# Local Transport Plan 3 (LTP3) Appendices

Draft for Consultation

**February 2011**

SOUTHAMPTON CITY COUNCIL

# Table of Contents

# Appendix 1

## Glossary of Terms

| Acronym/ Common Term | Full Title | Explanation |
|---|---|---|
| **AQMA** | **Air Quality Management Area** | An identified area where various air pollutant levels breach national limits, requiring action to deal with poor air quality. |
| **ANPR** | **Automated Number plate Recognition** | System consisting of linked traffic cameras capable of identifying average speed of vehicle between two points and used to enforce speed limits, particularly through roadworks or over longer sections of route. |
| **Active Travel** | | Modes of travel which require physical activity, ie walking and cycling. |
| **BRT** | **Bus Rapid Transit** | Provision of dedicated, segregated bus lanes, junction priority, high quality "stations" and other infrastructure to provide a bus-based version of light rail rapid transit, capable of supporting high frequency services moving large volumes of passengers. |
| **Car Club** | | Organisations providing cars based in key locations for hire to members via an online or telephone booking system. Car clubs allow infrequent car users to access a car when they need it, without the high cost or parking difficulties associated with car ownership. |
| **CCTV** | **Closed Circuit Television** | The use of video cameras to transmit a signal to a specific place, on a limited set of monitors. Typically used to transmit images from roadside cameras to traffic control rooms for network management purposes. |
| **CPGS** | **Car Park Guidance System** | System which combines monitoring of car park capacity and occupancy with Variable Message Signs (see "VMS") to route car drivers to car parks with available parking spaces, reducing the number of vehicles circulating searching for spaces at busy times and reducing traffic congestion. |
| **CPZ** | **Controlled Parking Zone** | An area where parking restrictions (typically a requirement to display a valid ticket or permit) are in force. |
| **CRP** | **Community Rail Partnership** | Community Rail Partnerships encourage greater use of rail services on rail routes away from main-line corridors by raising their profile in the community. This can be achieved by publicity, developing links with local communities served by the rail route and recruiting volunteers to help 'adopt' stations. |
| **DaSTS** | **Delivering a Sustainable Transport System** | Government report and policy guidance outlining goals and planned development for transport, aiming to balance the delivery of economic growth with reductions in the environmental impact of transport. |
| **DDA** | **Disability Discrimination Act** | An Act of Parliament making it unlawful to discriminate against disabled persons in connection with employment, the provision of goods, facilities and services and regarding the design of public buildings and infrastructure. |
| **DfT** | **Department for Transport** | Government Department with responsibility for funding, development, and regulation of all aspects of Transport in England. |
| **Eddington Report** | **Eddington Transport Study** | A report authored by Sir Rod Eddington in 2006. This report examined the relationship between transport and the economy and the environment, and made recommendations on the direction future transport direction should take. |

| Acronym/ Common Term | Full Title | Explanation |
|---|---|---|
| **Green Grid** | | The Green Grid concept aims to create a multi-functional network of interlinked, multi-functional and high quality open spaces that connect with town centres, public transport nodes, the countryside in the urban fringe, and major employment and residential areas. The PUSH Green Infrastructure Strategy is a step towards the creation of a Green Grid in South Hampshire. |
| **HA** | **Highways Agency** | Government agency responsible for managing the trunk road and motorway network. |
| **Hampshire County Council** | | The County Council covering the county of Hampshire but excluding the cities of Portsmouth and Southampton, which are unitary authorities. Major urban areas in Hampshire include Havant, Gosport, Fareham, Eastleigh, Winchester, Basingstoke, Andover, Farnborough, and Aldershot. |
| **HOV Lanes** | **High Occupancy Vehicle Lanes** | Lanes dedicated for use by buses and cars carrying multiple occupants. Intended to encourage car-sharing by rewarding car-sharers with faster, less congested journeys. |
| **ITS** | **Intelligent Transport Systems** | The use of IT systems to transport operations in order to reduce operating costs, improve safety, reduce environmental impacts and maximise the capacity of existing infrastructure. |
| **Journey time reliability** | | It is important for people making a regular journey that the length of time taken between their origin and destination is reasonably predicable, and does not fluctuate excessively from day to day. Unpredicability adds to costs of business and results in wasted time. |
| **KSI** | **Killed or Seriously Injured** | Highway Personal Injury Accidents resulting in death or injuries defined as serious to those involved. |
| **LDF** | **Local Development Framework** | A series of local development documents prepared by district councils and unitary authorities that outline the spatial planning strategy for their area. |
| **Legible Cities/ Legible South Hampshire** | | The Legible Cities concept involves the development of direction signage and maps to enable pedestrians and cyclists to navigate around the city with greater ease and confidence.<br>A Legible South Hampshire project would involve deployment of a common brand of Legible Cities signage in urban locations across South Hampshire. |
| **LEP** | **Local Enterprise Partnership** | The current Government has proposed to set up a number of regional / sub-regional organisations known as LEPs to replace Regional Development Agencies (RDAs).<br><br>LEPs will provide the strategic leadership in their areas to set out local economic priorities and will feature more private sector representation than RDAs. LEPs will address such areas as planning, housing, local transport and infrastructure, employment, and inward investment. LEPs will be able to submit bids to the Regional Growth Fund.<br><br>In October 2010, a Solent LEP, covering the TfSH area and the Isle of Wight was one of twenty four LEP proposals across England that met the requirements of the Government, and was given the go-ahead to be formally established. |
| **Local Transport Act** | | The Local Transport Act (2008) is an act of Parliament that enables local authorities to better manage bus services, consider introduction of road charging schemes, and also outlines the requirements for delivery of Local Transport Plans. |

| Acronym/ Common Term | Full Title | Explanation |
|---|---|---|
| **LTA** | **Local Transport Authority** | A Local Authority responsible for the operation, management and development of the highway network (excluding trunk roads and motorways, which are the responsibility of the Highways Agency) within its area. LTAs are also generally responsible for subsidy of certain bus routes and maintenance and improvement of transport infrastructure (excluding infrastructure under control of the Highways Agency, Network Rail, and private operators). |
| **LTP** | **Local Transport Plan** | A Local Transport Plan outlines the transport policies, strategy and implementation plans for Local Transport Authorities. |
| **LSTF** | **Local Sustainable Transport Fund** | Funding made available for local authorities outside London to bid for, to support packages of transport interventions that support local economic growth and reduce carbon emissions in their communities as well as delivering cleaner environments and improved air quality, enhanced safety and reduced congestion. |
| **Modal Share** | | The proportion of journeys made by a mode (i.e. type) of transport, e.g. a modal share of 70% for cars means 70% of journeys are made by car. |
| **Naked Streets** | | Streets with none (or very little) of the usual street furniture such as traffic lights, signs, kerbs, railings, white lines and other road markings. In certain locations, studies have found that “naked streets” reduce traffic speeds and improve safety for users compared to more traditional street layouts, markings and furniture. |
| **PTW** | **Powered Two-Wheeler** | A powered two wheel vehicle, ie a motorbike, motor scooter, or electric scooter. |
| **PCC** | **Portsmouth City Council** | Unitary Authority covering Portsea Island, and the mainland consisting of Paulsgrove to the west and Farlington to the east. |
| **PCN** | **Penalty Charge Notice** | Fine to punish civil parking and traffic offences. Originally used by police and traffic wardens, their use has extended to other public officials and authorities, and can be used to punish contraventions of bus lanes, prohibitions of driving, etc by those without permission to use such infrastructure. |
| **PUSH** | **Partnership for Urban South Hampshire** | A partnership between Local Authorities in South Hampshire which aims to deliver sustainable, economic growth and regeneration to create a more prosperous, attractive and sustainable South Hampshire. |
| **QBP** | **Quality Bus Partnership** | An agreement between Bus Operators and Local Highway Authorities which requires each party to commit to deliver specific improvements aimed at securing better quality bus services in an area or along a bus corridor. Typically this involves both the introduction of better infrastructure, usually by the local authority, and better vehicles or service improvements, usually by bus operators. |
| **RGF** | **Regional Growth Fund** | Government funding initiative to encourage private sector enterprise, create sustainable private sector jobs and help places currently reliant upon the public sector make the transition to sustainable private sector growth. Transport initiatives are eligible to receive funding. |
| **ROMANSE** | **Road Management Centre for Europe** | Southampton’s traffic control centre. |
| **ROWIP** | **Rights of Way Improvement Plan** | A plan which considers how best to manage and develop the Public Rights of Way network (including bridleways and public footpaths). |
| **RTI** | **Real Time Information** | A system providing live updates on expected arrival times of buses at each stop, and often also accessible online or via text message. |

| Acronym/ Common Term | Full Title | Explanation |
|---|---|---|
| **RUS** | **Route Utilisation Strategy** | Network Rail documents outlining plans for future development and operation of of different parts of the rail network. |
| **SCC** | **Southampton City Council** | Unitary Authority covering the city of Southampton and much of its urban and suburban area. |
| **SHA** | **Southampton Hackney Association** | Organisation representing Southampton's hackney ("hail and ride") taxi operators and drivers. |
| **SPD** | **Supplementary Planning Document** | A partner planning document to major plans such as the Local Development Framework (LDF) setting out specialist or additional planning requirements, rules and regulations. |
| **SUDS** | **Sustainable Urban Drainage System** | Urban drainage system designed to reduce the impact of water runoff from urban developments. SUDS generally use systems of collection, storage, cleaning, and controlled release to more slowly release cleaner drainage water back into the environment. These systems are less prone to flooding than conventional drainage. |
| **Stern Review** | **Stern Review on the Economics of Climate Change** | A report produced in 2005 for the British Government by economist Nicholas Stern. It examines the economic impacts of climate change, as well as considering the policy challenges involved in developing a low-carbon economy and in adapting to the consequences of climate change. |
| **TAMP** | **Transport Asset Management Plan** | A Transport Asset Management Plan aims to bring together the management processes associated with the maintenance of the transport network with information on the transport assets maintained by a local authority in one document. |
| **TAP** | **Town Access Plan** | A plan identifying schemes which can help improve movement in and around towns, and to make the best use of roads and public spaces. TAPs are Hampshire County Council's primary vehicle for identifying how to improve parts of the transport network in towns in Hampshire. |
| **TfSH** | **Transport for South Hampshire** | Transport for South Hampshire is a delivery agency formed in 2007 for the South Hampshire sub-region, bringing together local transport authorities, transport operators, business interests and government agencies to deliver change. The organisation is a partnership made up of the Local Highway Authorities of Hampshire, Southampton and Portsmouth, together with transport providers and other agencies. |
| **TIF** | **Tax Increment Financing** | The coalition government in autumn 2010 announced new powers for Local Authorities to be able to borrow against future estimated local tax receipts. This could mechanism be used to help deliver local transport improvements. |
| **UTMC** | **Urban Traffic Management & Control** | The Urban Traffic Management Control or UTMC programme is the main initiative of the UK Department for Transport (DfT) for the development of a more open approach to Intelligent Transport Systems or ITS in urban areas. Refers to combination of systems based on ITS used to control traffic in urban areas. |

# Appendix 2

## Summary of Consultation Activities

### South Hampshire Joint Strategy Consultation

From 8 July to 29 September 2010, the three Local Transport Authorities of Hampshire County Council, Portsmouth City Council and Southampton City Council ran a consultation on a draft Local Transport Plan 3 (LTP3) Joint South Hampshire Strategy.

The consultation was accompanied by a response survey and an online survey which posed a number of questions on the proposed vision, challenges, outcomes, policies and options for delivery. Respondents either used this survey, or provided their views on the main components of the draft strategy in a less structured format.

160 responses were received to the consultation, of which 68 were submitted by members of the public or sole traders, 68 were submitted by businesses and organisation representatives and 24 were submitted by elected members of parish, district or city councils. In addition, the three LTAs jointly held three workshops for stakeholders, which were attended by 144 representatives from 75 different organisations.

This document summarises and presents analysis of the feedback that has been received on the draft Joint South Hampshire Strategy. This has taken into account all the responses to the consultation and stakeholder comments made at the three stakeholder workshops. These themes are summarised below:

- There was widespread support for a vision statement, but the current vision was criticised for not being inspiring enough, and for containing excessive jargon.

- Respondents were generally in agreement with the six challenges, with Challenge 1 (securing funding to deliver transport improvements) and Challenge 5 (widening travel choice to offer reasonable alternatives to the private car) regularly being identified as being of high importance.

- Numerous respondents highlighted the need to ensure that the transport network plays a vital role in helping to support economic competitiveness and growth, through the provision of a well-maintained, resilient highway network, and that ensuring journey time reliability was important, especially for businesses.

- Some respondents felt that the challenges section did not adequately address the issues of poverty, deprivation and accessibility for those with mobility difficulties. A few respondents suggested that a new challenge was needed addressing the need to protect the environment and maintain/ improve quality of life.

- Most respondents were supportive of the seven proposed transport outcomes.

- Respondents identified that Increased modal share for public transport and active travel" (Outcome 1) and "Reduced need to travel and reduced dependence on the private car" (Outcome 2) were their top priorities.

- Commenting on the proposed thirteen policies, respondents generally indicated that all the policies were important. Support for Policy G (active travel) and smarter choices initiatives and measures to improve public transport services (Policy H) was strongest. There was also considerable support for improved rail services (Policy J).

- Policy L (Public realm) was seen as important, but some respondents questioned whether this should be a priority in the short term, in light of funding pressures.

- Policy I (water transport) was generally perceived by respondents as the policy with the lowest priority.

- It was felt that more reference needed to be made to freight, powered two wheelers, Town Access Plans, the connections between health and travel habits, and the important role of South Hampshire as a gateway to the Isle of Wight.

- Given the high value and importance placed on the local environment, it comes as no surprise that environmental stakeholders made numerous detailed comments and points highlighting the need to protect and enhance biodiversity through appropriate mitigation.

## Southampton LTP3 Implementation Plan

Text on IP consultation etc in this section. Brief description of who we have presented to, met with, spoken to, how; and to what extent we've changed the implementation plan to reflect consultation responses.

Suggest we don't do this section until after internal consultation is 100% finished.

# Appendix 3

## Detailed Scheme Assessment Methodology

### Step 1: Scoring against policy goals

How well does the scheme address these local and policy goals?

Sub-regional goals (based on South Hampshire Joint Strategy Outcomes)

- SO1-Will it reduce dependence on the private car through increased numbers of people choosing public transport, walking, and cycling?
- SO2-Will it improve awareness of travel options available to people for their journeys, enabling informed choices about whether people travel, and how?
- SO3-Will it improve journey time reliability for all modes?
- SO4-Will it improve road safety within the sub-region?
- SO5-Will it improve accessibility within and beyond the sub-region?
- SO6-Will it improve air quality and environment, and reduce greenhouse gas emissions?
- SO7-Will it promote a higher quality of life?

Local Goals (objectives designed to prioritise the key strategy elements outlined in Chapter 3 – "Introduction to the Implementation Plan")

- LG1: Will it contribute towards a 50% increase in bus patronage?
- LG2: Will it contribute toward the bus replacing the car as the mode of choice for many types of short to medium distance journeys between the city and the suburbs?
- LG3: Will it help develop a traffic control system that is configured to support people movement capacity (ie bus priority) rather than net numbers of vehicle movements?
- LG4: Will it lead to an increased awareness of travel options?
- LG5: Will it help modes other than the car become the mode of choice for most short journeys, particularly in the city centre and inner suburbs?
- LG6: Will it help reduce the numbers of vehicle trips that park in the city centre?

**Scoring Ranges**

For each question above, the following scores are assigned based on how well we estimate the scheme performs:

| Score | Contribution to policy goal |
|---|---|
| +2 | Definite significant positive |
| +1 | Probable significant positive; definite minor positive |
| 0 | Neutral/ indeterminate |
| -1 | Probable significant positive; definite minor positive |
| -2 | Definite significant negative |

## Step 2: Scoring by Value for Money and Funding

**Scoring Ranges- Benefit Cost Ratio**

What is the estimated Benefit Cost Ratio range for this scheme based on the identified BCR ranges for scheme types? (see Appendix 2 for BCR ranges by scheme type)

| **Score** | **BCR Range** |
|---|---|
| +2 | >5 |
| +1 | 3-5 |
| 0 | 2-3 |
| -1 | 1-2 |
| -2 | <1 |

Any schemes which would have a road safety benefit receive an additional 1 point at this stage.

**Scoring Ranges- External Funding**

What is the probability of obtaining external funding for the scheme?

| **Score** | **Probability of External Funding (including direct funding from DfT/ treasury)** |
|---|---|
| +2 | EF already available for 100% of scheme costs |
| +1 | Good chance of full EF funding **OR** EF already available for 50-100% of scheme costs |
| 0 | Average potential for full EF **OR** EF already available for <50% of scheme costs |
| -1 | Minimal probability of full EF or better chance of fraction of project funded from EF. |
| -2 | No possibility of EF |

## Step 3: Scoring by Cost and Feasibility

**Scoring Ranges**

A. Capital Cost: **+2** (lower cost) to **-2** (higher cost) based on officer judgement, with particular consideration given to the effect on available funding for other projects that pursuing one more expensive project would have.

Cost scoring bands (for ITS/ Network management only)- these differ in different strategy areas dependent on typical scheme cost

| Cost range | Capital Cost Scoring Band |
|---|---|
| Under £15,000 | 2 |
| £15-£30,000 | 1 |
| £30,000-£100,000 | 0 |
| £100,000-£500,000 | -1 |
| >£500,000 | -2 |

B. Revenue Cost: **+2** (lower cost) to **-2** (higher cost) based on officer judgement, including consideration of project lifetime (some projects could commit us to a multi-decade maintenance burden) and cost profiles across project lifetime.

