Nottingham Cycle City Ambition Programme

BUSINESS CASE – STRATEGIC CASE

April 2013

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APPENDIX A: SUMMARY OF EVIDENCE BASE

1 INTRODUCTION

1.1 The Strategic Case is one of five documents required to fulfil DfT's requirements for a WebTAG compliant Transport Business Case and provides the business need for the investment programme requested. The Strategic Case provides a clear rationale for the Nottingham Cycle City Ambition Programme (NCCAP) programme demonstrating how this additional investment will address local transport problems in a way that supports local economic development, reduces carbon emissions from transport and improves the health of our citizens. (Plan 2.1 Nottingham Overview, shows major transport and business investment)

1.2 The Strategic Case has been structured to show how the bid has been developed by identifying local economic, environmental and social issues, developing a co-ordinated strategy, considering the different options to deliver that strategy and the selection of the preferred package to provide a co-ordinated and mutually supportive programme of interventions to address the identified challenges.

1.3 The Strategic Case sets out:

- A brief summary of the policy context for the Nottingham Cycle City Ambition Programme (NCCAP) bid
- The transport challenges to be addressed
- Options to address the challenges
- A description of the preferred option
- How the preferred option meets the challenges
- Measuring success: outputs, outcomes and wider impacts
- The role of partners

1.4 Additionally, the strategic case sets out a succinct summary at the end of the document of the following themes, as defined by the DfT guidance for Cycle City Ambition Grant bidders:

- How the NCCAP supports the local economy and facilitate economic development
- The Nottingham NCCAP level of ambition, cross party support and commitment to a long term vision for transformational change
- Overall value for money
- Level of engagement with Director of Public Health and Health and Well Being Boards
- The expected reduction in carbon emissions, traffic noise and improvements to air quality through enabling big shifts in the amount of cycling
- Impact on the least active groups
- Impact on pedestrians, including hard to reach groups
- Demonstrating that the NCCAP is part of a holistic approach to increasing cycling and walking

- How the NCCAP will impact on improving the health of the local population and reducing health inequalities, in particular by targeting the most physically inactive groups
- Well being impacts through improved public realm
- Cycle infrastructure plans that support both cycling and walking
- Assessment of capability to model impacts and set out high level delivery milestones for the next 2 years

2 BACKGROUND

2.1 As one of the UK's core cities, Nottingham has the largest economy in the East Midlands and, as such, is a key driver of national prosperity. Nottingham is also a modern European city with a well-recognised international brand which has been built from our historical and industrial heritage. Today, Nottingham has a reputation for being at the cutting edge of scientific innovation, thanks to the presence of two world-class universities and our emerging expertise in areas such as bio-science. The city is also known for its vibrant cultural scene and world class sporting venues.

2.2 Nottingham is also a city that has been embracing cycling for many years. The home of 'Raleigh bikes' we have a heritage of cycling which is exemplified in the Greater Notts Bike Ride which is now in its 32nd year. Nottingham was an original cycle challenge city, and more recently hosted a start of the Tour of Britain in 2012, and this year will be hosting the Milk Race in May.

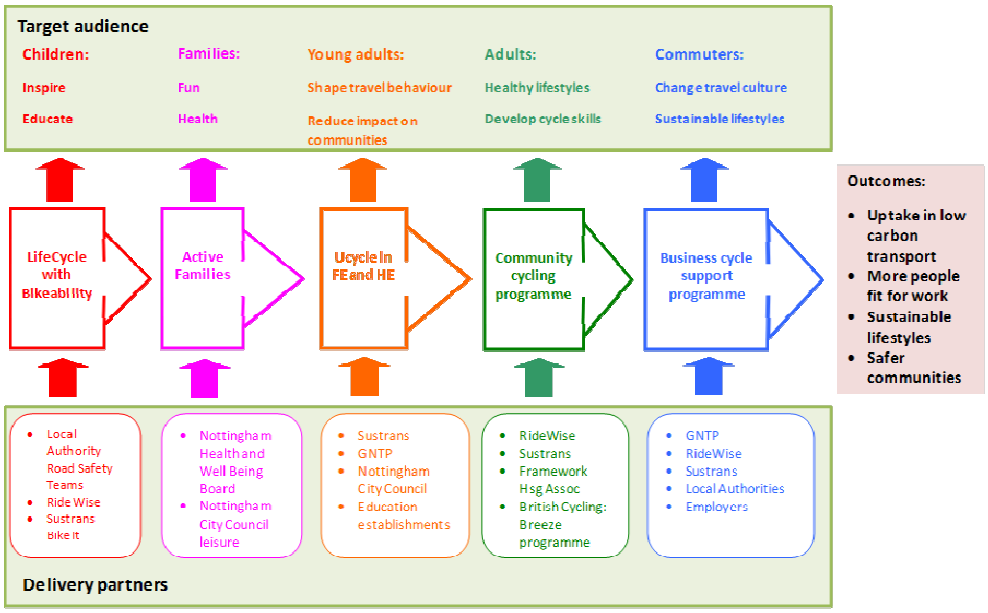
2.3 From the youngest school children through to elderly citizens, we have a well-established Cycling Action Plan (first published in 2008) that has cross party support (and the active endorsement through a signed declaration of 22 key businesses and stakeholders). The Cycling Action Plan sets out a clear long term vision, and associated actions, that will ensure we continue to grow cycling numbers, and embed a culture of cycling across Nottingham (a copy of the Cycling Action Plan is included within the submitted documentation).

What we are already doing to support cycling in Nottingham

2.4 Before setting out our NCCAP strategic case it is important to reflect on what we are already doing through the Cycling Action Plan, and our commitments through the Local Sustainable Transport Fund (LSTF) and Local Transport Plan (LTP) investment in cycling. The knowledge and understanding which is reflected in these documents and associated delivery programmes have enabled us to approach the NCCAP with a clear and cohesive picture of what we need to deliver to accelerate progress and create a transformational change in the cycling culture across the City.

2.5 Importantly, in our Cycling Action Plan (currently in it's second edition covering the period 2012-15) we have considered carefully then needs of all types of cyclists, spanning different ages, genders and capabilities, and are delivering an holistic approach to address locally determined barriers and improve cycling opportunities across all these groups. This is summarised in the following diagram (Figure 2-2), clearly identifying our target groups, and the role of the City Council and a wide range of supporting delivery partners to ensure we deliver improvements that will help existing and non-cyclists, whilst also improving the public realm for pedestrians.

Figure 2-1: Community Cycle Programme



2.6 Underpinning this understanding of the local factors which influence cycling barriers and uptake is a wider philosophy associated with the local 'levers of success' which is encapsulated in the following diagram (Figure 2-2).

Figure 2-2: Levers of success diagram



2.7 Our existing target associated with the current committed Cycling Action Plan is to increase cycling levels by 50% by 2015 (note: the NCCAP bid increases this to 100% as shown in Section 9, and 200% by 2023). Committed schemes which are already underway, complete and being expanded upon include:

- Investing over £1 million to improve cycle corridors
- Rolling out 20mph zones throughout the City
- Aiming to increase the level of cycling whilst not increasing the level of cycle related road accidents
- Providing at least 7 Citycard activated parking areas at transport interchanges and key locations including bus based park and ride, new tram park and rides and rail stations, including Nottingham Rail Station
- Distributing 300,000 Citycards, all with the option for secure cycle parking
- Continuing and expanding the Nottingham Ucycle project to the Nottingham's Colleges
- Establishing five community travel hubs each with a neighbourhood travel coordinator which will engage directly with at least 55,000 citizens over the plan period
- Piloting a citywide cycle hire scheme - starting with 100 bikes
- Providing loan bikes to people under cycling instruction or seeking work who cannot afford a bike or prefer to 'try before they buy'
- Providing an annual weekend of cycling related activities through the E.ON Cycle Live event including the Great Notts Bike Ride
- Engaging at least 9,000 children in cycle training activities (Life Cycle, Bikeability and Bike It)
- Introducing a Bike to Work scheme which will incorporate training, cycle loan and the options to then own the bike
- Providing one to one cycle training to 600 adults through RideWise
- Reducing cycle thefts - even with an increase in cycle numbers
- Developing a network of 50 community cycle champions
- Delivering an interactive on-line cycle map
- Contributing to the Decade of Better Health target to achieve 10% of citizens (28,000) who have increased their physical activity
- Ensuring a 100% response rate to cycle related issues raised via on line forms
- Engaging with all bus, tram and major fleet operators in the City on issues of driver behaviour around cyclists and cycle facilities.

2.8 Table 2.1 summarises what we are already doing and planning to do through the current Cycling Action Plan to specifically help increase cycling across targeted population groups. The NCCAP investment will be channelled directly into areas which support these established work streams allowing us to realise our ambitions much sooner.

