the Air Quality Strategy objective include all or part of the:

- A3 (Kingston by pass)
- A307 (Richmond Road, Kingston Hall Road/ Wheatfield Way/ Clarence Street)
- A238 (Coombe Road/ Coombe Lane West/ Cambridge Road)
- A308 (Wood Street/ Kingston Street/ Kingston Road/ Cromwell Road/ Queen Elizabeth Road/ London Road/ Kingston Hill)
- A240 (Ewell Road/ Broadway/ Kingston Road/ Kingston Vale)
- A243 (Hook Road)
- A2043 (Kingston Road/ Malden Road)

An overall picture of air quality in the Borough follows:



For Nitrogen Oxides (NOx) the annual mean level recorded beside the A3 has exceeded the limit every year, generally by 30% to 40%. The 24 hour mean for particulates should not exceed the limit value more than 35 times a year. Conditions had been improving until 2002 when only two days exceeded the limit. However the 2003 heatwave had a significant effect on both NOx and particulates. Provisional 2004 results show a much better picture.

Improved air quality derived from traffic reduction is one of several justifications for the LIP strategy on modal shift. The Council will increase efforts to promote modal switch away from inappropriate car use (especially on short journeys) and work to encourage cleaner vehicles using electricity or fuels such as LPG. A common misconception is that the air inside a car is cleaner than the air a pedestrian or cyclist breathes. Studies have shown that this is quite wrong and our travel awareness material makes this clear.

Energy Use, Climatic Factors and Carbon Dioxide (CO₂) Emissions

Total energy consumption in London has been growing consistently during the last 40 years and transport is a major consumer. Nationally the transport sector's emissions have increased by 47% since 1990.

The role of transport is actually worse than these figures show because they exclude air travel other than take off and landing. Air travel has grown much faster than surface travel in the last two decades. Aviation accounts for just over 3.5% of total global CO₂ emissions but this could reach 15% by 2050 if growth is allowed to continue unchecked. CO₂ created by transport use is accentuating what is already the most serious long term problem facing the world. Although scientific opinion is virtually unanimous and many people are attempting to modify their lifestyles, western societies in general are still in denial about the problem. The necessary changes to use of energy in the course of personal transport have hardly begun.

CO₂ emissions are expected to increase 13% in RBK between 1999 and 2005. In RBK the main impact of climate change will be via flooding and the Council has Environment Agency maps showing those parts of the Borough vulnerable to flooding. Large areas of housing in Kingston beside the Thames and Hogsmill Rivers feature.

The LIP provides an opportunity to make a conscious choice about cutting energy use in the course of transport. The Council has little opportunity to alter fuel efficiency so must seek a reduction in traffic levels in order to bring down CO₂ emissions. It can and will improve fuel efficiency in its own small fleet of vehicles and the larger fleets of contractor's vehicles. It has opportunities to promote conversion to energy efficient lighting and other energy saving devices in public transport facilities, roadside lighting, and general street furniture. Solar panels could be installed in the roofs and south facing walls of Council car parks and in south facing noise barriers.

Human health (casualties, noise and obesity)

Casualties

CASUALTY REDUCTION TARGETS AND PROGRESS					
As at 31 December 2004					
Category	1994 – 1998 Annual Average Casualties	Number of Casualties in 2004	% reduction by 2004	% Reduction required by 2010 from the 1994 – 1998 average	RBK target maximum number of casualties in 2010
Killed or seriously injured casualties					
All	124	64	48%	50%	62
Pedestrians	32	16	50%	50%	16
Pedal cyclists	14	10	28%	40%	8
Powered two wheelers	22	16	27%	40%	13
Children	13.4	7	47%	55%	6

The LIP road safety chapter details a strategy to use the pattern of casualties to set priorities for road safety activity. A particular priority in coming years is to work with all the Borough's schools to ensure reviews of safety in their surrounding area are completed by 2008.

Noise A road traffic noise map of London allows residents to see what level of traffic-generated noise applies to their streets. This will help the Council identify areas where noise reduction through quiet, micro asphalt/thin road surfacing or mitigation through use of barriers is required.

Obesity Rising levels of obesity among children and diabetes among obese adults in the Borough, on a par with national trends, are in part connected to transport trends. There is increased reliance on door to door car travel compared to walking and cycling. School Travel Plans offer the means to reverse recent trends and get more children walking and cycling to their schools or using public transport that includes a walk at one or both ends of the trip. Workplace and other green travel plans are also priorities in the LIP.

Material assets

Sustainability principles require that this generation should not subsidise its lifestyle by passing the costs to subsequent ones. The condition of some road assets in the Borough is inadequate and a backlog of maintenance exists which the LIP will tackle. The Council will aim to use, or ensure its contractors use, recycled material whenever possible in the course of construction and maintenance work.

Streetscape issues

Street clutter is a prime concern of heritage and conservation groups. Inevitably transport related signing and installations make up much of the street furniture. An audit

of the Borough's street furniture will allow removal of redundant and duplicate signing and installations.

The interrelationship between environmental factors

It is likely that transport contributes at least 20% of the RBK 'ecological footprint' i.e. the area of land and water required to provide all the energy, water, food and other materials that we consume. It is therefore incumbent on the Council to follow a LIP strategy that will cut the transport contribution and play some part in bringing down the overall impact of RBK residents on the planet.

Alternative strategies and measures

A requirement of the Report is to consider whether the transport objectives could be achieved in any alternative way that would be more beneficial for the environment. In principle a congestion charging zone covering all or part of the Borough could be established provided it was supported by the Mayor of London. Two conditions are however pre-requisites – equity and a cost-effective means of collecting the charge. Both would be major challenges for a congestion charging zone in RBK. Pursuing congestion charging as a centrepiece of the LIP approach to traffic reduction would be a radical but high-risk approach. It would mean initially diverting some financial resources away from investment in public transport, walking and cycling facilities and from highway maintenance. If the scheme succeeded as a net revenue raiser it would become possible to make good and then exceed the investment expenditure. The risk is that a good deal of time money and effort would be spent on a scheme that foundered.

The preferred strategy is the sustainable transport approach without congestion charging. The principal reason is that the number of risk elements associated with delivery of a congestion charging scheme in RBK make it almost certain that the scheme would be sub-optimal in its pricing, coverage, implementation date and therefore effect. The worst case scenario is that it would divert resources from other measures during development, then founder before the implementation stage.

Monitoring the environmental effects of the Local Implementation Plan

There will be an annual report on those environmental variables that can be monitored. This will form part of the LIP Annual Progress Report.

The Environmental Report, (and the addendum), lists those indicators that will be reported on.

End of non-technical summary.

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