C. Deliverability: **+2** (more deliverable) to **-2** (less deliverable) based on officer judgement considering the following criteria:
-Member priorities
-Public requests
-Officer priorities
-Public acceptability
-Issues such as land ownership, legal issues, cross-boundary issues
-Anticipated drain on Transport Policy resources delivering project (ie seeking to avoid projects which require excessive resources for the likely outcome)

## Step 4: Ranking to give final score

In each step, all schemes are ranked by their score in the step. The final step of this process adds the rank positions of all steps for each scheme together to give a “final rank”. The lower the value (ie the higher-ranked the scheme in various stages) the higher the position of the scheme in the final rank and the higher priority it is.

# Appendix 4

## Benefit Cost Ratio Research

| Strategy Area | Intervention Type | BCR Value | Estimated BCR Banding | Details | Type of benefits |
|---|---|---|---|---|---|
| Smarter Choices | Comprehensive Smarter Choices Scheme | 4.5 | >5 | DfT Sustainable Travel Demonstration Towns- estimate[1] | Total |
| Smarter Choices | Comprehensive Smarter Choices Scheme | 9 | | DfT Sustainable Travel Demonstration Towns- all three towns, congestion reduction benefit only[2] | Congestion relief only |
| Smarter Choices | Comprehensive Smarter Choices Scheme | 10 | | From Cairns et al study, 2004- congestion only benefits of Smarter Choices[3] | Congestion relief only |
| Smarter Choices | Comprehensive Smarter Choices Scheme | 30 | | TRICS Presentation - BCR for congested city streets[4] | Total |
| Smarter Choices | Individualised Travel Marketing | 7.6 | >5 | Sustrans/ SocialData- TravelSmart Project Review[5] | Total |
| Smarter Choices | Individualised Travel Marketing | 17.4 | | Evaluation of Indimark personalised travel marketing in Perth, Australia- benefits over 30 years.[6] | Total |
| Smarter Choices | School Travel Plans | 3.8 | >5 | Over 3 years including externalities such as air pollution, climate change, noise, congestion. [7] | Environmental and Congestion |
| Smarter Choices | School Travel Plans | 6.5 | | Over 5 years including externalities such as air pollution, climate change, noise, congestion. [8] | Environmental and Congestion |
| Smarter Choices | Workplace Travel Plans | 13 | >5 | Highways agency travel plan for Cambridge science park, 71 employers, 5000 staff, no further details available.[9] | No details |
| Smarter Choices | Workplace Travel Plans | 21 | | Over 3 years including externalities such as air pollution, climate change, noise, congestion. [10] | Environmental and Congestion |
| Smarter Choices | Workplace Travel Plans | 35 | | Over 5 years including externalities such as air pollution, climate change, noise, congestion. [11] | Environmental and Congestion |
| Smarter Choices | Workplace Travel Plans | 5.5 | | Travel plan at Northampton General Hospital.[12] | No details |
| Smarter Choices | Workplace Travel Plans | 3.7 | | Travel plans for a number of workplaces in Whiteley.[13] | No details |
| Smarter Choices | Car clubs | High as low cost to SCC | Est 3-5 | SCC estimate only | N/A |
| Smarter Choices | Home Shopping | Unknown | Est 3-5 | SCC estimate only | N/A |
| Smarter Choices | Organized car sharing | High as low cost to SCC | Est 3-5 | SCC estimate only | N/A |

[1] http://www.dft.gov.uk/pgr/sustainable/smarterchoices/smarterchoiceprogrammes/pdf/summaryreport.pdf Page 8
[2] http://www.dft.gov.uk/pgr/sustainable/smarterchoices/smarterchoiceprogrammes/pdf/summaryreport.pdf Page 8
[3] Cairns et al. 2004, p359 http://pdfserve.informaworld.com/534052__901801919.pdf
[4] http://www.trics.org/lynn_sloman.pdf
[5] http://www.sustrans.org.uk/assets/files/travelsmart/sus649_TravelSmart%20review_print.pdf
[6] http://210.247.132.180/pdfs/research/research_pdf/RS_TP02_6_initial_results_from_travel_behaviour_change.pdf
[7] Potter et al (2004). *DfT*.Evaluation of school and workplace SSA program. (http://eprints.ucl.ac.uk/1215/1/2004_5a.pdf)
[8] Potter et al (2004). *DfT*.Evaluation of school and workplace SSA program. (http://eprints.ucl.ac.uk/1215/1/2004_5a.pdf)
[9] http://www.dft.gov.uk/pgr/sustainable/ltp3planning/travelguide/bestpractice/travelplanning/cambridge/
[10] Potter et al (2004). *DfT*.Evaluation of school and workplace SSA program. (http://eprints.ucl.ac.uk/1215/1/2004_5a.pdf)
[11] Potter et al (2004). *DfT*.Evaluation of school and workplace SSA program. (http://eprints.ucl.ac.uk/1215/1/2004_5a.pdf)
[12] https://www.liftshare.com/business/pdfs/IHT-Making%20Smarter%20Choices%202009.pdf
[13] https://www.liftshare.com/business/pdfs/IHT-Making%20Smarter%20Choices%202009.pdf

| Strategy Area | Intervention Type | BCR Value | Estimated BCR Banding | Details | Type of benefits |
|---|---|---|---|---|---|
| Smarter Choices | Public transport information and marketing schemes | Unknown | Est 3-5 | Estimated based on cycle training and marketing BCRs etc | |
| Smarter Choices | Teleconferencing | Unknown | Est 3-5 | SCC estimate only | N/A |
| Smarter Choices | Teleworking | Unknown | Est 3-5 | SCC estimate only | N/A |
| Smarter Choices | Travel awareness campaigns | Unknown | Est 3-5 | No published evidence but would enhance various other active travel/ smarter choices activity outcomes | N/A |
| Active Travel | Cycle Training & Marketing | 7.4 | 3 to 5 | Cycle Training UK study/ review by TfL. [14] | Total |
| Active Travel | Cycle Training & Marketing | 1.4 | | "Bike It" scheme- Cycling Officers who work closely with selected schools to encourage cycling.[15] | Without health or safety benefits |
| Active Travel | Cycle Training & Marketing | 3.0 | | "Bike It" scheme- Cycling Officers who work closely with selected schools to encourage cycling. [16] | With health benefit |
| Active Travel | GP Exercise prescription/ referral | 7.2 | >5 | Economic evaluation of the Walking to Health Initiative. [17] | Not specified |
| Active Travel | Infrastructure improvements for walkers and cyclists | 19 | >5 | Average from 6 studies on infrastructure improvement schemes. Inc health benefits, value of loss of life, NHS savings, economic productivity gains, pollution, congestion, ambience. One scheme included mortality benefits only in CBR evaluation. [18] | Total |
| Active Travel | Individual new Cycle Routes/Cycle Route Upgrades | 29.3 | | Upgrades to cycle route running near several schools in Bootle, Merseyside. [19] | Total |
| Active Travel | Individual new Cycle Routes/Cycle Route Upgrades | 14.9 | >5 | Construction of new cycle route near two schools in Newhaven. [20] | Total |
| Active Travel | Individual new Cycle Routes/Cycle Route Upgrades | 5.56 | | Development of a cycle route between two campuses at Guildford University.[21] | Total |
| Active Travel | Individual new Cycle Routes/Cycle Route Upgrades | 42 | | Reallocating road space to cycle lanes on seven busy roads within the city through the introduction of cycle lanes.[22] | Total |
| Active Travel | Pedestrian Crossings | 32.5 | >5 | Construction of Toucan crossing near a school in Hartlepool[23] | Total |
| Active Travel | Routes to school | 14.9-32.5 | >5 | Range of CBRs from 3 Sustrans routes to school initiatives (also included in above).[24] | Total |
| Active Travel | Whole Cycle Network Upgrades | 3.9 | 2-3 | LCN+ Actual BCR based on study.[25] | Partial - excludes safety and children's health benefits |

[14] http://www.dft.gov.uk/cyclingengland/site/wp-content/uploads/2008/08/valuing-the-benefits-of-cycling-full.pdf Page 75
[15] http://www.dft.gov.uk/cyclingengland/site/wp-content/uploads/2008/08/valuing-the-benefits-of-cycling-full.pdf Page 66
[16] http://www.dft.gov.uk/cyclingengland/site/wp-content/uploads/2008/08/valuing-the-benefits-of-cycling-full.pdf Page 66
[17] http://www.wfh.naturalengland.org.uk/uploads/documents/2335/NE%20WfH%20Cost%20of%20running.pdf
[18] Davis (2010) Value for Money - An economic evaluation of investments in walking and cycling (www.walkengland.org.uk/.../Microsoft-Word-_2D00_-Economic-Assessent-of-Walking-and-Cycling-March2010.pdf)
[19] "Economic Appraisal of local walking and cycling routes" http://www.sustrans.org.uk/assets/files/general/Economic%20appraisal%20of%20local%20walking%20and%20cycling%20routes%20-%20summary.pdf
[20] "Economic Appraisal of local walking and cycling routes" http://www.sustrans.org.uk/assets/files/general/Economic%20appraisal%20of%20local%20walking%20and%20cycling%20routes%20-%20summary.pdf
[21] http://www.dft.gov.uk/cyclingengland/site/wp-content/uploads/2009/03/planning-for-cycling-report-10-3-09.pdf Page 30
[22] http://www.dft.gov.uk/cyclingengland/site/wp-content/uploads/2009/03/planning-for-cycling-report-10-3-09.pdf Page 30
[23] "Economic Appraisal of local walking and cycling routes" http://www.sustrans.org.uk/assets/files/general/Economic%20appraisal%20of%20local%20walking%20and%20cycling%20routes%20-%20summary.pdf
[24] Davis (2010) Value for Money - An economic evaluation of investments in walking and cycling (www.walkengland.org.uk/.../Microsoft-Word-_2D00_-Economic-Assessent-of-Walking-and-Cycling-March2010.pdf)
[25] http://www.dft.gov.uk/cyclingengland/site/wp-content/uploads/2008/08/valuing-the-benefits-of-cycling-full.pdf Page 71

| Strategy Area | Intervention Type | BCR Value | Estimated BCR Banding | Details | Type of benefits |
|---|---|---|---|---|---|
| Active Travel | Whole Cycle Network Upgrades | 1.8 | | LCN+ - TFL Business Case BCR.[26] | Without Health Benefit |
| Active Travel | Whole Cycle Network Upgrades | 2.5 | | LCN+ - TFL Business Case BCR.[27] | Total |
| Public Transport | Area Bus Improvements | 2.4 | 3-5 | Tyne and Wear bus corridors.[28] | Not specified but probably comprehensive (business case) |
| Public Transport | Area Bus Improvements | 2 | | Greater Bristol Bus Network- Bus priority infrastructure, stops and RTI.[29] | Not specified but probably comprehensive (business case) |
| Public Transport | Area Bus Improvements | 2.7 | | Leeds Urban Area Public Transport improvements.[30] | Not specified but probably comprehensive (business case) |
| Public Transport | Area Bus Improvements | 2.52 | | Ipswich Interchange imps, free shuttle buses, UTMC, RTI, walk/cycle improvements.[31] | Not specified but probably comprehensive (business case) |
| Public Transport | Area Bus Improvements | 7.8 | | Belfast CITI BRT- Conventional bus improvements.[32] | Not specified but probably comprehensive (business case) |
| Public Transport | Bus Lanes Only | 3.5 | 3-5 | Outbound bus lane on A90 (SESTRAN).[33] | Not specified but probably comprehensive (business case) |
| Public Transport | Bus rapid transit | 2.01 | | BRT with dedicated busway and bus lanes.[34] | Not specified but probably comprehensive (business case) |
| Public Transport | Bus rapid transit | 1.5 | | Fareham-Gosport BRT Phase 1.[35] | Not specified but probably comprehensive (business case) |
| Public Transport | Bus rapid transit | 4.4 | | Non guided BRT bus.[36] | Not specified but probably comprehensive (business case) |
| Public Transport | Bus rapid transit | 3 | 1-2 | Belfast CITI BRT- Partially guided BRT bus.[37] | Not specified but probably comprehensive (business case) |
| Public Transport | Bus rapid transit | 1.4 | | Plymouth Eastern Corridor (BRT).[38] | Not specified but probably comprehensive (business case) |
| Public Transport | Bus rapid transit | 1.77 | | Luton Translink - unguided busway.[39] | Not specified but probably comprehensive (business case) |
| Public Transport | Bus rapid transit | 1.9 | | Leigh-Salford-Manchester kerb guided busway.[40] | Not specified but probably comprehensive (business case) |

[26] http://www.dft.gov.uk/cyclingengland/site/wp-content/uploads/2008/08/valuing-the-benefits-of-cycling-full.pdf Page 71
[27] http://www.dft.gov.uk/cyclingengland/site/wp-content/uploads/2008/08/valuing-the-benefits-of-cycling-full.pdf Page 71
[28] http://www.twpta.gov.uk/wps/wcm/resources/file/eb5f4d0a5ab5b91/8%20%20PTA%20report%20on%20MSBC%20%20as%20at%2015%20sept%2008.pdf
[29] http://www.westofengland.org/media/153946/5048504%20250%2005%2001%20rev2%20chapter%205%20financial.pdf
[30] http://www.londonfirst.co.uk/documents/TRANSPORT_DOC_FINAL_SPREADS.pdf
[31] http://www.suffolk.gov.uk/NR/rdonlyres/6724B2EC-046B-42BB-8336-AF535BA846FA/0/out.html
[32] http://www.drdni.gov.uk/8_citi_quantitative_assessment.pdf
[33] http://www.sestran.gov.uk/news/article.php?ID=42
[34] http://www.sheffield.gov.uk/?pgid=118653&fs=n
[35] http://www.hants.gov.uk/decisions/decisions-docs/090727-cabine-R0720112140.html
[36] http://www.drdni.gov.uk/8_citi_quantitative_assessment.pdf
[37] http://www.drdni.gov.uk/8_citi_quantitative_assessment.pdf
[38] http://www.plymouth.gov.uk/ecs-chapter_7.pdf
[39] http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/pgr/twa/ir/lutondunstabletranslinkinspe1032?page=9
[40] http://www.brtuk.org/downloads/BRTSymposiumUniversityofWarwick6-7thDecemberPresentations_09.pdf

| Strategy Area | Intervention Type | BCR Value | Estimated BCR Banding | Details | Type of benefits |
|---|---|---|---|---|---|
| Public Transport | Bus Vehicle Improvements | 5.28 | 3-5 | AOSS Case Studies- Low Floor Buses.[41] | Not specified but probably comprehensive (business case) |
| Public Transport | Interchange improvements | 1.2 | 1-2 | Four Lanes Ends.[42] | Not specified but probably comprehensive (business case) |
| Public Transport | Interchange improvements | 1.8 | | Barnsley Interchange.[43] | Not specified but probably comprehensive (business case) |
| Public Transport | Interchange improvements | 1.8 | | Sheffield station—Improved pedestrian access.[44] | Not specified but probably comprehensive (business case) |
| Public Transport | Interchange improvements | 1.7 | | Wolverhampton interchange improvements.[45] | Not specified but probably comprehensive (business case) |
| Public Transport | Interchange improvements | 0.4 | | Ryde Interchange upgrade.[46] | Not specified but probably comprehensive (business case) |
| Public Transport | Interchange improvements | 1.6 | | Coleshill Interchange.[47] | Not specified but probably comprehensive (business case) |
| Public Transport | Interchange improvements | 1.4 | | Norwich City Centre Interchange.[48] | Not specified but probably comprehensive (business case) |
| Public Transport | Interchange improvements | 1.1 | | North Manchester Business Park.[49] | Not specified but probably comprehensive (business case) |
| Public Transport | Interchange improvements | 1.8 | | Liverpool South Parkway.[50] | Not specified but probably comprehensive (business case) |
| Public Transport | P+R | 2.7 | 2-3 | Bath Package- Showcase routes and BRT, P&R, travel info.[51] | Not specified but probably comprehensive (business case) |
| Public Transport | P+R | 1.77 | | Tay Bridge-Leuchars P&R scheme 1.[52] | Not specified but probably comprehensive (business case) |
| Public Transport | P+R | 1.49 | | Tay Bridge-Leuchars P&R scheme 2.[53] | Not specified but probably comprehensive (business case) |
| Public Transport | P+R | 3.23 | | Tipner Interchange, bus lanes, roundabout, P&R.[54] | Not specified but probably comprehensive (business case) |
| Public Transport | Rail service improvements | 1.7 | 1-2 | Thameslink Upgrade.[55] | Not specified but probably comprehensive (business case) |