Table 2-1: Current Cycling Action Plan Initiatives

For Experienced Cyclists ...	For New / Rediscovering Cyclists ...
❑ Provide a high quality branded network of on road radial and orbital routes ❑ Ensure there are good clear to follow routes through the City Centre ❑ Work with the County Council and Boroughs to ensure continuity of routes beyond the City boundary ❑ Continue routes safely through junctions ❑ Where a facility is provided off the carriageway, we will aim to provide the cycle route with priority over side roads ❑ Increase the amount of Advanced Stop Lines (ASLs) and wherever possible cycle lanes will feed into them, potentially taking road space from general traffic ❑ Provide secure, smart card accessed parking at key locations and interchanges ❑ Ensure that large scale transport schemes and developments provide improvements for cyclists ❑ Work with bus, taxi, tram and fleet operators to increase their awareness of cyclists and cycle facilities ❑ Support experienced cyclists and volunteers who wish to be community advocates for cycling and develop a Cycling Champions network.	❑ Continue and expand the Nottingham Ucycle scheme to include the Further Education sector ensuring the college and University students who may be new to the City are well equipped to cycle ❑ Provide paper mapping to help people find the best route for their cycling ability and develop our electronic mapping to provide new layers with additional information ❑ Introduce a programme of 20mph zones covering residential areas, which will be incrementally rolled out across the City ❑ Through LSTF Deliver a community cycling programme encompassing instruction and led rides ❑ Improve permeability within the neighbourhoods to ensure cycling is a quick and safe travel choice for short local journeys, provides easy access to the commuter corridors and supports interchange with other modes ❑ Provide secure parking and bike hire integrated into the Citycard smart card system ❑ Engage with the business sector to promote cycling to employees ❑ Engage with the Health sector to embed Active Travel into their way of thinking ❑ Find out what people see as their barriers to cycling.
For Child Cyclists ...	**For Recreational Cyclists ...**
❑ Expand provision of Bikeability and Life Cycle - safety related learning to more primary schools ❑ Provide safety zones and safer routes around schools ❑ Linked to LSTF - pilot Bike It cycle promotion programme within secondary schools ❑ Through LSTF - create a community involvement and Active Families programme. ❑ Expand programme of child friendly cycle events	❑ Make further improvements to the River Leen route, enhancing connections between the Big Track and Mill Lakes ❑ Improve links from the City to wider routes such as the Erewash Valley Trail ❑ Work with partners to continue to promote, extend and improve links to the Big Track ❑ Work with Sustrans and Nottinghamshire County Council to seek opportunities to improve the National Cycle Network (NCN) Route 6 and implement NCN 15 ❑ Through LSTF we will invest in communities and enable Active Families. ❑ Expand the programme of cycle events

What does this mean for our NCCAP Bid?

2.9 Importantly it means we are not starting from a 'blank sheet' or having to devise a strategy to meet the needs of the opportunity presented to us through a central Government fund. The opportunity to bid for funding has come at a perfect time for us in order to deliver on our aims, as our NCCAP bid enhances our on-going work to promote cycling across Nottingham, and has been devised based on a clear understanding of specific problems to be addressed.

Will it work?

2.10 We are confident that our approach will deliver long term transformational change, and is well targeted at the areas of most need and where the greatest benefits will be realised. We have undertaken an evidence review (summary of which can be found in Appendix A), which underpins our economic appraisal, to ensure our proposals are robust and will secure the outcomes and challenging targets we have set ourselves.

2.11 It is also important to recognise that the NCCAP bid is part of a long-term commitment to cycling across Nottingham, and our confidence is best measured by the achievements we have already made since our first cross party endorsed Cycling Action Plan was launched in 2008 (covering the period 2008 and 2011). Key achievements of that first Cycling Action Plan include:

- The start of an extensive programme of investment to create a network of on-road cycle corridors
- A commitment to improve on road cycle facilities
- A commitment to deliver 20mph zones in residential areas
- The Nottingham Ucycle project
- Successful Local Sustainable Transport Fund (LSTF) bid
- Provision of an annual budget for small scale improvements
- Improvements to off road and leisure routes including the Big Track and alongside the River Leen
- Strong partnership working through the Cycle Development Group (CDG) and Nottingham Ucycle
- A trial of cycle parking at transport interchanges
- Bikeability training delivered to just over 50% of City primary schools
- A strong commitment to cycling from Councillors and Colleagues
- An increase in cycling in excess of 17% over the course of the Action Plan to date
- Widespread cycle parking including the roll out of smart card accessed facilities
- Leading bike magazine Cycle Plus voted Nottingham the second best city to cycle in, behind Bristol who were awarded Cycle City funding

Case Study: Nottingham's Commuter Cycle Corridors

Since the Cycle Action Plan was put in place in 2008, £1.2 million has been spent through the Local Transport Plan (and external funding) on the implementation of on-road corridor

cycle facilities. This investment has seen improvements for cyclists to and from the City Centre along Hucknall Road, to Strelley and Clifton. This funding has also been complemented by additional external grants, which have allowed Wollaton Road to be addressed.

This has been a positive start. Route audits, allowing early input from cycle groups such as Pedals and Sustrans have provided useful feedback from their local members with specific knowledge on local conditions and areas that need to be improved for cyclists.

This work has identified that improving conditions for cyclists through junctions is one of the key areas that require further attention. This is an area being addressed within this new Cycle Action Plan as we look to create a programme of junction improvements for cyclists. This work will examine improvements made to London's high profile cycle corridors closely, with special consideration to emerging safety recommendations. The NCCAP will enable us to accelerate our work in this area, and make a step change in the continuity of high quality routes for cyclists across Nottingham.

2.12 Significant improvements in the cycling infrastructure and support programmes have therefore already been made, and as a result of this investment, the number of people cycling in the City increased by 17% from 2008 – 2011, with a large proportion of this increase occurring between 2010 – 2011 (which also linked to the introduction of Workplace Parking Levy during that period – see below). This shows that the measures are gaining momentum and if this is maintained we will continue to make noticeable increases in the numbers of people cycling in the years ahead.

2.13 This increase in cycling will continue with on-going implementation of the UK's first Work Place Parking Levy (WPL) in the City, and as citizens become more aware of the benefits of cycling and research from organisations such as the British Heart Foundation and Sustrans show the benefits that cycling can have on standards of living. A business cycling offer supported by WPL funding is proving to be very successful with businesses who are holding promotional events and taking up offers of free cycling instruction for their employees along with access to cycle infrastructure grants of up to £10k.

2.14 We want to build on the positive improvements that have happened so far to help and encourage more people to take up cycling for their commute, leisure and everyday short journeys.

2.15 Importantly the measures have the support of the local people and business community. The following graphs (Figures 2-3 and 2-4) are taken from the 2012 Big Ideas survey with 2,000 local people and 200 businesses and shows that 'we should make it easier to walk and cycle' ranked as the highest score of positive responses (91% of business stated 'Strongly agree' or 'agree', and 83% of local people stated 'Strongly agree' or 'agree') when asked about how to tackle local transport issues.

Figure 2-3: Views of 2,000 members of the public on tackling local transport issues

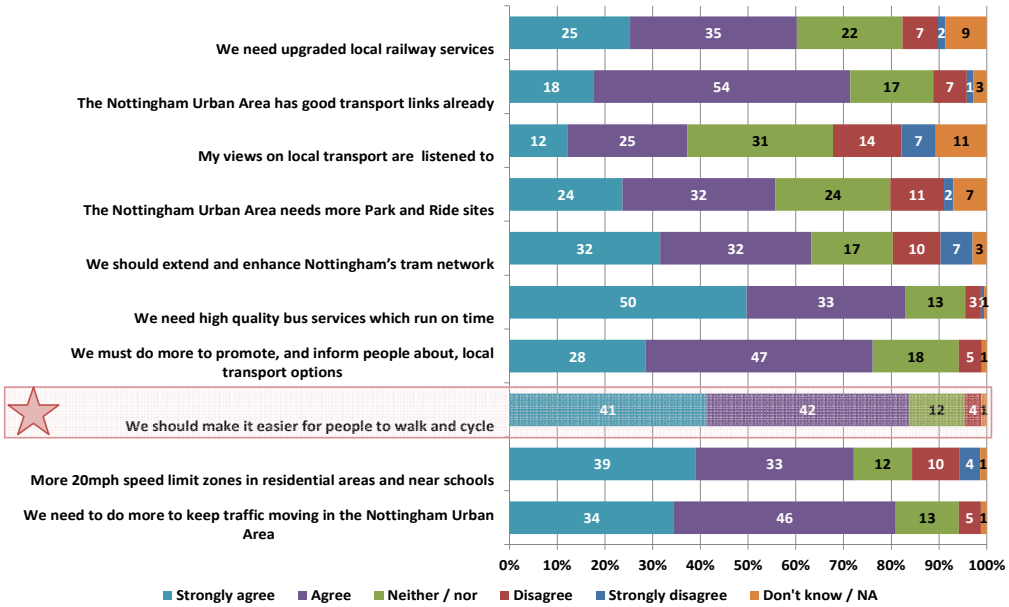
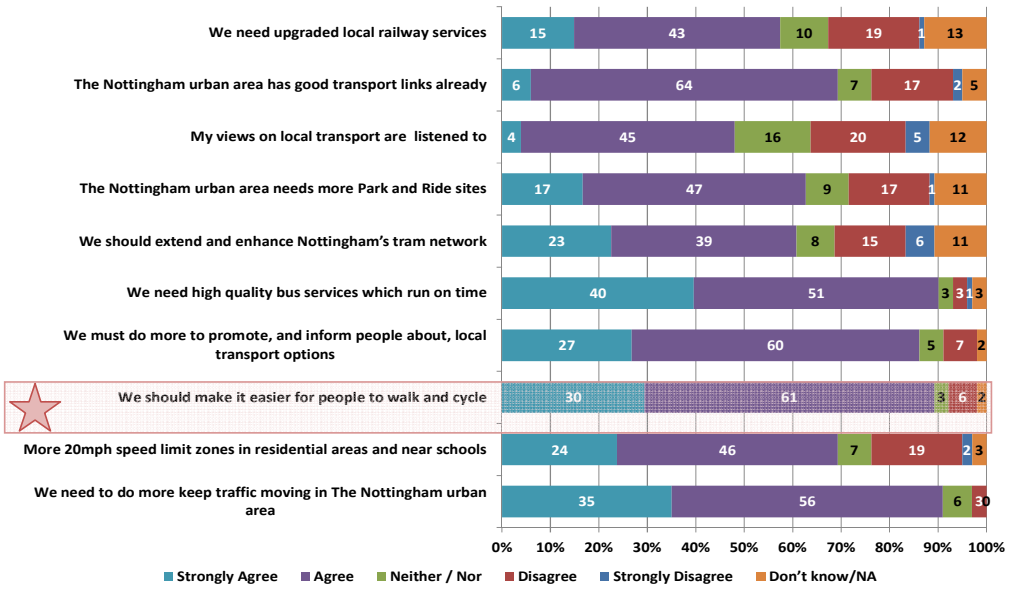


Figure 2-4: Views of 200 businesses on tackling local transport issues



2.16 Securing additional funding through the NCCAP bid would enable us to accelerate our delivery plans, and create a transformational change in cycling levels across Nottingham over the next 2 years, whilst building a platform for sustained growth over the next 10 years and beyond. We believe that delivery of the NCCAP would see us double cycling numbers

by 2016 (against a baseline of 2010 cycling levels) amongst our targeted communities, and triple cycling numbers by 2023. These numbers are in line with / exceed the recommendations of the All Party Enquiry into cycling which published its findings in April 2013, and recommends:

The inquiry report also calls for an increase in funding on cycle infrastructure to £10 a head. And it recommends a government target for increasing cycle use from the present 2 per cent of journeys to 10 per cent by 2025.

3 A BRIEF SUMMARY OF THE POLICY CONTEXT FOR THE NCCAP BID

3.1 Nottingham has a well-established policy framework and associated delivery programmes which are relevant and complimentary to the NCCAP bid, cutting across the broad sectors of: Transport; Planning; Economy; Environment; and Health. These are summarised in the following tables (note: this only includes elements of the relevant policy framework which are directly relevant to the NCCAP bid).

Title	Summary
Strategic / Political	
City Deal	
	The City Council will be undertaking £8 million of highway and public realms works as a result of the City Deal process, which will greatly benefit the City's economy. These improvements will focus on highway and public realm works much of which will have a positive impact for cyclists. The works will directly contribute towards the City Centre Improvements which make up an element of this bid. Specific cycle related works will include: • Improved permeability of the City Centre and Creative Quarter for cyclists and pedestrians. • Improved junction facilities including cycle lanes and advanced stop lines in addition to shared crossing facilities for cyclists and pedestrians. • A new cycle and bus lane providing two-way access for cycles and buses on what is currently a one-way street.
Nottingham City Sustainable Community Strategy 2010 – 2020	
	Working Nottingham: Tackle poverty and deprivation by getting more local people into good jobs – to raise aspirations, educational attainment and skills and help get more adults into work, taking more families out of poverty.
	World Class Nottingham: Develop Nottingham's international standing for science and innovation, sports and culture
	Neighbourhood Nottingham: Transform Nottingham's neighbourhoods - improving the quality and choice of housing and neighbourhoods in which to live, attracting new people to the city and allowing those who want to stay, to do so. It will also work to improve public services in every neighbourhood and empower communities to take more control.
	Family Nottingham: Ensure that all children and young people thrive and achieve – to strengthen family life, raise aspirations, educational attainment and skills and help get more adults into work, taking more families out of poverty. We will build on our pioneering early intervention work to help to break the cycle of inter-generational deprivation in Nottingham.
	Safer Nottingham: Reduce crime, the fear of crime and anti-social behaviour - making our neighbourhoods and homes safer and more attractive places to live, and working to tackle the causes of crime.
	Healthy Nottingham: Improve health and wellbeing - getting people back into work, promoting healthy lifestyles for young and old, making services more accessible and looking after vulnerable and older people.
	Cross-cutting aim: Green - Being environmentally friendly - move Nottingham into a lower carbon future, and live within our environmental limits.

Title	Summary
	Cross-cutting aim: Aspiring - Raising aspirations of all across the city, particularly those who have felt excluded for too long. This is at the heart of our ambition to 'break the cycle' of intergenerational poverty in Nottingham.
	Cross-cutting aim: Fair - Achieving fairness and equality of opportunity by treating its citizens fairly, achieving equality of opportunity and valuing diversity.
Keep Nottingham Working	
	Core priority to support the City's economic well-being by reducing unemployment, getting more school leavers into work, training or further education and supporting the needs of small business, social enterprise and co-operatives as well as developing the cultural and sporting offer. Nottingham is seeking to grow existing business and attract others to invest to drive the economy and become a leading European city
Invest in Nottingham	
	The award winning transport network in the city is seen as a key advantage for businesses when locating in the city to ensure they are able to bring staff into the workplace using an integrated, multi-modal public transport network. There are strong commitments to develop public transport and interchange between rail, bus, tram, bike and car, extend the commuter cycle network, develop workplace travel plans and develop the Citycard as a passport to a wider range of free or cheaper council services, travel and discounts.
Transforming Nottingham's neighbourhoods	
	An emphasis on delivering integrated services at the local level through joint services centres (one stop shops providing housing, health, youth, library, employment support, skills development, training and other services from a single location). Improving the physical environment is part of this programme with the aspiration of making Nottingham a 20mph city with a rolling programme of 20mph limits in residential areas and outside schools. There is also political commitment to cutting carbon emissions to meet challenging local carbon reduction targets.
Transport	
Nottingham City LTP (2011 – 2026)	
	Delivering a world-class sustainable transport system which supports a thriving economy and enables growth
	Creating a low carbon transport system and a resilient transport network
	Improving access to key services, employment and training including creation of local employment and training opportunities
	Improving the quality of citizens' lives and transform Nottingham's neighbourhoods
	Supporting citizens to live safe, independent and active healthy lifestyles
LSTF (2012 – 2015)	
	Four broad workstrands focused on: • Smartcard development and integrated ticketing • Liveable neighbourhoods and community travel hubs to roll-out a local delivery model for travel behaviour change • Worksmart business support and low carbon transport network • Active Travel Partnerships and Solutions
Cycling Action Plan (2012 – 2015)	

Title	Summary
	Sets out a clear long term vision, and associated actions, that will ensure we continue to grow cycling numbers, and embed a culture of cycling across Nottingham. Overall target is to increase cycling levels by 50% by 2015 from the baseline year of 2010.
Health and Well Being	
Healthy Weight Strategy for Nottingham 2011-2020 (October 2011)	
	Sets out a vision to reduce obesity Nottingham. The strategy provides a single overarching framework for partnership action so that children, families and adults can achieve a healthy weight. The includes action to prevent obesity at a population level that targets the 'obesity promoting' environment as well as improving nutrition and physical activity in through targeted interventions with individuals
Health and Well Being Strategy (2013-16) Draft for Consultation	
	Main aims are as follows: • Prevent alcohol misuse to reduce the number of citizens who develop alcohol-related diseases • Provide more integrated health and social care services that will ensure a better experience of care is offered to older people and those with long term conditions • Intervene earlier to increase the number of citizens with good mental health • Support priority families to get into work, improve their school attendance and reduce their levels of anti-social behaviour and youth offending.
Planning	
Greater Nottingham Aligned Core Strategies: Draft Spatial Objectives	
	High quality new housing (affordable decent homes, mixed balanced communities)
	Timely and viable infrastructure (make best use of existing and provide new and improved social and physical infrastructure to support housing and economic growth)
	Economic prosperity for all
	Excellent transport systems and reducing the need to travel
	Strong, safe and cohesive communities
	Flourishing and vibrant town centres
	Regeneration
	Health and well-being
	Opportunities for all
	Environmentally responsible development addressing climate change
	Protecting and improving assets (green infrastructure, environmental quality and biodiversity)
	Protecting and enhancing Greater Nottingham's individual and historic character and local distinctiveness.
Economy	
Nottingham Growth Plan	
	Create a manufacturing renaissance in the city – rebuilding Nottingham's international reputation as a place that designs and makes things.

Title	Summary
	Give outstanding support to businesses in the emerging digital content, lifesciences and clean technology sectors that can provide prosperity and sustainable employment.
	Exploit to the full Nottingham's strengths – its world-renowned universities, central and cost-effective location, good transport and the quality of life enjoyed by its residents.
	Create growth across the city for the benefit of all our communities.
Nottingham Economic Growth Plan (relevant Objectives out of the full list of 40)	
	1. Ensure that Nottingham's citizens are able to benefit from economic growth through access to employment opportunities.
	3. Attract, retain and develop people's talent.
	7. Prioritise and continue to invest in major transformational transport schemes which will benefit the wider Nottingham economy.
	9. Improve the efficiency and reliability of city wide transport networks.
	10. Further improve access from residential areas to major education and employment locations.
	20. Ensure a coordinated approach to supporting young people to move into self-employment.
	21. Prioritise the successful development of the Enterprise Zone.
	22. Ensure that Nottingham City Council is encouraging development by putting in place a proactive and positive planning service.
	26. Co-ordinate a strategy for the growth of Nottingham City Centre and retail.
	29. Secure an increase in significant national and international conferences and events within Nottingham.
	30. Establish a high quality, new visitor offer centred around the castle and the links to Robin Hood.
	39. Support the creation of a low carbon training academy.
Nottinghamshire City & County Employment and Skills Board Vision	
	Employer Leadership "Putting employers at the core of what we do; championing Our Vision, Our Aims and Our Priorities"
	Economic Recovery and Growth "Accelerating the potential in existing industry and supporting the emergence of sunrise industries"
	Higher Skills for Nottinghamshire "Focusing on high quality vocational training to grow and attract a more knowledge intensive economy and developing enterprise skills across the workforce."
	Employment for All "Supporting young adults and other potentially vulnerable groups to succeed."
D2N2 Local Enterprise Partnership	
	Developing Business Skills
	Supporting Innovation
	Available Finance

Title	Summary
	Effective Infrastructure - Infrastructure is one of the 'fundamentals' that underpins the economic competitiveness of an area. It is widely seen as including transport networks, business premises, electronic infrastructure such as broadband and other utilities. As such it is key to delivering sustainable economic growth. The adequate provision of quality infrastructure that supports the requirements of industry and allows for the efficient movement of goods and people contributes to economic prosperity
Environment	
Nottingham Community Climate Change Strategy 2012 - 2020	
	Aims to reduce citywide CO2 emissions by 26% by 2020 based on 2005 baseline (a saving of 507,000 tonnes of CO2) by developing a low carbon resilient society for Nottingham. The strategy identifies 10 key actions to achieve this vision including: • Delivering a 5% reduction in Nottingham's total carbon emissions by 2020 from 2005 through behavioural change equating to saving 98,000 tonnes of CO2; • Supporting the creation of jobs and apprentices from Nottingham's emerging green economy; • Establishing a network of community influencers through the existing MyStreet scheme; • Supporting the business community to address climate change issues via the Nottingham Carbon Club and other networks.
Climate Change Adaptation Action Plan (2010)	
	The Strategy sets out the ways in which the Council can make its services more resilient to the effects of climate change, as part of achieving the aims of the One Nottingham Sustainable Community Strategy and our commitment to National indicator 188: Adapting to climate change.
2020 Nottingham Energy Strategy (2010)	
	Identifies a number of transport interventions to reduce carbon emissions and maximise energy output including: • Developing the city's electric vehicle charging infrastructure including conducting feasibility of using open area car parking for photo voltaic arrays to power electric vehicle charging stations; • Incentivising and supporting electric vehicle options for public and private transport; • Developing work in partnership e.g. with the University of Nottingham, Enviroenergy and the local distribution network operator to use electric vehicles to buffer supply and act as energy vectors; and • Establishing the city as a centre for energy efficient technology businesses and innovation.