[41] http://www.its.leeds.ac.uk/aoss/index.html
[42] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[43] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[44] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[45] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[46] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[47] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[48] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[49] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[50] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[51] document saved to P drive
[52] http://www.sestran.gov.uk/files/Landfall%20Site%20Report%20Final%20%20260309.pdf
[53] http://www.sestran.gov.uk/files/Landfall%20Site%20Report%20Final%20%20260309.pdf
[54] http://www.portsmouth.gov.uk/media/TSM_tipnermsbc.pdf
[55] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm

| Strategy Area | Intervention Type | BCR Value | Estimated BCR Banding | Details | Type of benefits |
|---|---|---|---|---|---|
| Public Transport | Rail station improvements | 1.55 | 2-3 | Leuchars station car park.[56] | Not specified but probably comprehensive (business case) |
| Public Transport | Rail station improvements | 2.2 | | NUCKLE - service improvements and station enhancements.[57] | Not specified but probably comprehensive (business case) |
| Public Transport | Rail station improvements | 3.9 | | Birmingham New Street Gateway Plus.[58] | Not specified but probably comprehensive (business case) |
| Public Transport | Signal Bus Priority | 1.28 | 3-5 | Coventry UTMC signal bus priority- Aim to increase bus usage on key corridors by 25%.[59] | Not specified but probably comprehensive (business case) |
| Public Transport | Signal Bus Priority | 11.91 | | Case Study- Signalisation 1.[60] | Not specified but probably comprehensive (business case) |
| Public Transport | Signal Bus Priority | 0.3 | | Case Study- Signalisation 2.[61] | Not specified but probably comprehensive (business case) |
| Public Transport | Signal Bus Priority | 5 | | Case Study- Signalisation 3.[62] | Not specified but probably comprehensive (business case) |
| Public Transport | Signal Bus Priority | 13.93 | | Case Study- Signalisation 4.[63] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 5.7 | 2-3 | A638 Great North Road Quality Bus.[64] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 1.5 | | Leeds A65 (Kirkstall Road).[65] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 7.7 | | South East Manchester (SEMMMS).[66] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 2.6 | | Manchester Northern Orbital Scheme.[67] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 1.8 | | Hampshire A3 Bus Priority Corridor.[68] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 1.5 | | Luton Dunstable Translink.[69] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 2.4 | | Cambridge to Huntingdon Rapid Transit.[70] | Not specified but probably comprehensive (business case) |

[56] http://www.sestran.gov.uk/files/Landfall%20Site%20Report%20Final%20%20260309.pdf
[57] http://www.warwickshire.gov.uk/corporate/committe.nsf/f97183b3a13d475d80256f7000397ba1/89117f6f2d94a309802576dc003d3464/$FILE/08%20Nuneaton-Coventry-Kenilworth-Leamington%20%28NUCKLE%29%20Rail%20Line%20Upgrade.pdf
[58] http://www.skyscrapercity.com/showthread.php?t=465286&page=73
[59] http://www.dft.gov.uk/itstoolkit/CaseStudies/coventry-utmc.htm
[60] http://www.its.leeds.ac.uk/aoss/index.html
[61] http://www.its.leeds.ac.uk/aoss/index.html
[62] http://www.its.leeds.ac.uk/aoss/index.html
[63] http://www.its.leeds.ac.uk/aoss/index.html
[64] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[65] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[66] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[67] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[68] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[69] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[70] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm

| Strategy Area | Intervention Type | BCR Value | Estimated BCR Banding | Details | Type of benefits |
|---|---|---|---|---|---|
| Public Transport | Single Bus Corridor Improvements Schemes | 2.6 | | JETTS Quality Bus Corridor.[71] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 1.7 | | Getting Northampton to Work.[72] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 1 | | Coventry Quality Bus Network.[73] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 1.5 | | Milton Keynes Quality Bus Network.[74] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 3 | | West Yorks Yellow School Bus.[75] | Not specified but probably comprehensive (business case) |
| Public Transport | Single Bus Corridor Improvements Schemes | 3.4 | | Walsall Town Centre Package (based on real costs and benefits).[76] | Not specified but probably comprehensive (business case) |
| Public Transport | Smartcards | 1.1 | 1-2 | YORCARD.[77] | Not specified but probably comprehensive (business case) |
| Public Transport | Smartcards | 1.13 | | South Hampshire Smartcard - MVA business case. [78] | Not specified but probably comprehensive (business case) |
| ITS & Network Mgmt | Corridor signal optimisation | 4 to 13 | 3-5 | ICM (Integrated Corridor Management) ITS study, San Francisco, 2009.[79] | Not specified |
| ITS & Network Mgmt | Corridor signal optimisation | 1.28 | | Coventry UTMC signal bus priority- Aim to increase bus usage on key corridors by 25%.[80] | Not specified but probably comprehensive (business case) |
| ITS & Network Mgmt | Real Time PT Information | 16 | >5 | ICM (Integrated Corridor Management) ITS study, San Francisco, 2009.[81] | Not specified |
| ITS & Network Mgmt | Signal Bus Priority | 11.91 | 3-5 | Case Study- Signalisation 1.[82] | Not specified but probably comprehensive (business case) |
| ITS & Network Mgmt | Signal Bus Priority | 0.3 | | Case Study- Signalisation 2.[83] | Not specified but probably comprehensive (business case) |
| ITS & Network | Signal Bus Priority | 5 | | Case Study- Signalisation 3.[84] | Not specified but probably comprehensive (business case) |

[71] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[72] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[73] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[74] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[75] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[76] http://www2.walsall.gov.uk/CMISWebPublic/Binary.ashx?Document=7644
[77] http://www.publications.parliament.uk/pa/cm200304/cmhansrd/vo041013/text/41013w02.htm
[78] document saved to P drive
[79] http://viewer.zmags.com/publication/1b70916d#/1b70916d/48
[80] http://www.dft.gov.uk/itstoolkit/CaseStudies/coventry-utmc.htm
[81] Integrated Approach: Analysis, Modeling and Simulation Results for the ICM Test Corridor Article in Traffic Technology International Traffic Annual Showcase
[82] http://www.its.leeds.ac.uk/aoss/index.html
[83] http://www.its.leeds.ac.uk/aoss/index.html
[84] http://www.its.leeds.ac.uk/aoss/index.html

| Strategy Area | Intervention Type | BCR Value | Estimated BCR Banding | Details | Type of benefits |
|---|---|---|---|---|---|
| ITS & Network Mgmt | Signal Bus Priority | 13.93 | >5 | Case Study- Signalisation 4.[85] | Not specified but probably comprehensive (business case) |
| ITS & Network Mgmt | Traffic signal network optimisation | 58 | | Part of Fuel Efficient Traffic Signal Management (FETSIM) Program in California, 1988.[86] | Not specified |
| ITS & Network Mgmt | Traffic signal network optimisation | 62 | | Traffic Light Synchronization Program in Texas, 1992.[87] | Not specified |
| ITS & Network Mgmt | Traffic signal network optimisation | 55 | | Network-wide synchronisation of 640 signals in Oakland, Michigan.[88] | Not specified |
| ITS & Network Mgmt | Traffic signal network optimisation | 17 | | Large floating vehicle before & after study for whole FETSIM project, 2003.[89] | Not specified |
| ITS & Network Mgmt | Variable Message Signing | 16 to 25 | | ICM (Integrated Corridor Management) ITS study, San Francisco, 2009.[90] | Not specified |
| Public Realm | Benches | 10.3 | >5 | Case study of TfL "Strategic Walks" eg Jubilee Walkway. [91] | Not specified but BCR is fairly theoretical |
| Public Realm | Footway evenness & material quality improvement | 0.3 | <1 | Case study of TfL "Strategic Walks" eg Jubilee Walkway. [92] | Not specified but BCR is fairly theoretical |
| Public Realm | General Public Realm improvements | 5 | 2-3 | Crime target hardening & removal.[93] | Not exhaustive |
| Public Realm | General Public Realm improvements | circa 2-5 | | Major town centre public space enhancement schemes.[94] | Not specified |
| Public Realm | General Public Realm improvements | 0.9 to 1.4 | | Major town centre public space enhancement schemes.[95] | Not specified |

[85] http://www.its.leeds.ac.uk/aoss/index.html
[86] Sunkari, Srinivasa, P.E., *The Benefits of Retiming Traffic Signals*, ITE Journal, April, 2004.
[87] Sunkari, Srinivasa, P.E., *The Benefits of Retiming Traffic Signals*, ITE Journal, April, 2004.
[88] Syracuse Signal Interconnect Project: Before and After Analysis Final Report. 2003
[89] ITS Benefits: The Case of Traffic Signal Control Systems. Skabardonis, Alexander- Paper presented at the 80th Annual Transportation Research Board Meeting. Washington, District of Clolumbia
[90] Integrated Approach: Analysis, Modeling and Simulation Results for the ICM Test Corridor Article in Traffic Technology International Traffic Annual Showcase
[91] "Valuing Walking- Evaluating Improvements to the Public Realm". Paper for European Transport Conference 2005. Daniel Heuman, Paul Buchanan, Martin Wedderburn and Rob Sheldon, August 2005 www.etcproceedings.org/paper/download/204
[92] "Valuing Walking- Evaluating Improvements to the Public Realm". Paper for European Transport Conference 2005. Daniel Heuman, Paul Buchanan, Martin Wedderburn and Rob Sheldon, August 2005 www.etcproceedings.org/paper/download/203
[93] Found via CABE: "A bibliography of design value" http://www.cabe.org.uk/files/a-bibliography-of-design-value.pdf
[94] Based on content of "Literature Review of Public Space and Local Environments for the Cross Cutting Review"- DCLG, Sep 2006- http://www.communities.gov.uk/publications/communities/literaturereview
[95] "Valuing the Benefits of Regeneration Economics paper 7: Summary" – DCLG, Dec 2010 http://www.communities.gov.uk/documents/regeneration/pdf/1795657.pdf

| Strategy Area | Intervention Type | BCR Value | Estimated BCR Banding | Details | Type of benefits |
|---|---|---|---|---|---|
| Public Realm | Increased pedestrian space (reduced crowding) | 0.7 | <1 | Case study of TfL "Strategic Walks" eg Jubilee Walkway. [96] | Not specified but BCR is fairly theoretical |
| Public Realm | Information panels | 13.3 | >5 | Case study of TfL "Strategic Walks" eg Jubilee Walkway.[97] | Not specified but BCR is fairly theoretical |
| Public Realm | Kerb upgrades | 2.1 | 2-3 | Case study of TfL "Strategic Walks" eg Jubilee Walkway.[98] | Not specified but BCR is fairly theoretical |
| Public Realm | Large scale wayfinding signage scheme | 1.5 to 5.3 | 3-5 | Legible London business case- BCRs for entire scheme.[99] | Not exhaustive |
| Public Realm | Lighting improvements | 3.3 | 3-5 | Case study of TfL "Strategic Walks" eg Jubilee Walkway. [100] | Not specified but BCR is fairly theoretical |
| Public Realm | Provision of/ improvement to Public open space | 1.8 to 2.7 | 2-3 | Public open space in urban areas.[101] | Not specified |
| Public Realm | Public realm junction improvements | 13 | >5 | Oxford Circus "scramble" ("x") crossing.[102] | Not specified |
| Public Realm | Residential area renewal-public realm | 3 | 2-3 | Public realm enhancements as part of neighbourhood renewal/ regeneration works.[103] | Not specified |
| Public Realm | Wayfinding Signage | 1.6 | 1-2 | Case study of TfL "Strategic Walks" eg Jubilee Walkway. [104] | Not specified but BCR is fairly theoretical |
| Road Safety | Enforcement- average speed cameras | 1.6 | 1-2 | Data from Norwegian research.[105] | Not specified |
| Road Safety | Enforcement- speed enforcement (police) | 1.49 | 1-2 | Data from Norwegian research.[106] | Not specified |
| Road Safety | Enforcement- Speed reactive signs | 2.4 | 2-3 | Data from Norwegian research. [107] | Not specified |
| Road Safety | Enforcement-Speed cameras | 2.7 | 2-3 | DfT investigation into speed camera effectiveness.[108] | Not specified |
| Road Safety | Enforcement-Speed cameras | 2.1 | | Data from Norwegian research.[109] | Not specified |
| Road | Infrastructure- Pedestrian | 1.4 | 1-2 | Data from Norwegian research.[110] | Not specified |

[96] "Valuing Walking- Evaluating Improvements to the Public Realm". Paper for European Transport Conference 2005. Daniel Heuman, Paul Buchanan, Martin Wedderburn and Rob Sheldon, August 2005 www.etcproceedings.org/paper/download/205
[97] "Valuing Walking- Evaluating Improvements to the Public Realm". Paper for European Transport Conference 2005. Daniel Heuman, Paul Buchanan, Martin Wedderburn and Rob Sheldon, August 2005 www.etcproceedings.org/paper/download/202
[98] "Valuing Walking- Evaluating Improvements to the Public Realm". Paper for European Transport Conference 2005. Daniel Heuman, Paul Buchanan, Martin Wedderburn and Rob Sheldon, August 2005 www.etcproceedings.org/paper/download/206
[99] London: Building a Business Case for Walking. Presentation to Walk 21 Conference, Toronto. Adrian Bell, Transport for London, 2007 http://www.walk21.com/conferences/conference_papers_detail.asp?Paper=358&Conference=Toronto
[100] "Valuing Walking- Evaluating Improvements to the Public Realm". Paper for European Transport Conference 2005. Daniel Heuman, Paul Buchanan, Martin Wedderburn and Rob Sheldon, August 2005 www.etcproceedings.org/paper/download/207
[101] "Valuing the Benefits of Regeneration Economics paper 7: Summary" – DCLG, Dec 2010 http://www.communities.gov.uk/documents/regeneration/pdf/1795657.pdf
[102] "Oxford Circus gets the X factor"- Paper, Excellence in Walking and Public Realm Category- London Transport Awards 2011 http://www.transporttimesevents.co.uk/uploads/Oxford%20Circus%20Gets%20the%20X%20Factor.pdf
[103] "Valuing the Benefits of Regeneration Economics paper 7: Summary" – DCLG, Dec 2010 http://www.communities.gov.uk/documents/regeneration/pdf/1795657.pdf
[104] "Valuing Walking- Evaluating Improvements to the Public Realm". Paper for European Transport Conference 2005. Daniel Heuman, Paul Buchanan, Martin Wedderburn and Rob Sheldon, August 2005 www.etcproceedings.org/paper/download/201
[105] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[106] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[107] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[108] www.etcproceedings.org/paper/download/201
[109] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[110] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway

| Strategy Area | Intervention Type | BCR Value | Estimated BCR Banding | Details | Type of benefits |
|---|---|---|---|---|---|
| Safety | bridge/underpass | | | | |
| Road Safety | Infrastructure-Convert crossroads to roundabout | 2.62 | 2-3 | Data from Norwegian research.[111] | Not specified |
| Road Safety | Infrastructure-Convert T junction to roundabout | 1.9 | 1-2 | Data from Norwegian research.[112] | Not specified |
| Road Safety | Infrastructure-Guardrails | 2.53 | 2-3 | Data from Norwegian research.[113] | Not specified |
| Road Safety | Infrastructure-Local safety schemes-<£10,000 | c. 2 to c.9.5; average c. 5 | 3-5 | A2.1.3- estimated from Final Year Return of schemes costing under £10,000.[114] | In line with DfT standards |
| Road Safety | Infrastructure-Local safety schemes >£100,000 | Average c. 0.7 | <1 | Average estimated on data in A2.12 and A2.[115] | In line with DfT standards |
| Road Safety | Infrastructure-Local safety schemes £10,00-£50,000 | c.0.5 to c.9.5, average c.4.5 | 3-5 | A2.1.10- estimated from Final Year Return of schemes costing £10,000-£50,000.[116] | In line with DfT standards |
| Road Safety | Infrastructure-Local safety schemes £50,000-£100,000 | c.0 to c.7.8, average c.2.5 | 2-3 | A2.1.11- estimated from Final Year Return of schemes costing £50,000-£100,000.[117] | In line with DfT standards |
| Road Safety | Infrastructure-Pedestrian crossing upgrades | 2.4 | 2-3 | Data from Norwegian research.[118] | Not specified |
| Road Safety | Infrastructure-Road reconstruction and repair | 1.57 | 1-2 | Data from Norwegian research.[119] | Not specified |
| Road Safety | Infrastructure-Safety treatments (local safety schemes) | 2.8 | 2-3 | Data from Norwegian research.[120] | Not specified |
| Road Safety | Infrastructure-Signals at Crossroads | 3.95 | 3-5 | Data from Norwegian research.[121] | Not specified |
| Road Safety | Infrastructure-Signals at T Junctions | 5.2 | 3-5 | Data from Norwegian research.[122] | Not specified |
| Road Safety | Infrastructure-Speed limit reductions in hazardous areas | 14.29 | >5 | Data from Norwegian research.[123] | Not specified |
| Road Safety | Infrastructure-Upgrade substandard road lighting | 2.8 | 3-5 | Data from Norwegian research.[124] | Not specified |

[111] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[112] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[113] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[114] Road Safety Research Report 108- Contribution of Local Safety Schemes to Casualty Reduction Based on data in appendix 2
[115] Road Safety Research Report 108- Contribution of Local Safety Schemes to Casualty Reduction Based on data in appendix 5
[116] Road Safety Research Report 108- Contribution of Local Safety Schemes to Casualty Reduction Based on data in appendix 3
[117] Road Safety Research Report 108- Contribution of Local Safety Schemes to Casualty Reduction Based on data in appendix 4
[118] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[119] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[120] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[121] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[122] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[123] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway
[124] SafetyNet (2009)- "Cost-benefit analysis". Table 4 - cost effectiveness of road safety measures in Norway