4 THE CHALLENGES TO BE ADDRESSED BY THE NCCAP

Strategic Challenges

4.1 The following section summarises the key strategic challenges to be addressed by the NCCAP bid.

Strategic Challenge 1: Enabling economic prosperity and supporting growth

4.2 The 'Working Nottingham Strategy' recognises key growth sectors where opportunities will be created including Science and Technology, Business and Finance, Retail and Leisure, Creative Industries, Care, and the Public Sector. Developing transport infrastructure, education and sustainability is vital in both creating investment and growth opportunities for the private sector and ensuring local jobseekers can access employment and training in key growth industries. The Nottingham Growth Plan reinforces this with a clear statement on ambitious growth expectations allied to a need to support this growth in a sustainable way.

Population and growth

4.3 The Nottingham Urban Area is home to more than 50 regional and national headquarters including Experian, Alliance Boots, E.ON, Speedo, Raleigh and Capital One. Its importance is emphasised through recognition as one of the eight Core Cities and Science City designations and that the City Centre is one of the top ten retail centres nationally. Two high performing universities attract 60,000 full time students each year and undertake leading edge research programmes. With a highly regarded bioscience development and an emerging technology centre Nottingham is well placed to capitalise on growth by attracting and retaining new enterprises with a range of well skilled residents and world class infrastructure.

4.4 This economic success has led to population growth at a rate greater than the national average. Ensuring the area can accommodate this growth and ensuring that everyone benefits from the city's success sets a number of challenges for the area in terms of transport and carbon reduction.

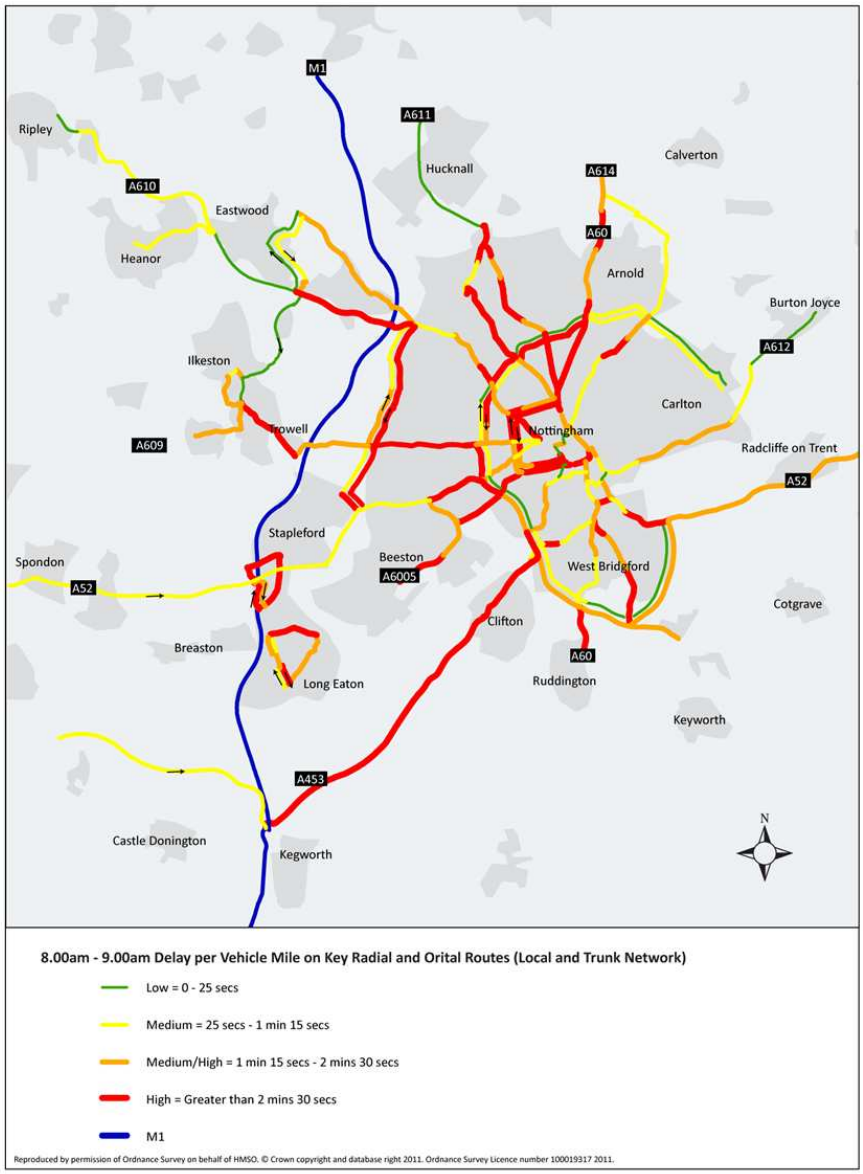
4.5 67.1% of the population is of working age which is higher than the England figure of 64.8%. The area has experienced significant growth of 6.9% in its overall population since 2001 and an even higher growth rate of 11.0% of those of a working age. Significant growth is projected to take place over the next 15 years with population levels across the Nottingham urban area. Through the Aligned Core Strategy, provision will be made for up to 52,000 new homes (2009-2026) to accommodate the population changes. Transport provision will play a key role in enabling people to access employment and training opportunities, and in ensuring the conurbation as a whole is well connected.

Congestion

4.6 Congestion costs the local economy in the region of £160 million each year in traffic delays (DaSTS Three Cities Agglomeration and Accessibility Study 2010). Evidence from the Nottingham, Leicester, Derby and its surrounding Counties congestion study show Greater Nottingham suffers from severe traffic congestion, particularly on main routes into and out of the City and around the ring road during peak times increasing business costs and causing

unreliability to bus services. **Error! Reference source not found.** shows delay per vehicle mile on key radial and orbital routes.

Figure 4-1: Delay per vehicle mile on key radial and orbital routes.



4.7 Area wide traffic in Nottingham has reduced gradually since 2004. Monitoring during the past LTP shows that congestion has largely been contained over the last 5 years. Future year traffic projections have been determined through the Nottingham multi-modal transport model which considers the implications for growth of the 2020 Aligned Core Strategies and Local Transport Plan interventions. Over the next 15 years annual average daily traffic is expected to increase by 27%.

4.8 Local businesses identify increasing congestion as a significant threat to business competitiveness and growth. The Derbyshire and Nottinghamshire Chamber of Commerce confirm congestion/transport issues regularly comes up as one of the top three issues in their business surveys. The 2012 and 2008 Big Ideas survey sampled 2,000 members of the public and 200 businesses representatives in Greater Nottingham. All of the large and SME businesses interviewed over the two surveys agreed traffic congestion and accessibility were the two main priorities for business. 80% of the public strongly agreed/agreed that keeping traffic moving was a priority. The surveys showed that a high proportion of respondents who had made their most recent journey by car wanted to travel more sustainably in the future demonstrating the potential for modal change, and that 60% of businesses had improved cycling parking facilities whilst 68% of businesses had placed most of their efforts into installing showers and changing facilities and helping staff to access transport information since 2008.

4.9 A key parking policy tool to respond to anticipated growth is the recent introduction of the Workplace Parking Levy (WPL) in April 2012, which targets commuter driving through imposing a charge for each parking place provided by employers within the City of Nottingham that provide 11 or more liable parking places. Approximately 550 businesses pay the charge for over 38,000 liable parking spaces. The WPL income is being used to create a modern transport system contributing to Nottingham's extension to the tram system, safeguard the long-term future of supported Linkbus network (feeder services collectively carrying 6.8 million passengers per annum) and contribute to the redevelopment of the Nottingham Station Hub which will have a major impact on lessening congestion pressures and provide the necessary network capacity for future anticipated growth.

Summary of economy and growth issues to be addressed by NCCAP bid.

Key facts

- Largest employment and economic centre in the East Midlands with a local economy worth 12 billion
- Projected increases in people and jobs by 2028.
- Congestion costs the local economy in the region of £160 million each year in traffic delays.
- Traffic levels could increase by up to 27% by 2028
- Strong support from business community to encourage greater uptake in cycling

Challenge 1: Maintaining economic competitiveness and creating capacity for growth whilst constraining travel demand and reducing carbon emissions

Strategic Challenge 2: Supporting local people into work

4.10 Unemployment figures for Nottingham, based on the number of claimants, has been consistently higher than other Core Cities, with the exception of Liverpool and Birmingham.

This clearly shows the impact of the recession, with unemployment increasing sharply through late 2008 and early 2009.

4.11 Overall, during the period of April 2007 to March 2008 and April 2010 to March 2011, unemployment rates in Nottingham increased by 6.6 percentage points, greater than the increase in any other Core City (Liverpool experienced the next largest increase, at 4.7 percentage points) and more than double the increase experienced in Great Britain overall (2.5 percentage points). This is equivalent to the absolute number of people estimated to be unemployed almost doubling in Nottingham, from 10,200 in April 2007-March 2008 to 19,300 in April 2010-March 2011.

Linking people to employment

4.12 Evidence supports Nottingham's place as a liveable City. Over the past 10 years Nottingham has progressed a consistently strong policy objective of improving sustainable access to work, education, shopping, cultural and leisure facilities by addressing all aspects of accessibility – physical, geographical, financial, information and safety. This was recognised through Nottingham and Nottinghamshire's joint Beacon status award for improving accessibility in 2008 and the Campaign for Better Transport citing Nottingham as one of the UK's least car dependent cities. Nottingham is currently the Transport Times Transport City of the Year.

4.13 Core Accessibility indicators show high levels of access by public transport to employment opportunities and local services (hospital and GP services, education sites and supermarkets) which has been achieved through investment into the transport network enabling people to move around effectively. This is important as car ownership across the City is lower than the national average.

4.14 At a neighbourhood level car ownership varies greatly between wards: Wollaton West has the highest percentage of households with access to more than one car or van (81%) whereas 65% of households in St Ann's and over half of households in the Arboretum, Bestwood and Bridge wards do not have access to a car or van. Mosaic socio-demographic profiling data shows that a number of groups characterised by not having access to a car are over represented in the city, particularly young people, lower income workers and elderly people. These Mosaic groups are concentrated around the Meadows. St Ann's and Sneinton and north of the City Centre, with older people also concentrated around Bilborough as shown in Figure 4-2.

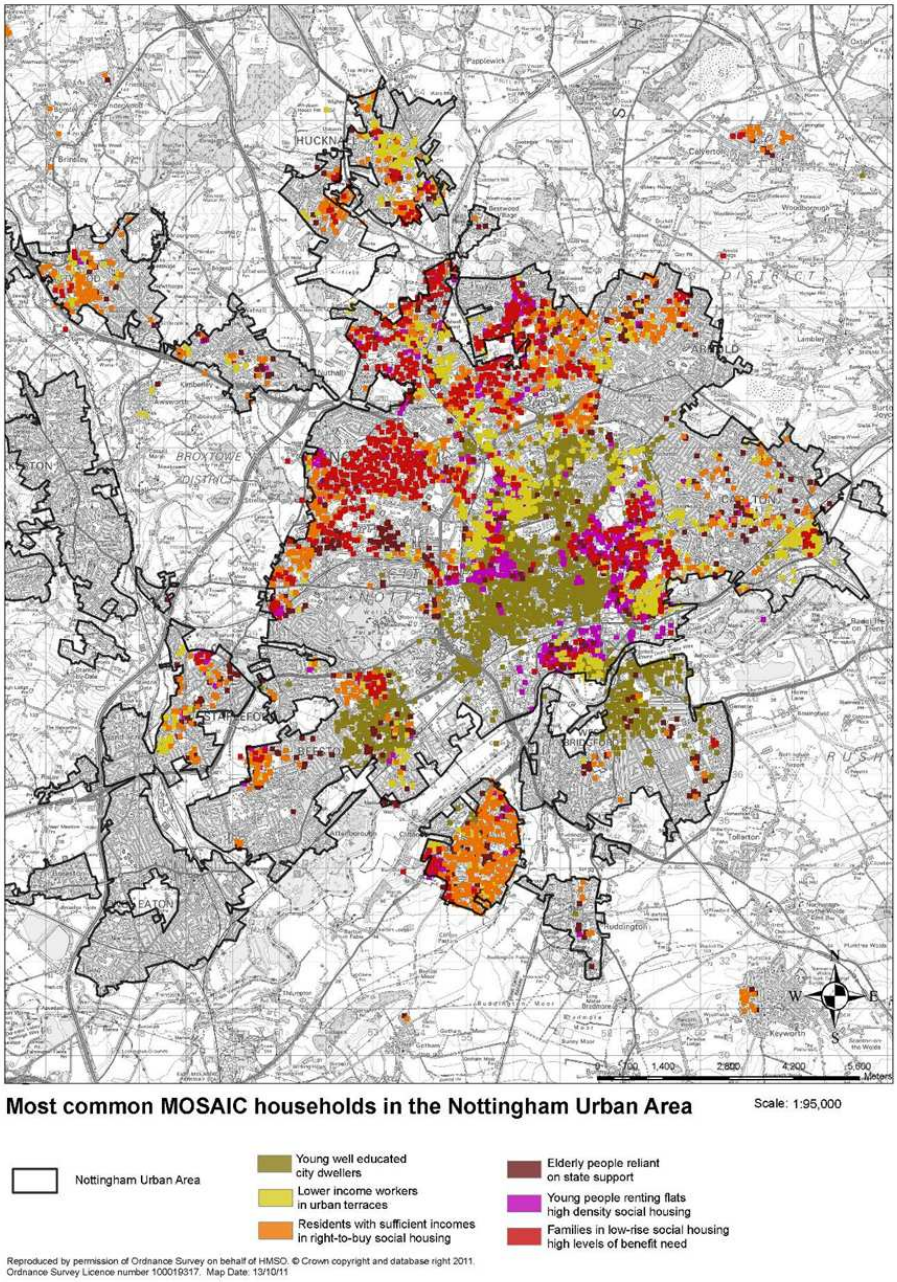
4.15 This is consistent with the high proportion of low income households. The Index of Multiple Deprivation (2010) ranks Nottingham 20th out of the 326 local authority districts in England. The high level of deprivation affects an extensive part of the city, with 45 of the 176 Super Output Areas being within the 10% most deprived in the country, and 91 in the worst 20%. 52% of residents live in the 20% most deprived areas of the country. Mosaic socio-demographic profiling shows that over 40% of citizens are likely to have an annual household income of below £10,000. Other evidence highlights that a high proportion of children are eligible for free school meals and a high number of households are in receipt of council tax / housing benefits.

4.16 Car ownership in the city is also much lower amongst some types of households than others. The two groups with the lowest car ownership rates are pensioners living alone, 81% of which do not have access to a car or van and lone parents with dependent children (66%).

Couple family households tend to have the highest rates of car ownership with 81% having at least one car.

4.17 Furthermore the baseline household car ownership figures do not give the whole picture. For example in a one car household, if that car is predominantly used by one person, other members of the household will not in the most part have access to a car for most of the day. Based on 2011 census data for no car and one car households and an average household size of 2.2 people it can be estimated that up to 60% of residents at any one time do not have access to a car.

Figure 4-2: Location of Mosaic groups characterised for not having access to a car



Reducing barriers to accessing services and opportunities

4.18 The unemployment rate in March 2013 for Nottingham City was 6.7%, higher than the England average of 3.8%. As with employment, skills and economic activity, this average

masks considerable differences between communities and at a local level, some groups are disproportionately affected by unemployment.

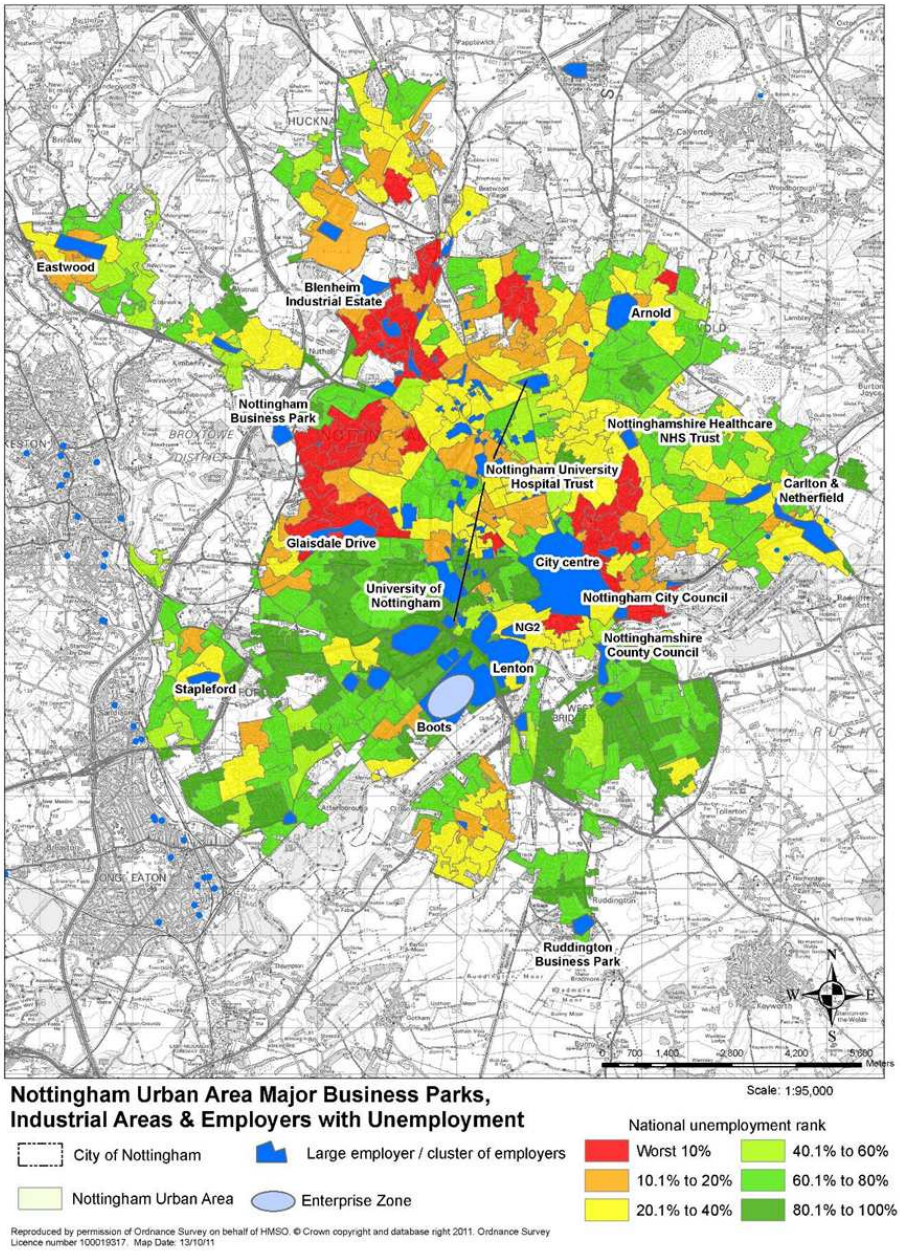
4.19 The Office of National Statistics claimant count in the City of Nottingham for October 2011 shows that unemployment is most concentrated in particular wards, most removed from the City Centre, where transport is key to accessing employment and training opportunities. Unemployment is highest in the two outlying north-western wards of Bulwell (10.5%) and Aspley (10.8%) for example, and the LSTF bid has been designed to target transport solutions for people living in the most deprived areas of the city. Figure 4-3 shows unemployment level by ward in relation to locations of key employment sites.