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# Appendix 5

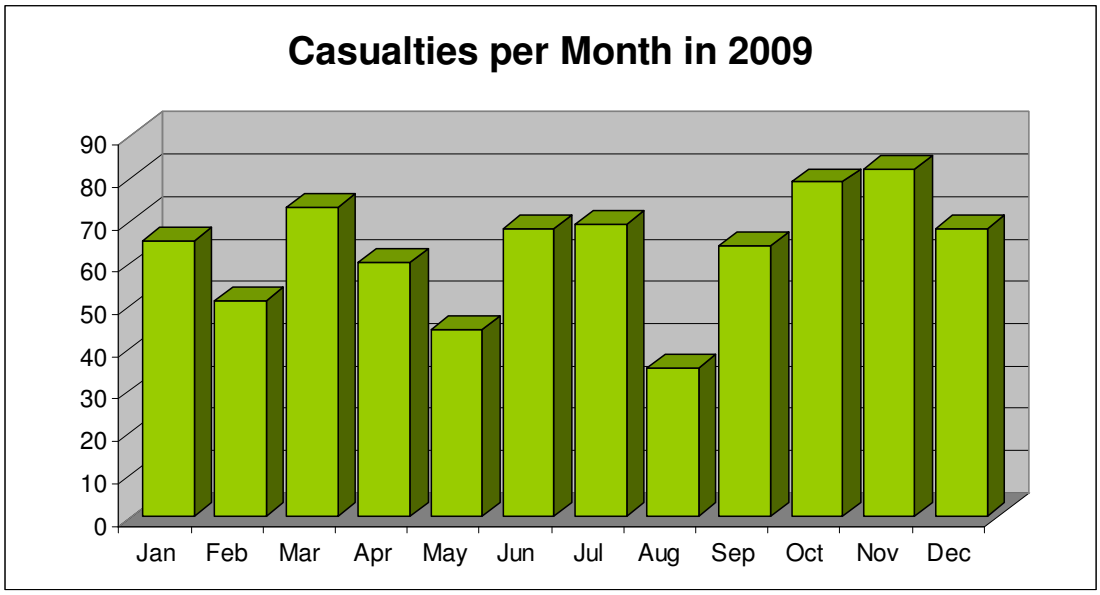
## List of All Schemes considered for LTP3

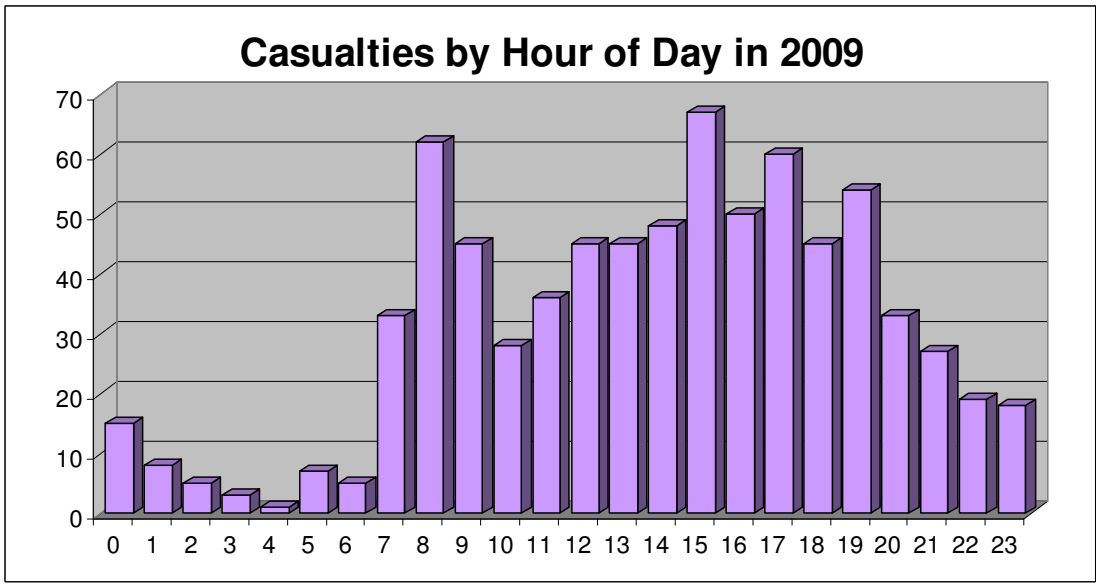
With or without ranking of priority as scored above? And what about scoring?

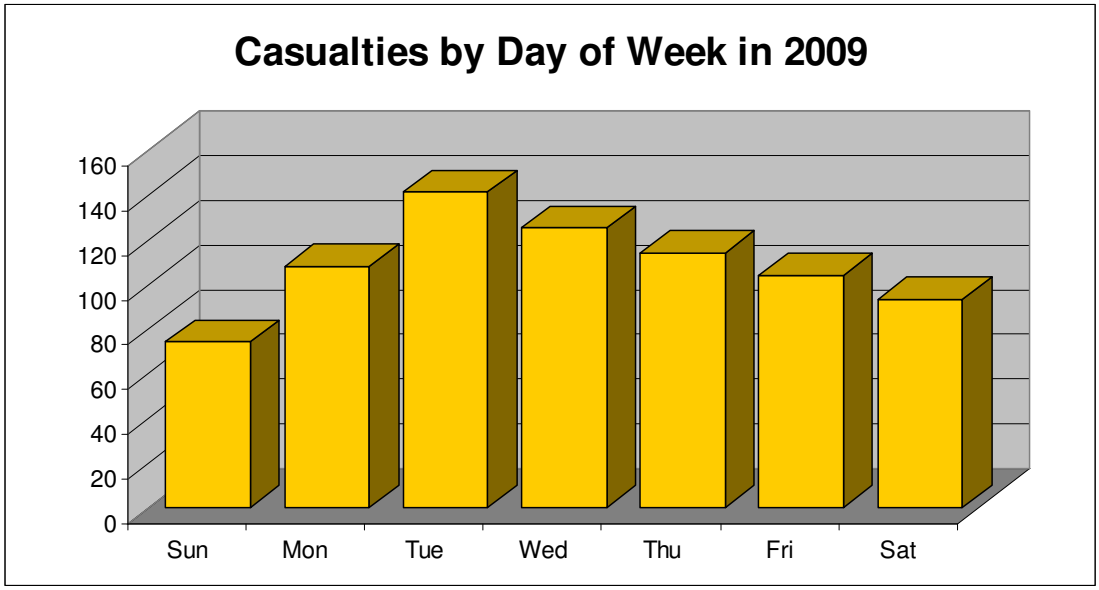
# Appendix 6

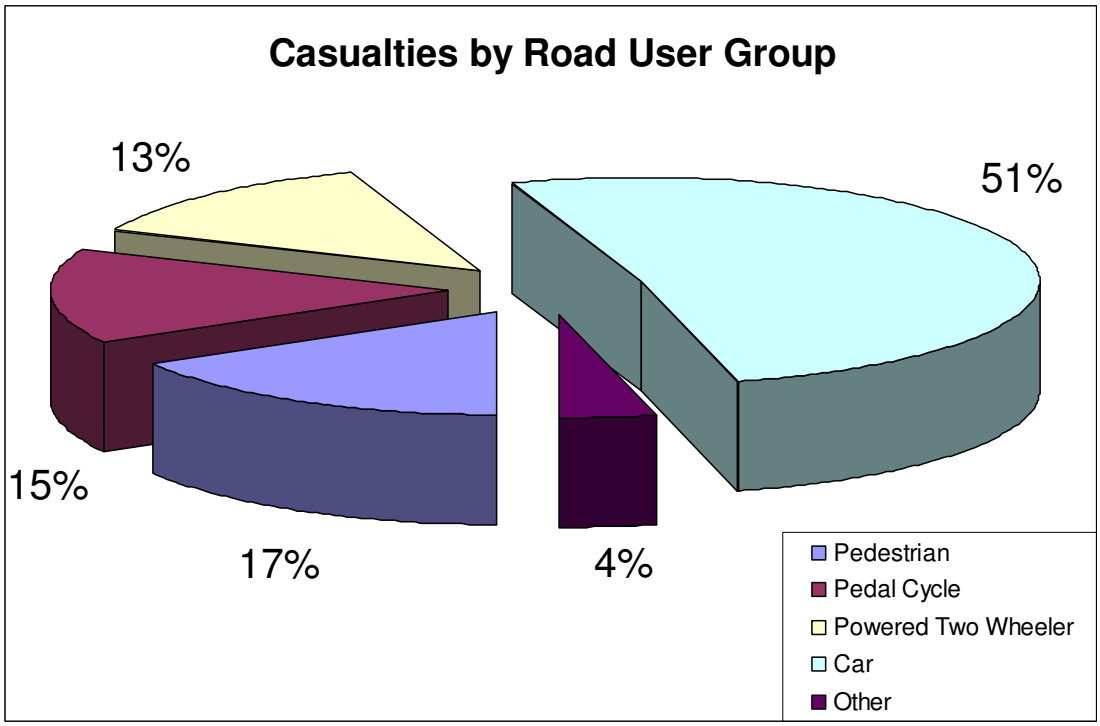
## Summary of Road Safety Data for Southampton

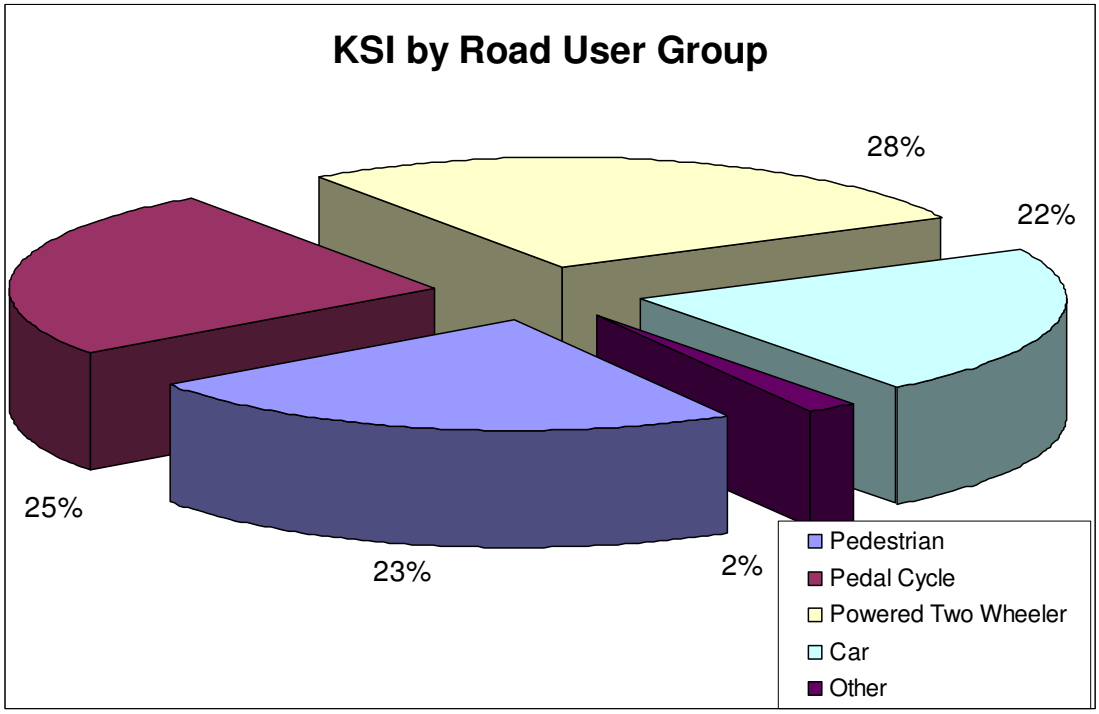
The following appendix summarises useful data on casualties in Southampton.

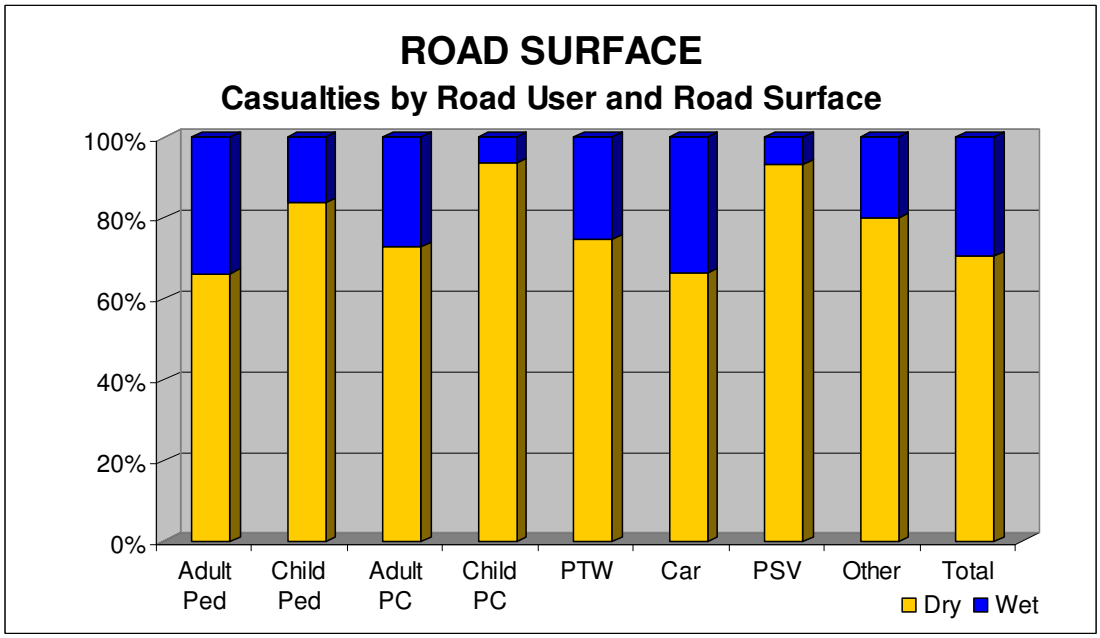


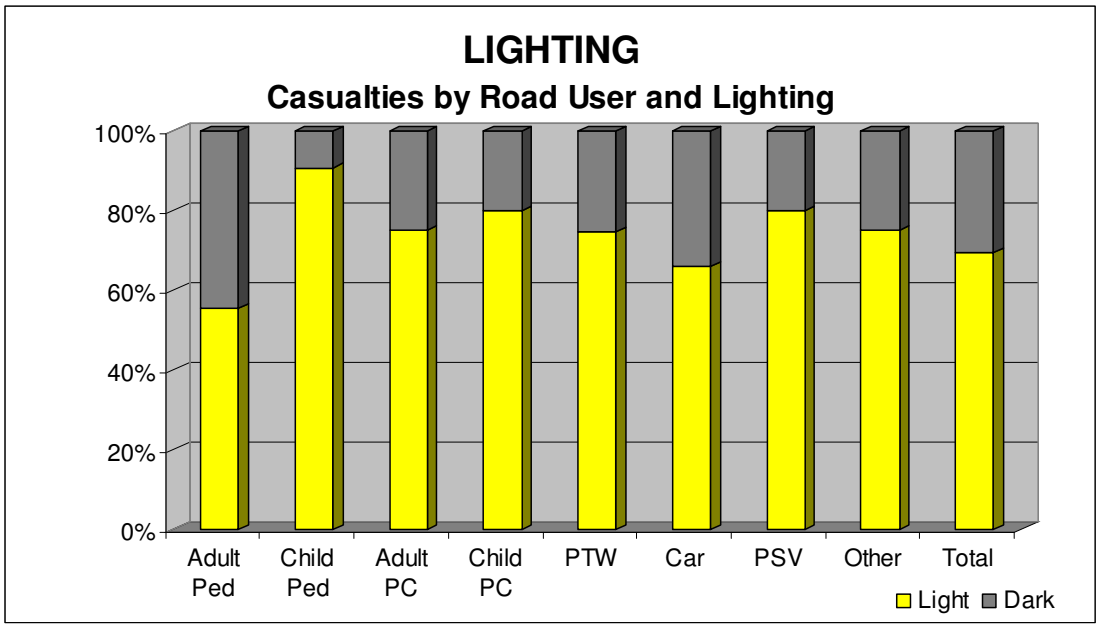



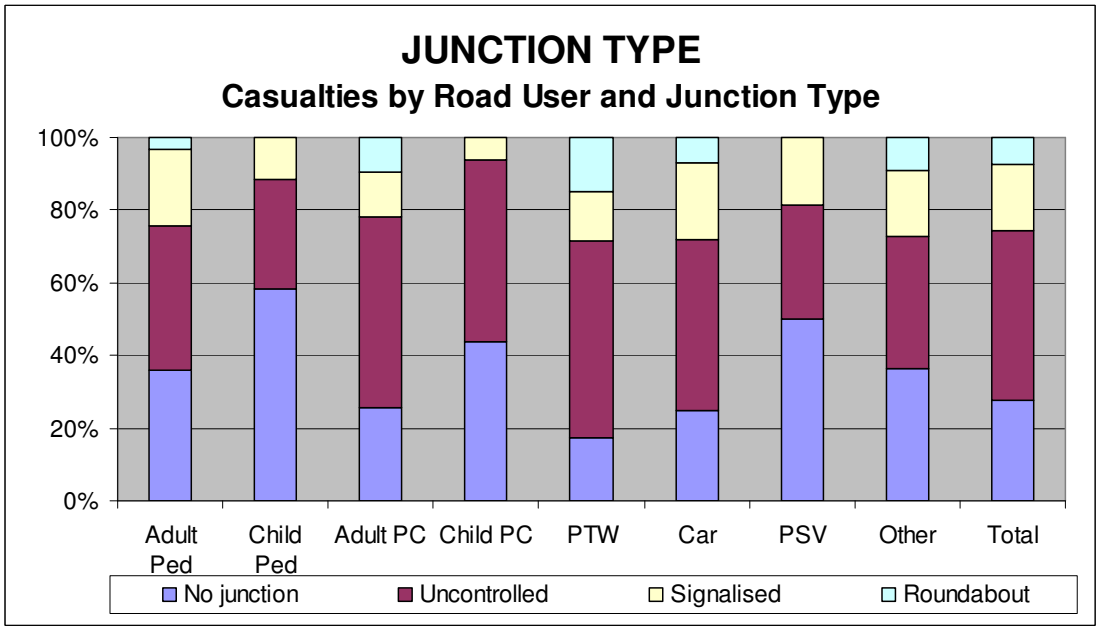

Casualties by Day of Week in 2009
160
140
120
100
80
60
40
20
0
Sun
Mon
Tue
Wed
Thu
Fri
Sat