4.20 Nottingham has a young population with 30% of citizens aged 18 – 29. Students account for 1 in 9 of the population which differs from national trends. 74% of the Urban Area population aged 16-64 are educated to NVQ2 level or higher (5 A*-C GCSEs), marginally higher than the England average of 72%. However 8% of the population have no qualifications compared to 9% in England. NVQ2 or higher is often used as a minimum requirement to move onto further education or training demonstrating a need to improve the skill levels in some areas. Creating more employment for young people is a particular priority.

4.21 Young people and those looking for unskilled occupations both represent a third of current job seekers. Young people remain the largest group of unemployed and a group particularly at risk of disenfranchisement from the labour market (Local Economic Assessment). Unemployment has increased amongst men and women in the last year. The largest increases have been amongst women but this is largely due to changes in the benefits system which has caused many lone parents to begin claiming Job Seekers Allowance.

4.22 Accessibility data shows high levels of access by public transport to employment opportunities and local services which has been achieved through investment into the transport network enabling people to move around effectively which is important given the low car ownership levels highlighted above. However research has shown there are still significant barriers to accessing the transport system in terms of the affordability of public transport for people on low incomes and low travel horizons which mean that people are unwilling because they lack the information about travel options or the confidence to travel outside their known area.

Figure 4-3: Unemployment level by ward in relation to locations of key employment sites



Affordability

4.23 The cost of transport affects equality of access to services. The average income of citizens in Nottingham is below the national average for both individuals and for households. The median gross annual earnings for residents who were in full-time employment in 2012 was

about £26,300, compared with £33,400 for England. 10% of people earned below £12,500 and 20% below £16,000.

4.24 Many of the households with the lowest incomes will be retired people dependent upon state pensions. There are also high levels of child poverty in the City. In 2012, 43,000 children and young people lived in workless or low income households.

4.25 Mosaic analysis identifies eight Types over indexed for having a gross household income less than £10,000 including some tenants in flats, older people and young parents, and students. Some 50,000 households in the City fall into these Types, which, at 41%, is over four times the proportion of England, suggesting a greater likelihood of low income in the City, although this may be skewed by the City's student numbers. These Types are found throughout the City, but are particularly prevalent in Aspley, Radford, Lenton, St Ann's, Sneinton, and the Meadows.

4.26 Although fare levels in Nottingham still compare favourably with many other areas of the country, the cost of local bus travel has risen compared with cost of living, particularly for short journeys. The majority of bus services in Nottingham are provided on a commercial basis, with fares determined by each private bus, tram or train operator. Analysis and consultation has shown that although prepaid single operator season tickets are competitive, there are several areas of inequality:

- Family and child fares have risen by double the rate of inflation over the past 10 years;
- Cash fares are up to 50% higher than prepaid fares, disadvantaging those unable to purchase travel in advance;
- Multi-operator journeys are significantly higher than multi-route journeys by one operator.

4.27 The City Council's ticketing strategy has identified four resident groups where accessibility to key facilities would be improved if fares were discounted below their commercial level. These include the elderly, disabled, work seekers and those in full time education from low income families. It has also identified that fares for non-car owning families are in some cases prohibitively expensive compared with the cost of parking/driving.

4.28 Since 2007, the City Council has promoted the use of 'Citycard' smartcards to increase public transport usage and increase participation in leisure activities and footfall at libraries, whilst also providing customer discounts at retail outlets and leisure centres. There are currently over 300,000 Citycards in circulation. The Citycard functionality has recently been expanded to provide access to secure cycle parking across the City as well as cycle hire, both of which will be expanded as part of this bid.

Travel horizons and perceptions of travel

4.29 Low travel horizons are another barrier which prevent people from being able to take advantage of available opportunities and services. Access to information about travel options is one factor that determines people's travel horizons. However the link between infrastructure, knowledge and travel horizons is complex. A One Nottingham/Greater Nottingham Learning Partnership Study in 2007 indicated that different sectors of the population have different 'mental maps' of travel horizons. The study concluded that although there is a lot of travel information available there can be a reluctance to travel, due

in part to misconceptions about the length and cost of journeys, but also due to a 'culture' of people not wanting, as well as lacking confidence to travel outside of their known home area.

4.30 These findings are supported by the findings from the Big Idea surveys 2012 and 2008 which provided valuable feedback about current travel patterns and journey purposes of local residents and business in Greater Nottingham. The surveys have helped to inform a range of improvements and initiatives needed to tackle particular travel barriers and attitudes to deliver solutions.

4.31 The 2012 survey highlighted the main barriers to using the preferred modes of travel by respondents in an 'ideal world' of travel were:

- Concern for personal safety, a lack of confidence or service and just too much hassle were cited as the main barriers to ideally cycling. This appears to point to a lack of awareness of adult cycle initiatives and the need for more cycle infrastructure provision.
- 50% of taxi users and 43% of car passengers would liked to travel by bus were they not prevented by cost or lack of bus services.

4.32 53% of respondents did not experience any significant barriers to using their 'ideal' mode of travel a significant increase from the 20% of respondents in the 2008 survey This may imply a lack of information about how the individual can use their preferred alternatives or that the individual may lack the inclination to try and use that option.

4.33 Creating good access to sustainable transport services and information is essential in offering learning and training opportunities that support local people into good jobs and ensuring Nottingham's economy remains competitive and supports economic growth. Not only are efficient and sustainable transport links essential in getting people back into work and helping to grow our economy, but they will reduce reliance on private vehicle trips. The package of measures proposed through NCCAP will not only enable those currently dependant on private vehicles to switch to cycling and more sustainable modes thus contributing to reduced congestion levels and helping grow the economy, but also enable job seekers in the future to travel without relying on private vehicles to jobs that have been created in Nottingham as a result of our forward thinking and dynamic approach to tackling congestion, improving the health of our citizens, promoting economic growth and reducing carbon emissions. This work is already underway following the purchase of 300 bikes which are available for free to job seekers to help them get to interviews and subsequent employment.

Summary of issues for supporting people into work to be addressed by NCCAP bid.

Key facts

- Higher than national unemployment, particularly amongst young people.
- Cost of transport and low travel horizons are barriers preventing the most disadvantaged communities from accessing opportunities.
- Higher than average levels of deprivation characterised by lower than average household income levels and low car ownership levels.

Challenge 2: Linking people to jobs by reducing barriers to accessing services and opportunities, particularly in terms of affordability and low travel horizons.

Strategic Challenge 3: Climate change and carbon emissions

4.34 Climate change is one of the most important issues facing the world today with the task of reducing emissions of greenhouse gases presenting a global challenge for every country. It is now widely accepted amongst the scientific community that if global emissions of greenhouse gases due to human activity continue at today's levels, then average global temperatures could rise by 4℃ by as early as 2060 and up to 6℃ at the end of the century. Alongside frequent and unpredictable extreme weather events, these temperature rises will bring severe and long lasting changes to local climates. The Stern Review identified that early action to prevent some of the worst impacts of climate change would be more cost effective than delaying action.

4.35 Domestic transport is a major and growing contributor to UK carbon dioxide emissions (CO2) comprising 21% of total carbon emissions, with over 50% of this produced by cars. Commuter and business travel constitute nearly 40% of all miles driven by car. Reducing CO2 emissions will require a mix of measures ranging from travel demand management to reducing overall traffic volumes, supporting the alternative fuels and technologies to make vehicles cleaner, ensuring development takes places in accessible locations and using technology solutions to promote more efficient travel or reduce the need to travel

4.36 Local Transport Plan investment in the bid area has supported the development of a low carbon public transport network comprising the Nottingham Express Transit tram system integrated with a high quality and comprehensive bus network including an ongoing trial of ethanol fuel on a local tendered bus service. Nottingham consistently tops the rankings with highest bus use per head outside of London with over 65 million journeys taking place by bus and a further 10 million journeys on Tram Line One. Central Government has also provided funding through a number of programmes to promote the uptake of electric vehicles which have benefited the bid area including Green Bus Funding for electric buses and Plugged in Places funding for provision of electric vehicle charging infrastructure across the Midlands.

4.37 Levels of cycle use are low (2011 Census shows mode share of travel to work by bike across Greater Nottingham, of 3.2%), yet still out performs all but one of the core cities (only Bristol has a higher rate at 6.2%, largely due to significant investment through the Cycle City

programme, and as a result of comparably low levels of public transport use, 2011 Census). Recent targeted investment through the Cycling Action Plan are starting to show early encouraging signs of shifts in travel towards cycling, but much more needs to be done to bring cycling levels up to the highest performing UK and European city levels.

4.38 Local monitoring shows carbon emissions from transport have been reducing year on year attributed to mode transfer to public transport and active travel – Defra data released in 2010 shows CO2 emissions from transport have been reducing year on year: For Nottingham City CO2 from transport have reduced by 8% from 2005 levels. In Nottingham road transport contributes 20% of total CO2.

4.39 Reducing carbon emissions from transport and adapting the transport system to the effects of climate change remains a significant challenge. The Nottingham Sustainable Community Strategy and the Energy Strategy set ambitious targets to reduce the City's carbon emissions (CO2) with an overall reduction of 26% by 2020 from a 2005 baseline, which is equivalent to a 42% reduction from a 1990 baseline. The transport target is to reduce CO2 by 20% by 2020. Whilst vehicles can be expected to get more efficient in the future, the impact of technological advances may be countered by increasing vehicle use. Nottingham is a city with a constrained highway network and continuing to reduce CO2 and other greenhouse emissions from transport will also require significant shifts to cycling and walking, combined with reducing the need to travel through integrated spatial planning and provision of high quality alternatives.