Casualties by Road User Group
13%
51%
15%
17%
4%
Pedestrian
Pedal Cycle
Powered Two Wheeler
Car
Other


KSI by Road User Group
28%
22%
25%
23%
2%
Pedestrian
Pedal Cycle
Powered Two Wheeler
Car
Other


ROAD SURFACE
Casualties by Road User and Road Surface
100%
80%
60%
40%
20%
0%
Adult Ped
Child Ped
Adult PC
Child PC
PTW
Car
PSV
Other
Total
Dry
Wet



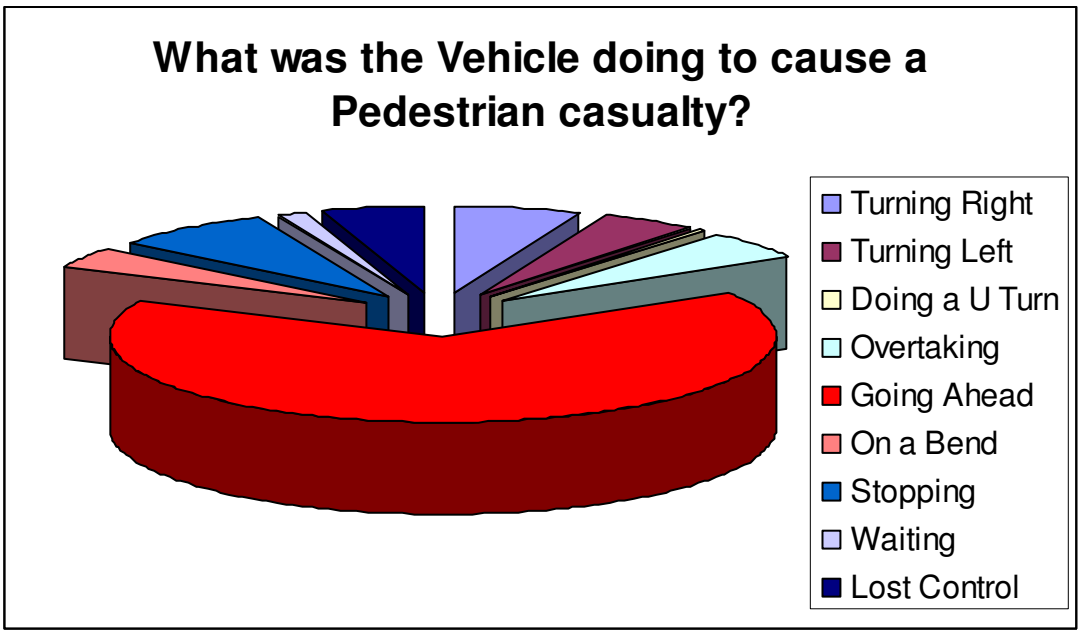



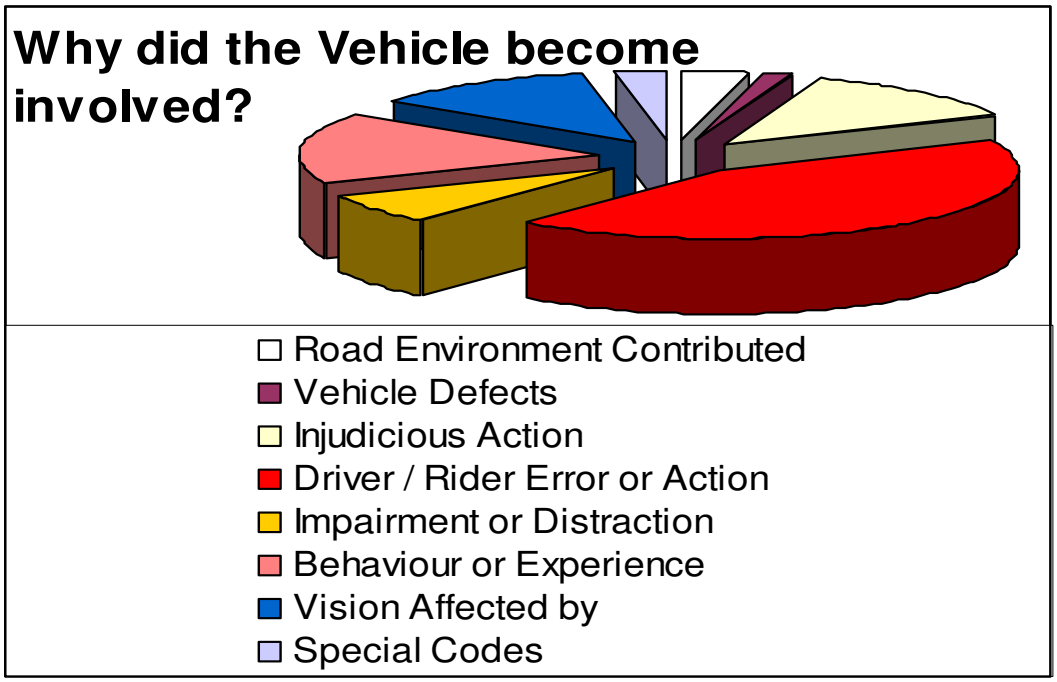

**Pedestrians in urban areas**

Perhaps unsurprisingly, pedestrians are most at risk on urban roads, where 65 per cent of fatalities and 82 per cent of KSIs occur. Ages at greatest risk are 11–15 and older people aged 80 and over. Similarly, 73 per cent of cyclist KSIs occur on urban roads.

Engineering measures (e.g. crossings, traffic calming etc.) can reduce pedestrian and cyclist casualties, but too many are hit by vehicles in residential streets at speeds which cause serious injury or death. In order to improve safety on the streets where people live, DfT is proposing to amend speed limit guidance, recommending that Highway Authorities, over time, introduce 20 mph zones or limits into streets that are primarily residential in nature, or other areas where pedestrian and cyclist movements are high (for example around schools or markets) and which are not part of any major through route.

Pedestrians constitute the largest single group of vulnerable road users; almost everyone is a pedestrian at some time or other, so investigation into what the vehicle was doing when it impacted with a pedestrian is appropriate:




The largest portion, the red area, represents 'driver error'. The 3 other sizeable portions are 'behaviour', 'vision' and 'injudicious action'.

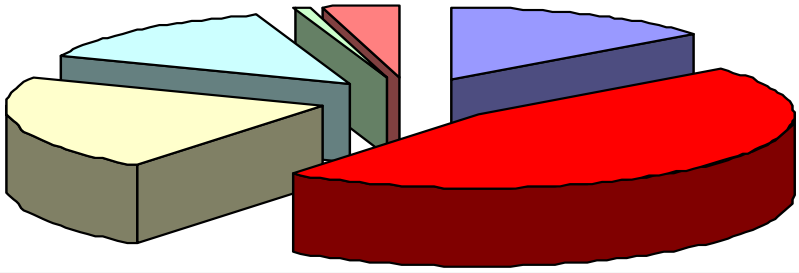
'Behaviour' relates to inadvertent behaviour, nervousness, lack of experience, aggressive driving, and careless driving. Some of this is deliberate action on the part of the driver and some is not.

'Vision affected' often translates to parked vehicles, but may refer to other obstacles such as vegetation, sun, rain, spray, etc.

'Injudicious Action' refers to disobeying traffic signals, give way signs, pedestrian crossings, the speed limit, using the pavement, etc.

'Driver error' comprises 42% of cases resulting in pedestrian casualties - so what was the most common driver error?

## What were the driver errors?



- Poor turn or manoeuvre
- Failed to look properly
- Failed to judge others path or speed
- Passing too close to pedestrian
- Sudden braking
- Loss of control

# Appendix 7

## Bus Priority Compendium

# Appendix 8

## Review of Large Scale Smarter Choices Programmes

Support for smarter choice measures grew after the publication of a 2004 Department for Transport (DfT) research study called Smarter Choices: Changing the Way We Travel which led to the funding of 4 large scale smarter choice programmes in the UK.

The 4 Smarter Choice programmes have now been delivered in 3 towns and 1 London borough over the last 6 years. From 2004 to 2009 the DfT funded the 'Sustainable Travel Town' programme, which saw the roll-out of smarter choice measures in Darlington, Peterborough and Worcester. From 2006 to 2009 Transport for London (TfL) funded a borough-wide programme, which focused on changing the travel habits of residents in the London Borough of Sutton. Most recently in 2009 a similar TfL-funded programme was launched in the London Borough of Richmond, which is currently being delivered until 2012.

This report reviews the evidential outcome of the 4 smarter choice programmes in Darlington, Peterborough, Worcester and Sutton and examines the extent to which these kinds of programmes are worth investing in.

### Darlington – 'Local Motion'

Darlington has a population of 100,000 and is characterised by a trend of de-centralised employment where a growing number of jobs have been moved to out of town sites in business parks and retail distribution centres. Darlington has lower than average levels of car ownership (69%).

Local Motion was the brand name used to market Darlington's travel town programme. Over 5 years, Darlington spent £4.4 million on the programme. Almost 60% of this funding was spent directly on smart measures, of which personal travel planning and travel awareness campaigns received most investment.

In 2005 Darlington was selected as one of the 6 Cycling Demonstration Towns. This attracted an additional £1.5 million in funding, which was largely spent on cycling infrastructure.

Total investment per person per year: £8.80 (excludes Cycling Demonstration Town funding)

### Peterborough – 'Travel Choice'

As a 'new town', Peterborough has seen substantial growth in residential developments over the past 40 years, and its urban population grew from 137,000 to 140,500 over the course of the travel town programme. Car ownership levels reflect the average for England, with around 74% of households owning a car.

Peterborough's travel town programme was branded Travel Choice, and received £6.8 million in funding over 5 years. Like Darlington, personal travel planning and travel awareness campaigns were the smart measures which received most investment. Around 50% of the total expenditure was allocated to smart measures.

Total investment per person per year: £9.80

## Worcester – 'Choose How You Move'

Unlike Darlington and Peterborough, Worcester is run by a county council rather than unitary authority. The travel town programme, branded Chose How You Move covered the City of Worcester, which has a population of around 93,500. The city has high levels of car ownership with an above average figure of 77%.

The programme received a total of £4.4 million over 5 years, of which just over 40% was spent directly on smart measures. Of these, personal travel planning and walking and cycling promotions received most investment.

Worcester
Choose how you move

Total investment per person per year: £9.40

## Sutton – 'Smarter Travel Sutton'

The London Borough of Sutton is an outer London borough with a population of around 187,000. It consists of 7 district centres including Sutton town centre. At 77%, the borough has one of the highest car ownership levels in London and an above average level on a national scale.

The 3-year programme branded Smarter Travel Sutton received £5 million of funding from Transport for London.

Smarter Travel Sutton

Total investment per person per year: £8.90

## Behaviour Change Interventions

All programmes involved a wide range of travel planning tools and social marketing techniques to achieve behaviour change. In many cases, individual projects were delivered in partnership with key stakeholders such as the local police, environmental charities, bike shops, the local Primary Care Trust, transport consultants, design agencies, regional transport agencies and the local chamber of commerce.

Key elements of each programme included:

- The development of a strong brand identity
- Personal travel planning –individual households were visited and offered tailored advice and information on local travel options.
- School travel planning
- Workplace travel planning
- Travel awareness campaigns and direct marketing techniques
- Major festivals, events and roadshows
- Dedicated website containing links to specific projects and offering general travel advice and information
- Additional cycle parking

- Car club scheme (Sutton only)

## Results: Mode Shift, Awareness and Attitudes

All four smarter choice programmes resulted in a reduction in car trips and an increase in sustainable travel modes. Counters in each area indicated a reduction in traffic of between 2.4% and 3.2%, with Darlington and Sutton seeing the greatest reductions. In terms of mode share, all travel towns saw a percentage point reduction in car drivers ranging from -2% to -4% (see table 1). Darlington and Sutton saw the largest percentage decrease in car use (driver and passenger) with 13% and 10% decreases respectively.

Use of public transport (mainly buses) increased significantly in Peterborough and Worcester. Peterborough saw the greatest rise in bus patronage with a 33% increase (see table 1). Although external factors such as population growth and concessionary fares could have fuelled this increase, Peterborough spent the highest proportion of its funding on public transport information and marketing.

Walking levels grew during the smarter choice programme delivery in each travel town. In Darlington, Peterborough and Worcester the household surveys indicated that walking trips per person increased by between 10% and 14%. Conversely the national trend pointed towards a 9% decrease in trips per person. Mode share data also suggested that walking had increased in each travel town with Darlington and Sutton seeing the greatest increases (see table 1).

Sutton and Darlington saw significant rises in cycling levels by the end of the smarter choice programmes. Cycle counters in Darlington showed an increase in cycling levels of 50% to 60%, and as much as 75% in Sutton (compared with only 12% in London). Mode share data also pointed towards huge percentage rises in both places with a 200% increase in Darlington and 250% increase in Sutton (see table 1). A low baseline at the beginning of each programme attributed to these large figures as well as the particular focus both travel towns placed on healthy travel. Darlington's status as a Cycling Demonstration Town also helped to boost cycling, with greater investment in cycle infrastructure and intense promotional activity. On a national level, cycling trips per person were seen to decrease by 9% and in Croydon, Sutton's data control area, cycling flows decreased by 12%.

*Table 1: Mode share in travel towns before and after smarter choice programmes*

| | | | | | |
|---|---|---|---|---|---|
| All car (driver and passenger) | Before | 64% | 66% | 66% | 58% |
| | After | 56% | 61% | 62% | 52% |
| | Change in % point | -8% | -5% | -4% | -6% |
| | % increase/decrease | 13% decrease | 8% decrease | 6% decrease | 10% decrease |

The development of a strong brand identity was a strategy adopted in each travel town. This helped to create public awareness of each smarter choice programme. Sutton was the only travel town which measured awareness of the overall programme against a control sample. When asked if residents had heard of Smarter Travel Sutton, 32% of Sutton residents replied 'yes' compared to only 4% of residents in the control borough.

Public support for all smarter choice programmes was evident with 81% of Sutton residents agreeing that it was the type of service that should be invested in, and between 85% and 94% of residents in the 3 other travel towns agreeing that sustainable transport modes should be made a priority in transport policy.

Attitudinal surveys suggest that perceptions of sustainable travel modes were more positive after the delivery of the smarter choice programme in each travel town. Table 2 shows that residents in Darlington, Peterborough and Worcester were more satisfied with public transport after the intervention, and each travel town saw a reduction in residents agreeing that there was no alternative to the car. Table 3 shows that after the Smarter Travel Sutton programme, a growing number of residents strongly agreed with statements such as 'the benefits of walking and cycling outweigh the convenience of using a car', 'there are lots of bus routes local to me' and 'there is provision for cyclists in my area'. A decline in the number of residents who agreed that access to a car was essential was also evident in Sutton.

Although these trends were also apparent in the control area, they were less marked with smaller percentage changes.

*Table 2: Attitudes towards public transport and alternatives to the car in Darlington, Peterborough and Worcester before and after the smarter choice programmes.*

| | | Satisfied with public transport (%) | Public transport is better than it was 4 years ago (%) | Public transport will be better in 4 years (%) | There is no adequate alternative to the car (% agree) |
|---|---|---|---|---|---|
| **Darlington** | **2004** | 39% | 30% | 30% | 44% |
| | **2008** | 45% | 26% | 29% | 41% |
| **Peterborough** | **2004** | 28% | 27% | 34% | 33% |
| | **2008** | 51% | 35% | 32% | 30% |
| **Worcester** | **2004** | 26% | 19% | 18% | 54% |
| | **2008** | 37% | 31% | 34% | 48% |

*Table 3: Attitudes towards public transport and alternatives to the car in Sutton and the control area before and after the smarter choice programme.*

| | | Having access to a car is essential to me (% strongly agree) | The benefits of walking and cycling outweigh the convenience of using a car (% strongly agree) | There are lots bus routes local to me (% strongly agree) | There is provision for cyclists in my area (% strongly agree) |
|---|---|---|---|---|---|
| **Sutton** | **2006** | 69% | 25% | 54% | 26% |
| | **2009** | 63% | 30% | 71% | 30% |
| **Control area** | **2006** | 73% | 19% | 56% | 18% |
| | **2009** | 69% | 23% | 57% | 22% |

## Social, Environmental and Economic Impacts

As well as creating modal shift, the smarter choice programmes made a positive impact on other areas such as the local economy, carbon reduction targets, air quality, health and quality of life.

The reduction seen in car trips is likely to have helped reduce congestion and improve journey reliability. Darlington and Peterborough's smarter choice programmes helped to eliminate potential congestion created by substantial increases in population and employment.