4.40 Adopting sustainable development patterns to reduce the need to travel and the length of journeys combined with providing a high quality low carbon transport network reduces reliance on oil based transport. The City Council was one of the first local authorities to recognise the challenge of peak oil and carried a peak oil motion in December 2008. Faced with a future of lessening and fluctuating oil supply and consequent fluctuation in the price of fuel, low carbon and active travel options will become more affordable and reliable making these more attractive travel choices, particularly for lower income households.

Supporting a low carbon economy

4.41 A "Mini Stern Review" has been completed for the City which identifies the local economic impacts of climate change and the most cost-effective approaches for business to reduce their carbon dependency including reducing the need to travel and adopting sustainable business travel policies. The report states that the East Midlands has seen one of the fastest annual growth rates of the Low Carbon Environmental Goods and Services (LCEGS) sector in the UK. There is not a linear relationship between sales growth and employment growth. However, if the current rate of change continues, and current policy initiatives at both the local and national level are maintained, the report suggests that growth in the green economy in Greater Nottingham could see between 9,000 to 12,000 jobs created in the Low Carbon Environmental Goods and Services sector.

Summary of climate change issues to be addressed by NCCAP bid

Key facts:

- Transport contribution to carbon emissions reducing year on year.
- Potential to create 9,000 – 12,000 jobs in the Low Carbon & Environmental Goods and Services sector.
- Impact of rising fuel costs on low income families.
- One of the UK's Least car dependent cities, although cycle use mode share for trips to work is relatively low compared to the highest performing UK and European successful cycling cities.

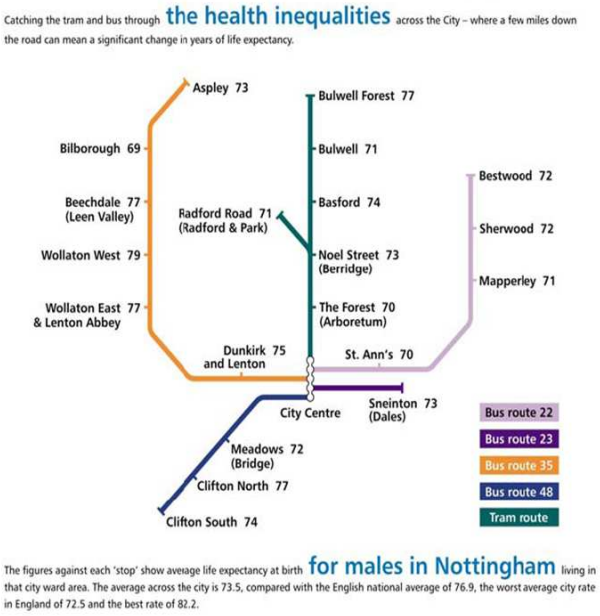
Challenge 3: Continuing downward trend in carbon emissions from transport and adapting to climate change by making cycling and walking a realistic and attractive choice.

Strategic Challenge 4: Addressing health inequalities

4.42 There are significant health and wellbeing issues across the NCCAP bid area associated with deprivation that transport, particularly the promotion of active travel as well as improving access to jobs and services, has the potential to influence.

4.43 Life expectancy levels differ significantly across the City, for example men in the poorest wards of the City are living on average 13 years less than those in the most affluent wards with largest contributors being cardiovascular disease, cancer and respiratory disease (Figure 4-4).

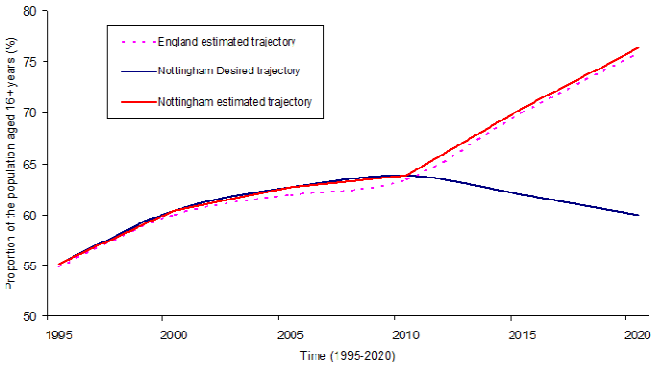
Figure 4-4: Health inequalities expressed as male life expectancy along bus routes



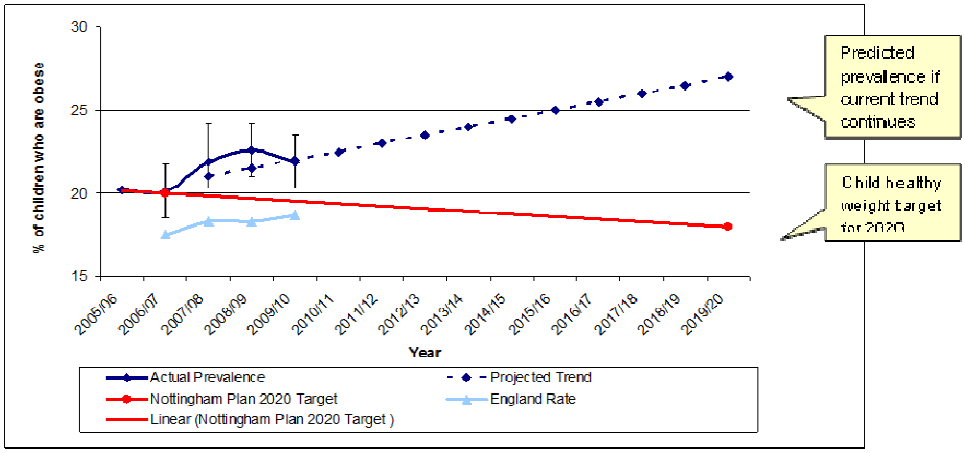
4.44 Cardiovascular disease and cancer are the main cause of premature death in the city and are significantly higher than the national average. Low levels of physical activity and high levels of obesity are important risk factors for these diseases.

4.45 **Diseases related to being overweight and obesity** are estimated to cost the local health service £94 million by 2015 with additional indirect costs of £217 million due to lost earnings due to sickness and premature mortality (Nottingham City Healthy Weight Strategy 2010). The prevalence of overweight and obesity is increasing across all communities demonstrating that the whole population is at risk. Adult obesity is higher in the City than the national average. Amongst adults it is estimated that 27% (70,800) of Nottingham residents aged 16 years and over are obese compared with 24.5% in England, with particularly higher levels amongst women (Nottingham Joint Strategic Needs Assessment 2011).

Figure 4-5: Estimated adult combined overweight and obesity trend for Nottingham



4.46 The Child Measurement Programme (2009/10) shows that Nottingham's children have significantly higher levels of obesity compared to the England average at age 4-5 years (11.3% compared to 9.8%) and at age 10-11 years (21.9% compared to 18.7%). Child obesity rates are also highest in the most deprived wards in the city. Prevalence of obesity almost doubles between the age of 4-5 years and 10-11 years (from 10.2% to 20% in boys and 8.9% to 16.5% in girls.



4.47 It is estimated that 66% (173,000) of the adult population need to increase their **physical activity** to the recommended minimum to prevent cardiovascular disease. Analysis undertaken for the Cabinet Office Strategy Unit's 2009 Urban Transport Study found that the physical inactivity due to unsustainable modes of transport was a significant contributor to overall costs related to healthcare and wider social costs due to physical inactivity. In Nottingham only 16.2% of people walk to work with 3.5% commuting by cycle, compared to mode share cycling levels of 7.7% in Bristol (2011 Census).

4.48 The 2009 Nottingham PLASC survey show 63% of journeys to school are made on foot, (the highest level of walking to school of all the Core Cities and the joint second highest level of walking to school nationally) demonstrating some progress has been made with encouraging children and adults to travel to school on foot. Compared to walking, total numbers cycling to school are comparatively small at 1%, with less than half a percent of primary school pupils and 2% of secondary school pupils currently cycling to school.

Table 4-1: 2009/10 Core City percentages of travel to school by mode (includes overall ranking)

Authority/Mode	Car	Rank	Public Transport	Rank	Walk	Rank	Cycle	Rank
City of Nottingham	17.6	1	12	7	62.8	1	1.2	3
Birmingham	28	8	16.9	6	52.5	3	.5	= 5
Newcastle	22.2	3	22.7	1	51	= 6	1.4	2
Liverpool	27.4	7	22.2	2	45.5	8	.5	= 5
Manchester	26.2	5	18.7	3	51	= 6	1	4
Bristol City	25.2	4	9.5	8	59.1	2	2.3	1
Leeds	26.7	6	18	5	51.4	5	.5	= 5
Sheffield	21.5	2	18.6	4	56	4	.2	8

4.49 Reducing child obesity and adult overweight and obesity are priorities within the city's Sustainable Community Strategy, Healthy Weight Strategy and Health and Well Being Strategy. Increasing physical activity through increases in cycling and walking is seen as important interventions to contribute to these priorities.

4.50 The city population also has higher than average levels of mental health illness. Improving mental wellbeing is a priority in the city's Sustainable Community Strategy and the Health and Wellbeing Strategy. Reducing health inequalities and ensuring that people are fit and able to play an active part in society including being able to work, thereby helping to address the cycle of deprivation which contributes to poor health, are key priorities for the bid partners. A high proportion of "workless" people are economically inactive, and recipients of sickness/disability related benefits and those for lone parents. These groups typically need the most help to gain employment as they tend to have low or outdated skills, low confidence and little recent work experience.

Other health impacts:

- **Air quality:** There are two Air Quality Management Areas designated in the City Centre and in Dunkirk near the Ring Road, which both relate to pollutants from vehicles. Population, housing and economic growth create additional demands on transport networks and a reduction in commuting to school and work by car would help improve air quality and the environment.
- **Noise:** Noise Action Plans produced by Defra indicates that there are approximately 3,000 households in the City affected by transport noise (road and rail).

Summary of health issues to be addressed by NCCAP bid

Key facts:

- Health inequalities across the bid area characterised by a significant difference in life expectancy between the wealthiest and the most disadvantaged wards.
- Increasing prevalence of overweight and obesity across the population and low levels of physical activity.