Smarter choice programmes help to improve the local economy by encouraging communities to make short trips to district centres within easy walking and cycling distance. Studies also show that businesses receive more trade from passing pedestrian flows opposed to vehicle flows. Investment in physical measures to attract pedestrians and cyclists often result in enhancements to the public realm, which can help attract local businesses to an area.

The smarter choice programmes all contributed to carbon reduction targets of each Local Authority. Household surveys from Darlington, Peterborough and Worcester helped to provide an estimate which suggests that 17,510 tonnes of carbon dioxide per annum could have been saved across the 3 towns over the 5 year programme period.

All 4 travel towns saw rises in walking and cycling, which will have contributed to increased levels of physical activity. Sutton's smarter choice programme resulted in a joint initiative with the local Primary Care Trust called Active Steps. It promoted walking and cycling as regular forms of exercise to people with certain health problems. The initiative has raised the profile of combining transport and health projects and has shown to have increased levels of physical activity amongst participants.

Although difficult to measure, it could be argued that smarter choice programmes can have a positive impact on quality of life. For example each travel town made it easier to access a range of destinations, improve the experience of end to end journeys and increase social capital by encouraging community engagement. Other positive externalities include widening employment opportunities by improving access to workplaces, improving pupil attendance at school, offering tailored travel information for people with mobility difficulties, and offering cheap travel options to people who can't afford to run a car.

## Conclusion

It is evident that the smarter choice programmes in each travel town have been successful in reducing car use and increasing the take up of more sustainable modes. These trends are significantly different or more marked in comparison to those seen in control areas. Large scale smarter choice programmes contribute positively to a range of objectives such as supporting economic growth, reducing carbon emissions, increasing physical activity and improving quality of life. Public support for such programmes is high, and when implemented, it has been seen that public attitudes towards sustainable travel become increasingly positive.

The financial cost of a large scale smarter choice programme is broadly £11 per year per head at today's prices. Based on the outcomes achieved in the 3 DfT funded travel towns, estimates suggest that the implied benefit-cost ratio is around 4.5 (allowing only for congestion effects). This figure could double if environmental, consumer-benefit and health effects were also taken into account. As these projects were also pilots it is anticipated that higher benefits would be returned if the lessons learnt during their delivery were taken into account in new schemes. One key lesson to consider is the evolving nature of partnership working. On the health side there are considerable benefits to the local authorities and the health sector in working together and sharing resources to achieve more with less. Potential exists to achieve this through merging functions for example the current recourses for the healthy schools initiative and the school travel plan are separated but could potentially be combined into one programme. This suggests that investment in a Sustainable Travel City for Southampton would have a significant cost benefit.

## Sources

The Effects of Smarter Choices Programmes in the Sustainable travel towns (Feb 2010) – Sloman et al

Darlington Sustainable Travel Town Travel Behaviour Research (Mar 2009) - Social Data & Sustrans

Peterborough Sustainable Travel Town Travel Behaviour Research (Mar 2009) - Social Data & Sustrans

Worcester Sustainable Travel Town Travel Behaviour Research (Mar 2009) - Social Data & Sustrans

Smarter Travel Sutton Third Annual Report (Feb 2010) – Transport for London & London Borough of Sutton

# Appendix 9

## Types of Smarter Choices Interventions

Smarter Choices initiatives and Travel Plans generally consist of a variety of measures working in combination; however some of the measures listed below can be used as stand-alone measures.

Travel information and awareness campaigns

This can include ensuring that employees/residents etc are provided with information on travel options available to them including public transport timetables and maps of public transport, walking and cycling routes. Travel marketing can also include provision of marketing material, potentially measures such as installation of Real Time Information within workplaces and destinations, and other measures designed to maximise awareness and ease of access to information on people's travel options.

Provision of facilities and Infrastructure

Workplace travel plan measures can include provision of infrastructure to aid users of active modes. This can include provision of facilities such as changing rooms and secure cycle parking. In the case of new developments, the provision of active travel facilities such as footways and cycle lanes may be required as part of the planning permission agreement- these items of infrastructure act to support Travel Plans. Provision of pool bikes, bike doctor, and pool cars can also encourage modal shift and reduce the impact of trips made, particularly from employment sites.

Financial incentives

Measures which promote use of certain modes through reducing the cost of use, or other financial incentives, are a powerful tool for effecting modal shift. Financial incentives are most commonly used in Workplace Travel Plans and may include tax free and/ or discounted public transport season tickets, tax free and/or discounted bike loans/ purchase, and in some cases, financial incentives for those who travel to work by active modes.

Public Transport Information and Marketing

Improvements to Public Transport's; infrastructure and services, information and marketing make it more accessible to people. Working in partnership with local authorities, bus companies implement measures of shared objectives of improved quality of service. Local authorities assist by providing marketing and information that integrates the public transport facilities so that the authority-wide network is promoted (Goodwin et al, 2004).

Measures to restrict single occupancy car use

Measures to reduce single occupancy car use, such as limitations on car parking provision, or compulsory car park permits, are also options. Some workplaces may choose to charge car users to park, whilst others may restrict car parking permits to essential users or those working antisocial hours, etc.

Pro-cycling initiatives

Pro-cycling initiatives include any measure that aims to encourage cycling for transport, leisure or sport purposes. Initiatives can range from improvements to physical infrastructure e.g. the enhancement of the local cycle network, to promotional events and activities such as 'try-a-bike' sessions or cycle safety training. Further details are included in the Active Travel chapter

Pro-walking initiatives

Pro-walking initiatives' aim to discourage car use for shorter journeys and for individuals to use, enjoy and take pride in their immediate environment. They also address issues that can make walking an unpleasant experience, looking safety and security as well as the quality and condition of their facilities.

Some schemes simply concentrate on the health of individuals and the cost of car uses for short journeys. Some schemes create walking options for those who usually feel a car is necessary, such as walking buses where children can walk whilst being supervised. Other schemes such as Park and Stride aim to take car traffic away from congested areas and reduce overall car mileage. Further details are included in the Active Travel chapter

Car Clubs

Car clubs offer an alternative to own car ownership. . Research shows that for every car club vehicle made available, up to 20 people will give up their private cars, and that car club members reduce their mileage by up to 40 per cent. “City Car Club” operates a fleet of cars based at locations around Southampton and operate on a pay as you go basis. Typically members are required to pay an annual membership fee then a small fee each time they book the car

Car Sharing Schemes

Car sharing schemes aim to encourage individuals to share private vehicles for particular journeys, to reduce the number of cars on the road. Formal schemes often focus on commuting journeys or for longer-distance leisure journeys. Schemes may be operated via internet based sites open to all users, or may be confined to users within one particular organisations (Goodwin et al, 2004).. These can some times be almost at a public transport scale, such as minibuses for schools collecting up to 8 children.

Teleworking

Employers encourage employees to adopt a range of remote working practices (i.e. more flexible practices than simply commuting to a fixed workplace every day), including working at home or in a closer location than their main workplace, for some or all of the time (Goodwin et al, 2004).

Teleconferencing

Teleconferencing includes the use of telecommunications to facilitate contacts that might otherwise have involved business travel e.g. meetings, training sessions, interviews or information provision. It typically involves two or more people in a multi-way phone conversation or video link or web link. There are a range of ways in which teleconferencing can be provided, including private facilities, public facilities, special rooms fitted with equipment or facilities available via individual PCs etc (Goodwin et al, 2004).

E-Commerce

Electronic commerce, commonly known as e-commerce, eCommerce, or e-business consists of the buying and selling of products or services over electronic systems such as the Internet and other computer networks. E-commerce reduces the need to travel. (Wikipedia!)

## References

DfT (2005) Making residential travel plans work: Good practice guidelines for new development. HMSO

Goodwin P et al (2004) Smarter Choices – Changing the way we travel. DfT, London

DfT & DCSF (2007) School Travel Plan Quality Assurance - Advice Note

# Appendix 10

## Delivering a Smarter Travel City for Southampton

There is a baseline of smarter choices activity already taking place but the benefits from delivering a Sustainable Travel City are compelling. This section maps out the City Councils desire to progress with such an initiative and the key stages

The flow-diagram below sets out the recommended process for delivering an effective behaviour change programme based on lessons learnt from the Smarter Travel Sutton programme. The insight report will establish the audience or market segments and identify appropriate messages and channels that will help achieve the behaviour change. (Summer 2010)

The strategy will provide information on the aims and objectives, governance, costs and staffing requirements, milestones, projects/tools and monitoring and evaluation. (Autumn/Winter 2010) A Preparation Phase allows time for the team to be assembled, materials procured and projects developed so as to make maximum impact once launched. (Spring 2011)

The delivery phase should initially be at an intensive level for 3 years. (Summer 2011 – Summer 2014)

The programme could then be mainstreamed and continued as part of an on-going legacy. (Autumn 2014 onwards).

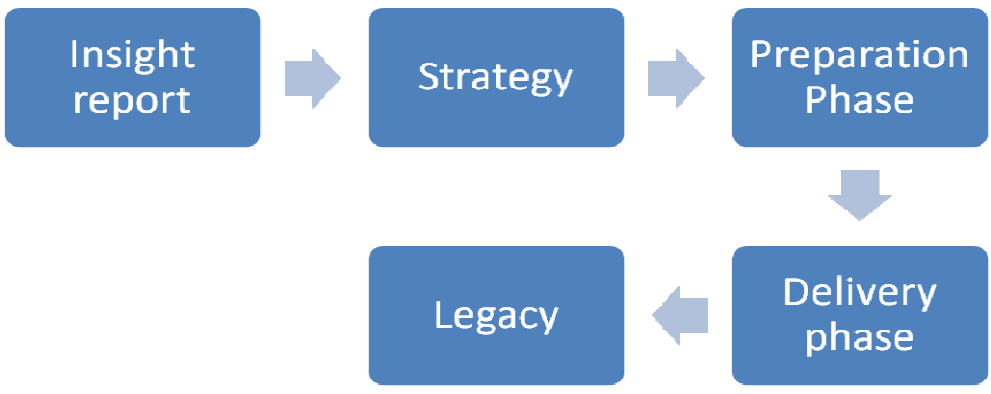
### Local Sustainable Transport Fund

The Local Sustainable Transport Fund (LSTF) (announced December 2010) which is funded by the DfT is for a 4 year period to 2011-15.

The establishment of the LSTF reflects the importance the Government attaches to helping build locally a strong economy and addressing at a local level the urgent challenge of climate change and the commitment made in the Coalition Agreement to promoting sustainable travel initiatives.

The City Council will bid for a range of sustainable travel measures. Packages might, for example, include measures that promote walking and cycling, encourage modal shift, manage effectively demands on the network, secure better traffic management, improve road safety and improve access and mobility for local communities.

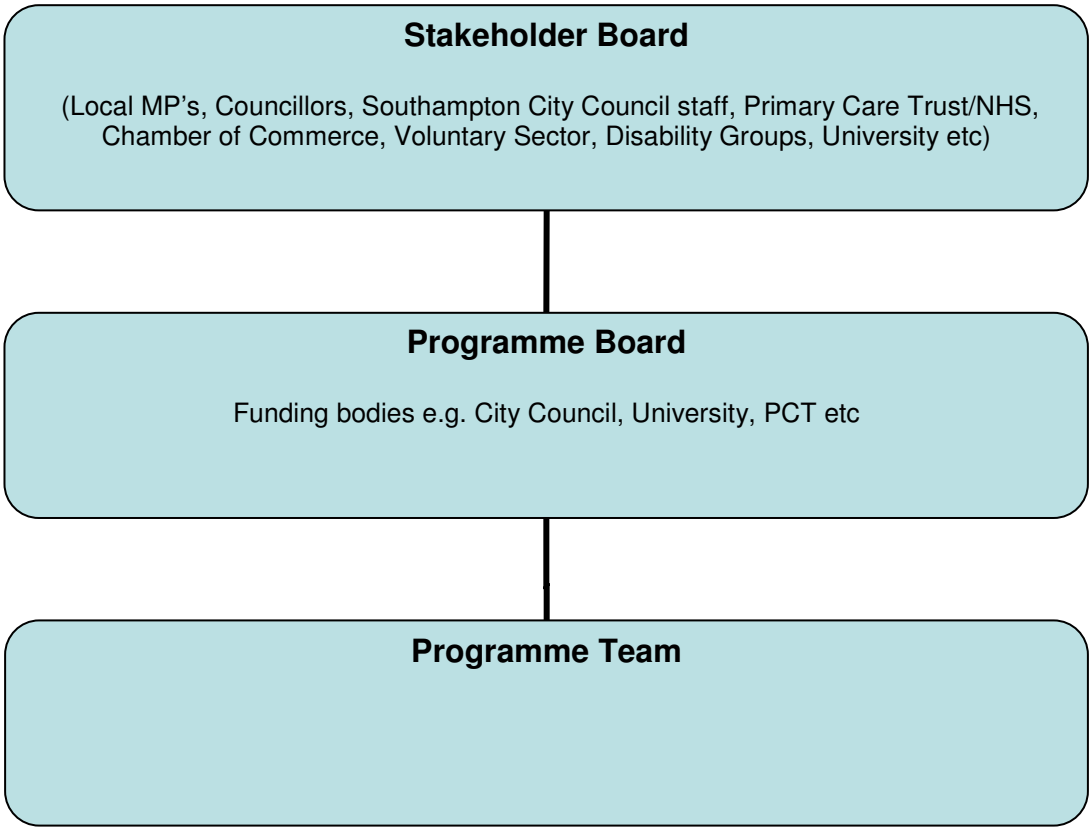
The allocation of funding will be based upon criteria will be measure to ensure it meets the core objectives of supporting economic growth and reducing carbon. Bids will also need to demonstrate value for money, deliverability and affordability of package proposals.



## Governance arrangements for Southampton

Whilst Southampton City Council as the Highway and Transport authority is the main organisation responsible for encouraging sustainable travel, partnership working with key stakeholders is considered essential to ensure a successful outcome.

The diagram below shows an indicative governance chart with the exact membership and remit to be confirmed in due course.

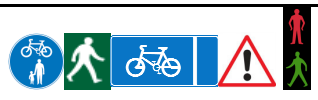



It may be possible to host the core delivery team (programme team) in an organisation other than the Council, for example within the University of Southampton's Transport Studies Group. This would enhance the opportunities for associated research and reporting, for identifying further funding opportunities and be closely linked with the teaching programme.

# Appendix 11

## Active Travel Schemes Delivered During LTP2

The table below summarises the schemes delivered during the LTP2 period. This table shows infrastructure schemes (new pedestrian and cycle facilities) and also promotion and marketing schemes, training projects, and events.

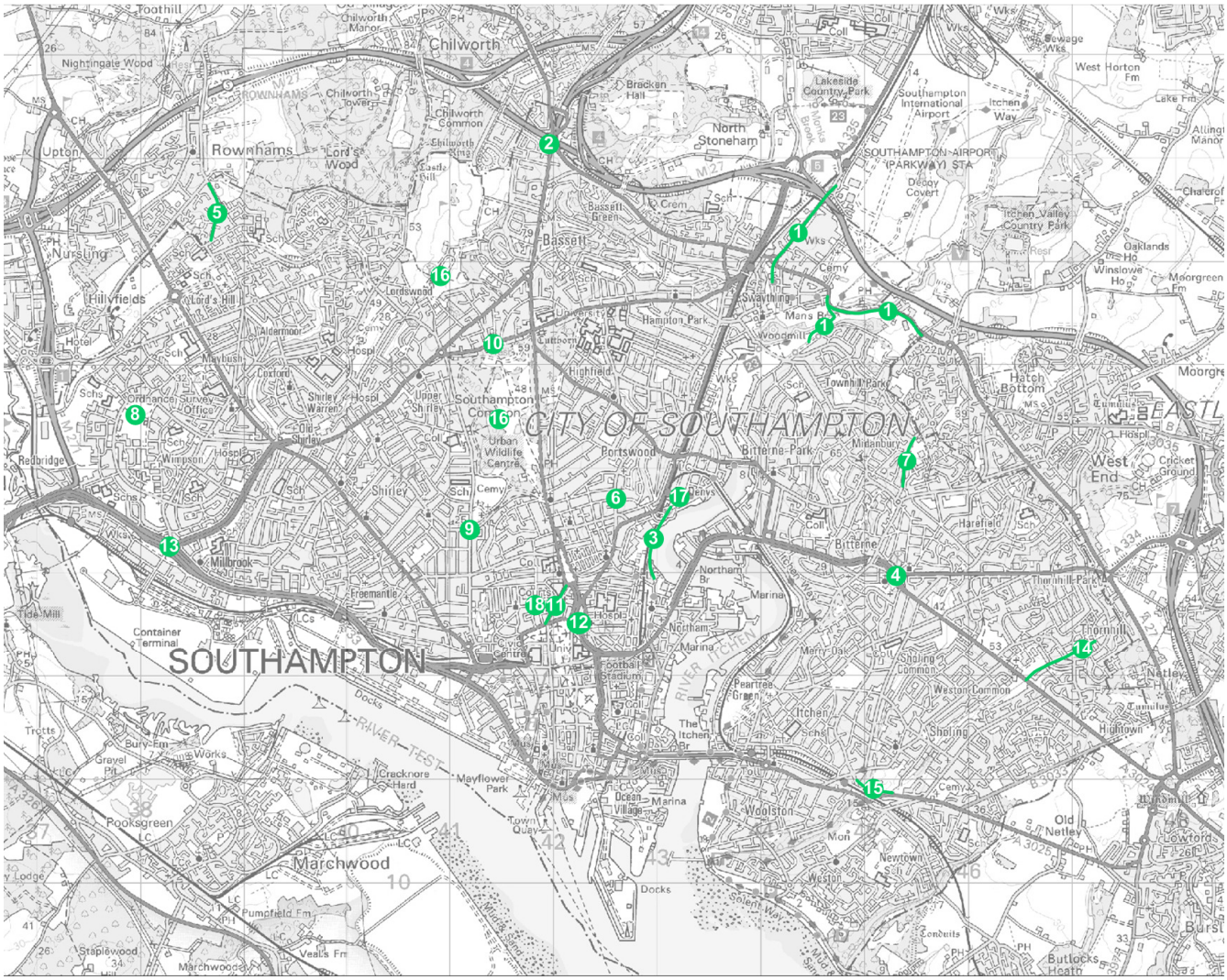
| Map No | Scheme Name | Scheme Type | Scheme Value, £,000 | Year |
|---|---|---|---|---|
| 1 | NCN23 Riverside Park to Cutbush Lane and Wide Lane, Swaythling<br><br>Cycle path improving link between city centre and Airport via St Denys, Bitterne & Mansbridge. | | ?? | 200x |
| 2 | Chilworth A27 and Bassett Avenue- Cycle routes to North Baddesley and Chandlers Ford | | 15 | 2006 |
| 3 | Sustrans Connect2- Northam Bridge to Priory Road via Horseshoe Bridge and the Riverside | | 1000 | 2010 |
| 4 | Improved access to Bitterne Precinct | | ?? | ?? |
| 5 | Lordshill links to Rownhams Road North to North Baddesley | | 70 | 2007 |
| 6 | Spring Crescent refuge for walkers and cyclists in Portswood Road | | 15 | 2007 |
| 7 | Townhill Way Shared cycle facility towards Bitterne | | 15 | 2008 |
| - | Cycle Parking - City wide | | 25 Per Year | 2005 - 2010 |
| - | Advanced Stop Lines – City wide | | 1000 | ?? 2005-2010 |
| 8 | Mansel Park recreation ground cycle path | | ?? | ?? |
| 9 | Hill Lane/Raymond Rd Toucan crossing for access to Southampton Common | | ?? | ?? |
| 10 | Burgess Rd- Butterfield road (Old Bassett Pub site) Toucan crossing to Southampton Common | | 114 | 2006 |
| 11 | London Road- new road scheme includes cycle facilities and improved pedestrian environment | | 1300 | 2008 |
| 12 | Jury's Inn roundabout-cycle path and crossings; Dorset street- cycle facility improvements |  | 32 | 2008 |
| 13 | Millbrook Roundabout – major improvements with toucan crossings on all arms of roundabout with shared cycle lane on perimeter | | 2700 | 2008 |

| Map No | Scheme Name | Scheme Type | Scheme Value, £,000 | Year |
|---|---|---|---|---|
| 14 | Thornhill Hinkler Green area - new cycle way and walking route to Bursledon Road | | 100 | 2009 |
| 15 | Millers Pond – Portsmouth Road new path and cycle route to link to Oasis school | | 90 | 2009 |
| - | Cycle parking at Doctors' surgeries | | 3 | 2005/ 8 |
| 16 | Greenways – Common Sports Centre and parks | | ?? | 2005/ 8 |
| - | Schools " Go Ride " training scheme | | 5 | 2005/ 10 |
| - | Cyclo-cross events including National and International competitions | | 7 | 2005/ 10 |
| - | Cycling and Walking , Healthy Lifestyle promotion | | ?? | 2005/ 10 |
| - | Hosting the International Police Mountain Bike Association conference | | 6 | 2006 |
| - | Setting up of Southampton City Patrol Teams on cycles and Hampshire Fire and Rescue Service | | 12 | 2006/ 8 |
| - | Street Tread project and Big Bike celebration | | 1000 | 2008 |
| - | Tour of Britain 2007 stage 1 finale | | 50 | 2007 |
| - | Skyride 2010 | | 75 | 2010 |
| - | Production of leisure cycle routes maps in conjunction with Sustrans | | 4 | 2009 |
| 17 | DIY Streets, St Denys | | 135 | 2010 |
| 18 | Legible Cities phase 1 | | 350 | 2010 |

## Key to Scheme Types

| Scheme Type | Icon |
|---|---|
| New cycle route | |
| National cycle network | |
| Other cycle facility improvements | |
| Pedestrian facility improvements | |
| Pedestrian crossing | |
| Promotion | |
| Safety | |
| Events | |

*Map of Scheme Locations*

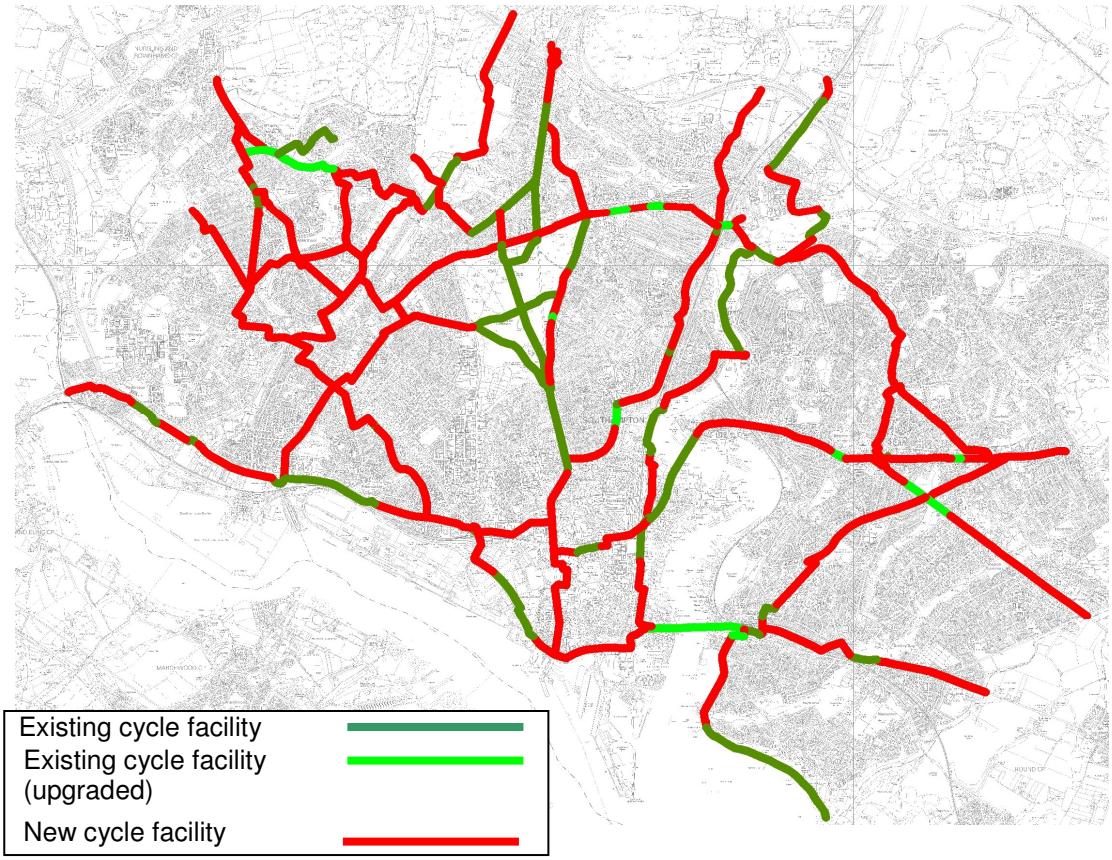


# Appendix 12

## Proposed Strategic Cycle Network

The strategic cycle network outline we have developed consists of existing and proposed routes. It is intended that proposed routes would tie into existing routes as much as possible. The key aim of the network is to provide continuous cycle routes along the main commuter corridors. This would mean that cycle lanes and paths would not stop and restart along parts of a route.

The proposed network totals 86.5 kilometres in length, of which 24.5 kilometres currently exist as cycle facilities. This aspirational improvement to the network will be developed over a period of time and will be regularly reviewed so as to maximize budgets and developer contributions




Our proposed network has identified cycle facilities in line with recommended design considerations. Off road cycle facilities are proposed for routes with high volumes of traffic and/or high traffic speeds, whilst on-road designated lanes are identified for many sections of route with moderate traffic volumes. Some parts of the network consist of quiet roads where advisory cycle facilities would be sufficient. As well as improved cycle route infrastructure, the network will be backed up with considerably improved direction signage and significant safety improvements and potential cycle priority at major junctions. Unfortunately the constrained nature of the highway network in a few locations restricts what improvements are possible. However the network would provide a largely seamless system of continuous cycle routes, and a considerable improvement to the cycling experience compared to present on many routes.

Based upon 2010 prices, construction of the proposed 62km of the Strategic Cycle Network would cost around £25 million. It is estimated that for £14 m we could deliver 47km of this; the remainder being very expensive. Completion of this network could take several decades at the current level of investment, so it is important to be realistic about how rapidly we could deliver the network gradually, in phases as budgets are allocated. We will require contributions from developments adjacent to the network to fund delivery, in addition to financing the network from capital investment by SCC and also

from, where possible, funding delivered through partnerships with specialist organisations and also through central government funding sources if applicable. We will also seek to deliver parts of the network in conjunction with major highway work schemes where a strategic cycle route exists in the vicinity of a highway improvement project.

It should also be noted that sections of the Strategic Cycle network works will deliver improved facilities for pedestrians and in particular less mobile users- as all new infrastructure must be designed to be compliant with the Disability Discrimination Act (DDA) (2005), and also all new cycle infrastructure by its nature provides an opportunity to improve footways and pedestrian crossings in the area.

The design and priority for delivery or elements of this outline network will be refined using the results of the planned cycle users routes survey in 2011, and a final Strategic Cycle network for delivery over the coming years will be presented in the Cycling Strategy.

# Appendix 13

# Public Realm Evidence

## Detailed Evidence and Research

Evidence in this section has been sourced from a range of projects. The recent work by TfL features quite heavily in this section, particularly in relation to Pedestrian Ambience and Economic Benefits, which have been explicitly included in the Basic Version of the Valuing Urban Realm Toolkit.

### Pedestrian Ambience

TfL commissioned a detailed study by Accent and Colin Buchanan entitled Valuing Urban Realm – Business Cases for Urban Spaces. This established the relative importance of various changes to pedestrian ambience, measured through the TfL Pedestrian Environment Review System (PERS). Specific issues considered include:

- Effective width;
- Dropped kerbs;
- Gradient;
- Obstructions;
- Permeability;
- Legibility; and
- Lighting

For any street or space where a public realm scheme is proposed or has been implemented, each of these criteria is given a score between -3 and +3 for the before and after situation. The report defines the ambience benefit for each scoring level in pence per minute per person. Comparing the before and after situation, it is possible to calculate the financial benefit of the change in each of these individual PERS criteria per person per minute. Using data on pedestrian activity and the time they spend in the street, an the overall Net Present Value benefit to pedestrian ambience can be calculated using usual discounting methods over the lifetime of the scheme.

The study includes three worked examples of public realm enhancements in London, which calculated the partial BCR values attributable to pedestrian ambience. These varied in value between 0.2 and 1.9. Therefore, in most cases, improvements to pedestrian ambience is not likely to be sufficient justification in isolation for the delivery of a public realm project. However, it would make worthwhile a contribution towards the overall benefits

### Economic Benefits

Gehl diagram

These are the findings of urban quality consultant Jan Gehl who through his research and publications has been highly influential on the design of successful public spaces through his understanding of what encourages Life Between Buildings (his first book published in 1971). As a result, over the last 40 years in his home city of Copenhagen, 100,000 $m^2$ of traffic dominated spaces have been converted to 100,000 $m^2$ of traffic free city space for pedestrians. Streets and squares have been replaced with fine stone materials, and street lighting and furniture have been upgraded. The city centre now exudes character and an inviting atmosphere.

*"The streets seem to signal: Come, you are welcome. Walk awhile, stop awhile and stay as long as you like. City space has been given new form and a new content."*[125]

[125] New City Spaces, 2003 – Jan Gehl and Lars Gemzoe

Gehl goes on to explain that it is *"first life, then spaces, then buildings – the other way around never works"* – this is fundamental to the success of our city. This is reinforced by the influential American researcher, William H. Whyte, who studied how people behaved in public spaces and has influenced our understanding of the importance of well designed public spaces in facilitating civic engagement and community interaction. He notes *"what attracts people most, it would appear, is other people".* Get the range of optional activities right; such as sitting on a bench, in a street café, people watching, looking at public art, heritage interpretation or street entertainment; set in an attractive well designed space and line it with buildings then people will be attracted. This is echoed by the Joseph Rowntree trust in 'The Social Value of Public Spaces' –

*"…the success of a particular public space is not solely in the hands of the architect, urban designer or town planner; it relies also on people adopting, using and managing the space – people make places, more than places make people...".*

In Copenhagen, Gehl has determined that the increase in people using the city is directly proportional to the increase in car free public space, over the last 27 years (up to 1996) increasing by 350%. For every 14m$^2$ of additional space for pedestrians one new person has visited and enjoyed the city. In this respect the 'dwell time' of people visiting the city is vital for economic growth of the city centre: the longer people stay in a place the more money they are likely to spend. Gehl has also surmised that the number of people using the city centre is directly proportional to the number of seats available. In Copenhagen the growth has been in outdoor seating for cafes indicating, that when more seats are available more people sit down and stay longer in the city. Equally this can only happen if there are attractive places where people want to sit, such as wider pavements, more squares and less noise and dust from traffic. Despite the climatic differences, the level of public outdoor activity on a summer's day in Copenhagen equals that of Rome. Through an improved network of car free streets and squares the use of the bicycle has increased by 65%, though the amount of car traffic in the city has remained unchanged for the last 25 years (source: *Public Spaces Public Life - Copenhagen 1996* by Jan Gehl and Lars Gemzoe).

*"The better the quality of the public space, the more people you find there using it as a place, not just as a movement corridor"* (Jan Gehl).

In 2007, the East Midlands Development Agency commissioned ECOTEC to undertake a study of Economic Impact of the Public Realm. This comprehensive study undertook a considerable amount of research, including a literature review, case studies across the UK and specifically within the East Midlands. The latter included surveys of stakeholders and businesses. Some key findings and conclusions from the report are outlined below:

*"The findings and conclusions of the assessment of economic benefits and impact that has arisen from research undertaken in both the qualitative and the quantitative tradition reveals that there is a significant body of international and national evidence that suggests that a high quality public realm and investment in this is critical to the competitiveness of place. This suggests that investment in the public realm generates 'economic benefit streams' that translate into 'economic impact' through a number of mechanisms:*

► *Attracting investment*

► *Increasing land and property values*

► *Attracting visitors*

► *Increasing tourism*

► *Improving productivity*

► *Enhancing image*

*Case studies of public realm projects from across England provide further evidence of the positive economic benefits that arise from investment in the public realm and critically echo some of the strategic findings of the broader literature review. In particular, they identify that business, employment and wealth creation can be stimulated by increased consumer and producer expenditure arising from an increase in business and visitor activity in and close to high quality and imaginative public spaces. The role of the public realm in improving image and identity and the positive impact that this has on the*

*ability of locations to compete for scarce investment is also again revealed. As too, is the opportunity for a positive uplift in the value of land and property.*

*The views of inward investors are more complicated and perhaps therefore less clear cut. Almost half of the inward investors to the region consulted during the course of the study considered that the quality of the public realm was important to the success of their business. However, over two thirds did not rate it highly as a factor in deciding to locate in the East Midlands. Other factors including access to markets, transport facilities and quality of labour scored more highly. The public realm is treated as a secondary factor in locational decision making by inward investors into the East Midlands but is viewed as being important to the success of their business."*

The work of the Commission for Architecture and the Built Environment (CABE) has identified the crucial role of our public realm in supporting economic and social wellbeing:

*"The aim of creating a more sustainable society based on the husbanding of our resources (especially resources for transport) depends on the quality of our streets. This means that conflicts over the use of the street have to be given a much greater priority. (Paving the Way, 2002, CABE).*

In the 2006 CABE publication, "Paved with gold – The real value of good street design", research in London showed that "*an achievable improvement in street design quality can add an average of 5.2% to residential prices on the case study high streets and an average of 4.9% to retail rents".* This consistent with the findings of work undertaken by MVA Consultancy on behalf on TfL, which concluded that "*the private sector gains positive value from a high quality urban realm and this has been quantified and related to a system of measuring quality".*

Looking at one specific scheme in The Cut, Southwark, MVA calculated that the overall increase in property value was three times the cost of implementing the scheme. Given these benefits, MVA undertook a survey of 400 businesses in London to see if they would be willing to make a contribution towards public realm enhancements. The majority did not, but "*even taking these 'non payers' into account, we found that business did value improvements to lighting, pavement surfaces and environmental quality and were willing to make a one-off payment equivalent to about 2.5% of their current annual business rate per* $m^2$ *for each increment of improvement on the PERS* [Pedestrian Environment Review System] *scale*".

Both the CABE and MVA studies stress the potential negative aspect of these findings:

*"High property prices can have a downside, potentially restricting local access to home ownership and reducing retail diversity".* (CABE)

*"Most value is gained by those who own the properties rather than (necessarily) businesses that operate within them".* (MVA)

In reflection of this, the TfL does not include the increase in private property value as a benefit within its BCR calculations in its *Valuing Urban Realm Toolkit*, as this is not a *social welfare benefit* (i.e. the total well being of society), as defined in the DfT's Webtag Toolkit.

Webtag is now starting to quantifiably consider the wider [economic] benefits of transport interventions. This includes agglomeration benefits, labour supply impacts and output change in imperfectly competitive markets. Agglomoration impacts are likely to be the most relevant as these relate to *concentration of economic activity over an area*. It could be argued, for example, that comprehensive public realm improvements within a city centre, such as Southampton, would lead to agglomeration benefits to companies based within that centre, through the provision of much higher quality pedestrian linkages between them. The quality of the centre could then potentially provide a virtuous circle to encourage more related businesses to locate within the centre. There needs to be further work and research to properly quantify the impact of public realm interventions on these wider benefits.

In summary, there is a considerable body of evidence to demonstrate the economic benefits of public realm projects. However, the empirical evidence primarily relates to increase in residential and commercial property values. It is not appropriate to include such benefits

## Transport Impacts

This is already a well understood aspect of transport appraisal. Specific issues considered included Journey Times, Accident and Collision data.

**Journey Times**

Journey times are often one of the most cost benefits in the appraisal of transport projects, particularly Major Road Schemes. However, there has been criticism of late that the large cost benefit of such schemes is due to large numbers of people gaining from small and relatively insignificant journey time savings.

In terms of public realm projects, it is anticipated that Journey Time Savings for vehicular traffic are likely to form a less significant part of the overall BCR calculations. Most schemes are relatively short in length, compared to a more significant road or public transport improvement scheme. Although many schemes aim to reduce vehicle speeds, the impact on overall journey times is likely to be small. Even if average maximum speeds are reduced, this doesn't necessarily mean that overall journey times would increase. For example, a scheme, which removes formalised control by traffic signals, may reduce delays at junctions and pedestrian crossing points, as well as average maximum speeds.

Public realm schemes can reduce journey times for pedestrians, through the provision of better crossing facilities, where waiting times are reduced.

The forthcoming Intermediate version of TfL's *Valuing Urban Realm Toolkit* will include calculations on Journey Times. Without prejudging the calculations, it is not anticipated that journey times will have a significant impact on the BCR of public realm projects, particularly compared to Major Road Schemes, where journey times are often the dominant part of the BCR calculations.

**Road Safety**

Public realm schemes generally have a significant focus on improving the environment for Active Travel modes and particularly pedestrians. This often includes specific measures to reduce the direct impact of traffic movements, including traffic calming to reduce speeds or management measures to reduce vehicle volumes.

The London Road Improvement Scheme aimed, through design, to reduce vehicle speeds and through the right turn ban onto the Inner Ring Road, divert southbound through traffic onto more suitable routes. The three year moving casualty rate for London Road before and after implementation of the Improvement Scheme is illustrated below:

*Table 1: London Road Before and After Annual Average Casualty Data*

| | **Before (2003 to 2005 inclusive)** | **After (2009 to 2010 inclusive)** |
|---|---|---|
| **Serious Casualties** | 1.0 | 0.0 |
| **Slight Casualties** | 7.3 | 5.5 |
| **Total** | **8.3** | **5.5** |

Calculations show that the benefits of reducing casualties over a 15 year period are equivalent to nearly twice the capital cost of implementing the scheme. In other words, reducing casualties in isolation of other factors provides a BCR of nearly 2.0. This is primarily due to the reduction in seriously injured casualties, which have a much higher cost to society of £185,220 compared to £14,280 for slight casualties, at the latest quoted 2007 prices.

As the traffic management measures implemented to reduce through traffic using London Road have had a wider impact on the surrounding road network, an assessment has been made of casualty data on this wider network. This shows less overall change, suggesting that the reduction in the number of casualties has potentially transferred to the wider network. In particular, the overall number of KSIs and all casualties was noticeably higher in 2010, although this has also been the case across the city as a whole. It is difficult to draw firm conclusions on this, as it is difficult to know in most cases whether a casualty on the wider network specifically relates to traffic diverted from London Road. An examination

of the serious casualties (which have the greatest impact on the BCR calculations) that occurred in 2009 and 2010 on the wider network suggests that they do not generally relate to the wider impact of traffic changes in London Road. The situation will be monitored on an ongoing basis and the poor casualty record in 2010 may turn out to be an isolated poor year.

These figures demonstrate that reducing casualties can potentially form a significant part of the overall benefits of a public realm project. However, these benefits will only be realised on streets with a poor road safety record, which can be addressed by public realm works. Care also needs to be taken to ensure that casualties are considered over the whole area that the public realm scheme has an impact.

**Active Travel Benefits**

There is a growing body of evidence that demonstrates that increasing the use of active travel modes (walking and cycling) can have a significant benefit, primarily due to the wider health benefits to the population. However, it is also important to note that increasing the proportion of journeys made by Active Travel modes can make a contribution towards accommodating increased travel demand, without increasing vehicle traffic, leading to reduced levels of congestion.

In March 2010, the Government Office for the South West and Department of Health published *Value for Money: An Economic Assessment of Investment in Walking and Cycling* by Dr Adrian Davis. This identified the significant cost of increasing levels of physical inactivity in the UK:

*"Illness as an outcome of physical inactivity has been conservatively calculated to be £1.08 billion per annum in direct costs to the NHS alone (2007 prices). Indirect costs have been estimated as £8.2 billion per annum (2002 prices).*

The document also recognises that "*walking and cycling have been identified as a key means by which people can build physical activity into their lifestyles".*

The review considered the BCR of a range of walking and cycling projects across the UK and elsewhere. The average BCR was 13:1 for UK projects.

It also highlighted research from Cycling England, which assessed the overall benefits from increasing cycling. This has demonstrated that in order to break even (i.e. a BCR of 1:1), an investment of £10,000 needs to generate one additional regular cyclist over a 30 year period. Therefore, to meet a Very High BCR of 4, the £10,000 investment would only need to generate 4 additional cyclists.

The DfT's Webtag analysis toolkit for transport projects now incorporates specific guidance on the appraisal of walking and cycling schemes. This includes an appendix that assesses three case studies. This includes a breakdown of the proportions of the various benefits. In all three examples, physical fitness benefits account for over half the benefits and up to 75% in one case, followed by Journey Ambience. Congestion, accidents, absenteeism and environmental benefits make up no more than a quarter of total benefits. Whilst this is a theoretical exercise, it does illustrate that improvements in physical fitness are the main benefit to arise from cycling and walking schemes.

Public Realm projects aim to create a wide range of benefits. However, a consistent aspect of public realm projects is to provide an improved environment for pedestrians and cyclists and reduce the impact of dominance of vehicular traffic. Emerging evidence clearly demonstrates that increased use of Active Travel modes can have significant benefits, particularly around physical fitness. This should therefore be an important consideration in the overall appraisal of public realm projects.

It's not clear at this stage whether the more advanced editions of the TfL *Valuing Urban Realm Toolkit* will incorporate a quantitative appraisal of the benefits of increasing the use of Active Travel modes, particularly the significant health benefits. However, evidence clearly indicates that this should be an important consideration in the appraisal of public realm projects.

**Other Benefits**

This section considers other potential benefits of implementing public realm projects.

The TfL commissioned Accent / Colin Buchanan study, which quantitatively defined pedestrian ambience, highlighted a number of user and wider benefits from implementing public realm projects, which have not been considered in detail above. These include:

- The impact of a scheme on socialability and community;
- The use of public spaces for leisure activities, including recreational and cultural activity;
- Changes in the cost of crime;
- Improved accessibility for the mobility impaired; and
- Reduced severance, which can help people to access the full range of transport, employment and education opportunities.

These issues are not currently quantified, but are identifiable benefits from implementing public realm projects.

# Appendix 14

## Data Collection and Monitoring Programme

| Data Collection | Indicator | Delivery Agency | Annual Cost | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Modal Split Manual Traffic Counts (41 sites) | Modal Split by Corridor | Hampshire County Council | £21525.00 | x | x | x | x | x | £21525.00 |
| 12hr Manual Traffic Counts (31 sites) | Peak Period Traffic Flows | Hampshire County Council | £16275.00 | x | x | x | x | x | £81375.00 |
| Automatic Traffic Counters (6 sites) | Peak Period Traffic Flows | Hampshire County Council | £5500.00 | x | x | x | x | x | £27500.00 |
| Manual Cycle Counts (2 sites) | No. of Cycle Journeys | Hampshire County Council | £2100.00 | x | x | x | x | x | £2100.00 |
| Automatic Cycle Counters (6 sites) | No. of Cycle Journeys | Hampshire County Council | £2550.00 | x | x | x | x | x | £12750.00 |
| Bus Operator Passenger Data | Annual Bus Patronage | Transport Policy Team | £0.00 | x | x | x | x | x | £0.00 |
| RTIS - Compliant Bus Services Report | Bus Punctuality Non-Frequent Services | ROMANSE | £0.00 | x | x | x | x | x | £0.00 |
| RTIS - | Bus Punctuality Frequent Services | Hampshire County Council | £0.00 | x | x | x | x | x | £0.00 |
| Road Traffic Accident Reports | No. of People Killed or Seriously Injured | Highways Service Partnership | £0.00 | x | x | x | x | x | £0.00 |
| | No. of Children Killed or Seriously Injured | Highways Service Partnership | £0.00 | x | x | x | x | x | £0.00 |
| | No. of Slight Injuries | Highways Service Partnership | £0.00 | x | x | x | x | x | £0.00 |
| Highway Condition Survey | % of Principal Roads in need of Repair | Highways Service Partnership | £0.00 | x | x | x | x | x | £0.00 |
| | % of Non-principal Classified Roads in need of Repair | Highways Service Partnership | £0.00 | x | x | x | x | x | £0.00 |

| Data Collection | Indicator | Delivery Agency | Annual Cost | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| | % of Unclassified Roads in need of Repair | Highways Service Partnership | £0.00 | x | x | x | x | x | £0.00 |
| Footway Condition Survey | % of Footway in need of Repair | Highways Service Partnership | £0.00 | x | x | x | x | x | £0.00 |
| Journey Time Surveys | Peak Period Journey Times by Corridor | ROMANSE | £0.00 | x | x | x | x | x | £0.00 |
| Classified Flow Surveys? | Modal Split by Corridor | ROMANSE | £0.00 | x | x | x | x | x | £0.00 |
| Cycle Corridor Survey? | Identify frequently used cycle routes to enable targeting of measures | Consultant? | £14500.00 | x | | | | | £14500.00 |
| Smarter Choices Survey | Identify change in public attitudes towards Smarter Choice modes of travel | Consultant? | £50000.00 | x | | | x | | £100000.00 |
| iTrace Reports | Work based Travel Plans – Standards Achieved | Transport Policy Team | £0.00 | x | x | x | x | x | £0.00 |
| School Travel Survey | School Travel Plans – Standards Achieved | Transport Policy Team | £0.00 | x | x | x | x | x | £0.00 |
| Passenger Focus Survey | Satisfaction with Bus Services | Passenger Focus | £0.00 | x | | x | | x | £0.00 |
| National Highways and Transport Survey | Satisfaction with Public Realm (footways, cycle facilities etc) | MORI | £0.00 | | x | | x | | £0.00 |
| Legible Cities Report | % of Legible Cities programme implemented | Transport Policy Team | £0.00 | | x | | x | | £0.00 |

# Appendix 15

## LTP2 Performance & Proposed LTP3 Targets

*Table 1 – LTP2 and LTP3 Indicator Commonality*

| LTP2 Indicator | | Base | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | LTP3 Indicator | Base | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| **South Hampshire Indicators** | | | | | | | | | | |
| | | | | | | | | Journey times along key corridors | | |
| | | | | | | | | Regional Public Transport Trips | | |
| **City Indicators** | | | | | | | | | | |
| **Peak Period Traffic Flows** | | 30784 | 30275 | 29193 | 28734 | 28113 | | **Peak Period Traffic Flows by Corridor**[1] | See Table 2 | |
| **Peak Period Modal Split** | **Car** | 72.9% | 72.4% | 72.7% | | | | **Modal Split by Corridor**[2] | See Table 3 | |
| | **P/T** | 24.1% | 24.5% | 24.3% | | | | | | |
| **Bus Patronage** | | 19.3M | 19.3M | 19.7M | 19.8M | 19.1M | | **Bus Patronage** | 19.1M | 28.5M |
| **Bus Punctuality (Frequent Services)** | | 2.68mins | 2.62mins | 2.63mins | 2.37mins | 1.37mins | | **Bus Punctuality (Frequent Services)** | 2.25mins | 2.00mins |
| **People Killed or Seriously Injured** | | 111 | 90 | 85 | 96 | 99 | | **People Killed or Seriously Injured** | | |
| **Children Killed or Seriously Injured** | | 19 | 9 | 9 | 12 | 10 | | **All Child Casualties** | | |
| **% of Principal Rds in Need of Maintenance** | | N/A | 23.0% | 14.2% | 11.0% | 8.3% | | **% of Principal Rds in Need of Maintenance** | | |
| **% of Classified Rds in Need of Maintenance** | | N/A | 20.0% | 9.0% | 8.2% | 7.4% | | **% of Classified Rds in Need of Maintenance** | | |
| **Local Indicators** | | | | | | | | | | |
| **Average No. of Daily Cycling Trips** | | 1334 | 2866 | 3267 | 3537 | 3424 | | **Average No. of Daily Cycling Trips**[3] | | |

| LTP2 Indicator | Base | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | LTP3 Indicator | Base | Target |
|---|---|---|---|---|---|---|---|---|---|
| **Inner Cordon Walking & Cycling Modal Split** | | | | | | | **Inner Cordon Walking & Cycling Modal Split** | | |
| **% of Unclassified Rds in Need of Repair** | N/A | 14.8% | 13.0% | | | | **% of Unclassified Rds in Need of Repair** | | |
| **% of Footway in Need of Repair** | 36.6% | 12.0% | 31.0% | | | | **% of Footway in Need of Repair** | | |
| | | | | | | | **Peak Period Journey Times by Corridor[1]** | See Table 2 | |
| **Bus Punctuality (Non Frequent Services) – Start Points** | 73.0% | 72.9% | 63.6% | 66.4% | 72.0% | | **Bus Punctuality (Non Frequent Services) – Start Points** | | |
| **Bus Punctuality (Non Frequent Services) – Intermediate Points** | 77.3% | 78.4% | 63.7% | 75.9% | 71.0% | | **Bus Punctuality (Non Frequent Services) – Intermediate Points** | | |
| | | | | | | | **MORI Survey Public Realm Satisfaction** | | |
| **Satisfaction with Public Transport** | | | | | | | **Satisfaction with Public Transport** | | |
| | | | | | | | **% of Journeys made using Smart Cards** | | |
| **% of Workforce Covered by a Travel Plan** | 35.0% | 24.1% | 28.8% | 29.6% | 29.8% | | **Gold Standard Work Place Travel Plans[4]** | | |
| **% of School Popn. Covered by a Travel Plan** | 77.0% | 96.0% | 100% | 100% | 100% | | **Gold Standard School Travel Plans[4]** | | |
| **No. of Slight Injury Casualties** | 892 | 739 | 792 | | 657 | | **No. of Slight Injury Casualties** | | |

[1]These indicators will now be reported by corridor and are shown in a separate table
[2]This indicator will now be reported by corridor and is shown in a separate table

[3]The data collection methodology for the average no. of daily cycle trips will be changed for LTP3 to be more reflective of the city's key cycle corridors. Consequently the LTP3 base and target figures are not derived from LTP2 performance
[4]The methodology for reporting on travel planning will be changed for LTP3 to reflect quality of travel plans rather than quantity

*Table 2 – Peak Period Traffic Flows & Journey Times by Corridor*

| | **Peak Period Traffic Flows (7am – 9am)** | | | | **Peak Period Journey Times (Inbound)** | |
|---|---|---|---|---|---|---|
| **Corridor** | **Base (In / Out)** | | **Target (In / Out)** | | **Base** | **Target** |
| Western Approach | 6328 | 3475 | 6500 | 4000 | | |
| Shirley Road | 1098 | 1000 | 1100 | 1000 | | |
| The Avenue | 2158 | 1504 | 2200 | 1500 | | |
| Bevois Valley | 1378 | 897 | 1300 | 750 | | |
| Eastern Approach | 3819 | 1481 | 4000 | 1600 | | |
| Itchen Bridge | 2698 | 852 | 2700 | 780 | | |

*Table 2 – Peak Period Modal Split (for people crossing the Inner Cordon excluding goods/trade) by Corridor*

| | **Base** | | | | **Target** | | | |
|---|---|---|---|---|---|---|---|---|
| **Corridor** | **Walking** | **Cycling** | **Public Transport** | **Car** | **Walking** | **Cycling** | **Public Transport** | **Car** |
| Western Approach | 0.5% | 0.5% | 11.0% | 87.5% | 1.0% | 1.5% | 16.5% | 81.0% |
| Shirley Road | 7.5% | 1.0% | 28.5% | 63.0% | 10.0% | 3.0% | 30.0% | 57.0% |
| The Avenue | 9.0% | 5.0% | 18.0% | 68.0% | 12.0% | 6.0% | 20.0% | 62.0% |
| Bevois Valley | 5.0% | 1.0% | 19.0% | 75.0% | 7.0% | 3.0% | 22.0% | 68.0% |
| Eastern Approach | 3.0% | 1.0% | 21.0% | 75.0% | 5.0% | 3.0% | 23.0% | 69.0% |
| Itchen Bridge | 4.0% | 2.0% | 26.5% | 67.5% | 6.0% | 4.5% | 29.0% | 60.5% |