- Poor health plays a significant factor in people's ability to take an active part in society including becoming economically independent.
- Air quality and noise also impact on people's health.

Challenge 4: Creating the social, cultural and physical environment to support active travel options and reducing transport impacts on people.

Local Challenges

4.51 In addition to these strategic challenges, there are a number of more local 'cycle specific' issues that need to be considered when developing the options. These local challenges were developed when formulating the Cycling Action Plan, and are based on local experience and feedback from cyclists / stakeholders (more generally defined as barriers to cycling across Nottingham), and are summarised as follows:

Local challenge	Identified solutions
Lack of continuous, high quality, direct routes linking housing with employment (existing and future)	Provide a core network of high quality, direct and attractive routes for cyclists linking housing areas with employment opportunities
Challenging inner core prevents cross city cycle route options	Redesign of City Centre to enable joint walk, cycle and permeability improvements in core central area (through the displacement of vehicles to outer ring road and new cycle facilities on the inner ring road)
Speed of traffic in community areas creates hostile environment for novice cyclists	20 mph zones being delivered across neighbourhoods as part of LSTF programme, will provide platform for localised cycle improvements built around community needs
Lack of confidence, apprehension or feeling the journey by bike is too far/long	A programme of marketing, training and local signing
Difficulty in providing for both experienced and novice cyclists, in particular the least active members of society	Need to invest in both high quality on road and off road networks (attractive, safe, direct routes)
Lack of family focused cycle facilities within our Parks and Open spaces	Provide cycle routes and tracks for various bike types, users and ages. Provide cycle hire and good quality (where possible) off road routes which link to communities and the Parks. This will also provide opportunities to increase cycling events.

Conclusion

4.52 The economic, environmental and health/social contextual information presented above identifies four key transport challenges for Nottingham which our NCCAP bid seeks to address:

- Maintaining economic competitiveness and creating capacity for growth.

- Supporting people into employment by reducing barriers to accessing services and opportunities, particularly in terms of affordability and low travel horizons.
- Adapting to climate change and continuing a downward trend in carbon emissions by making cycling and walking a realistic and attractive choice.
- Increasing levels of physical activity to achieve a healthy weight and reduce health inequalities by creating the social, cultural and physical environment to support active travel options and supporting more people back to work.

4.53 Addressing these challenges requires an integrated approach with cross partnership working across sectors including collaborative working with employment, training and health providers and supporting the capital investment in transport infrastructure with a programme of revenue supported activities that provide people with the support and services which empower and encourage them to make low carbon transport choices.

4.54 Complimenting these strategic challenges are issues identified specifically at the local cycling level which are:

- Lack of continuous, high quality, direct routes linking housing with employment (existing and future)
- Challenging inner core prevents cross city cycle route options
- Speed of traffic in community areas creates hostile environment for novice cyclists
- Difficulty in providing for both experienced and novice cyclists, in particular the least active members of society

5 OPTIONS TO ADDRESS THE CHALLENGES

5.1 This section describes the strategy that has been developed to address the challenges identified in the previous section, and sets out the parameters of the bid in terms of what the bid can and cannot include. Together these factors define the overall framework which has guided the bid development in terms of the options considered in the development of the bid programme.

Programme objectives

5.2 To meet the DfT's twin aims of supporting local economic growth and reducing carbon and address the local challenges identified above, the NCCAP work streams need to fulfil one or more of the following criteria:

- Maintaining economic competitiveness and creating capacity for growth (supporting the business community)
- Supporting people into employment by reducing barriers to accessing services and opportunities, particularly in terms of affordability and low travel horizons (supporting people into work)
- Adapting to climate change and continuing a downward trend in carbon emissions by making cycling and walking a realistic and attractive choice (increasing cycle use through significant shifts from the private car - without compromising walking)
- Increasing levels of physical activity to achieve a healthy weight for the local population and reduce health inequalities by creating the social, cultural and physical environment to support active travel options and supporting more people back to work (increasing cycling levels amongst the least active people)

5.3 In addition, the NCCAP must meet the following requirements in order to satisfy the wider political and local stakeholder ambition for the bid (including local user and non user feedback).

- Represent a step change in the provision for cyclists resulting in significant increases in cycle use
- Be supported by local stakeholders and appropriate levels of match funding (affordable)
- Enhance and improve the on-going LSTF programme, Cycling Action Plan and LTP investment in cycling and walking without compromising public transport accessibility.
- Make cycling safer through reduced vehicle speeds, increased capacity /visibility for cyclists and increased segregation

5.4 Finally, the NCCAP must meet the following criteria:

- Be sufficiently ambitious and challenging to gain support from the DfT to fund the bid (and meeting all DfT technical and funding criteria)
- Be deliverable by March 2015 (with match funding support to promote the infrastructure funded through the NCCAP beyond that time frame).

5.5 The above criteria have been used to define the package of measures which comprise the NCCAP bid, as set out in the following section. For simplicity these are described as follows:

- Supports local businesses and helps people into work
- Results in significant shifts towards cycle use (from private car)
- Increases cycling amongst least active people
- Is supported by stakeholders
- Enhances existing programmes, resulting in a step change - ambitious
- Makes cycling safer
- Is affordable
- Is deliverable

Option development and testing

5.6 A number of options were initially developed through dialogue with local stakeholders using the following process:

Initial Options

- Technical work group establishes a long list of potential solutions to identified problem statements
- Technical working group screens 'long list of potential solutions' against DfT criteria and policy fit

Option screening

- Short list of measures considered against the evaluation criteria defined above. Those not meeting minimum standard or thresholds were discounted

Option refinement

- Short list compiled into suitable packages of schemes for wider input by stakeholders
- Two separate stakeholder workshops to discuss detail of the evolving package:
  - Firstly a meeting of the Nottingham Recreational Cycling Forum
  - Secondly a meeting of the Nottingham Cycling Development Group
- The preferred strategy resulting from this process was then tested at a senior officer and political level (with the formal support of the Leader, Portfolio Holder and Chief Executive). The preparation of the bid was the subject of a formal Portfolio Holder Decision which is a recorded decision as well as full support from the Council Leader, Chief Executive and Chair of the Health and Well Being Board.

Preferred Option

5.7 It is important to note that due to the short timescales to prepare the NCCAP it was not possible to undertake a full economic appraisal on all the potential options, but the refinement process means that we engaged stakeholders in defining the preferred option throughout, and used a transparent process to rank options against the defined challenges and the bid requirements. To further strengthen the bid we have undertaken sensitivity testing on the outcomes of the preferred option.

Initial options

5.8 The initial 'long list' of options is summarized as follows:

1. New cycle and pedestrian crossing over River Trent
2. River Leen Cycleway linking together Nottingham Parks
3. Cross City Cycle Routes and combined with City Centre improvements to act as focus for priority commuting corridors
4. Expansion of Cycle Hire Scheme
5. Community led improvements
6. City Centre Cycle Hub (to complement the existing train station provision)
7. Cycle 'super highway' on one major arterial route
8. Interactive journey planner

Option screening

5.9 The following summarises the outcome of the option testing process.

Assessment Criteria	Option ...							
	1	2	3	4	5	6	7	8
Supports local businesses and helps people into work	✔✔	✔✔	✔✔✔	✔✔	✔✔✔	✔✔	✔✔✔	✔
Results in significant shifts in cycle use (from private car)	✔✔✔	✔✔✔	✔✔✔	✔✔	✔✔	✔	✔✔✔	✔
Increases cycling amongst least active people	✔	✔✔✔	✔✔	✔✔	✔✔✔	✔	✔✔	✔
Is supported by stakeholders	✔	✔✔✔	✔✔✔	✔✔	✔✔✔	✔✔	✔	✔
Enhances existing programmes, resulting in a step change - ambitious	✔	✔✔✔	✔✔	✔✔	✔✔✔	✔✔	✔✔	✔
Makes cycling safer	✔✔✔	✔✔✔	✔✔✔	✔	✔✔✔	✔	✔✔✔	✔
Is affordable	×	✔✔✔	✔✔✔	✔✔✔	✔✔✔	✔	✔	✔
Is deliverable	×	✔✔✔	✔✔✔	✔✔✔	✔✔✔	×	×	✔
Meets all DfT funding criteria	✔	✔✔✔	✔✔✔	✔✔✔	✔✔✔	×	×	✔

Note: The blue highlighted cells in the above table represent the preferred option.

Option refinement

5.10 The last three of these categories were essentially 'pass or fail' with a cross representing the view that there was a clear reason why the option couldn't be progressed to preferred option stage. The blue highlighted cells in the above table represent the preferred option.

5.11 Following this initial refinement, a preferred package was prepared which was tested with stakeholders (Nottingham Recreational Cycling Forum, Nottingham Cycling Development Group and political leaders), alongside the appraisal of discounted options. These workshops enabled wider discussions and ideas to take place, and enabled a comfortable

consensus to be established on the preferred package of measures to be progressed through the bid process.

6 A DESCRIPTION OF THE PREFERRED OPTION

6.1 The preferred option resulting from the option development, screening, sifting and high level appraisal process is summarised as follows.

Two high quality cross city cycle routes (North-South and East-West). This element will be the pioneering steps towards realising the full network of commuter cycle routes set out in the City's Cycling Action Plan. These are essentially continuous, primarily on-road, cycle lanes with a high quality surface, appropriate junction treatments and clear priority over side roads. They will be similar in concept to the current London cycle superhighways, and will be aimed at experienced cyclists (Bikeability Level 3). Currently there are already significant stretches of cycle lane and shared bus/cycle lane and/or cycle facilities and stretches of off-road cycle path on the Eastern arm (alongside Daleside Road) and the Southern arm to Clifton. The aim will be to join these up, addressing the "difficult bits" that haven't been already tackled, making them a continuous facility, which will also provide access to the countryside beyond the urban fringe.

- City Centre improvements - In the City Centre, cycle lanes will be created around the inner ring road, with clearly marked entry points to the City Centre creating a "permeable core". This road space allocation is consistent with wider City Centre through traffic redistribution being pursued through our City Centre Strategy. Improved signing will be key in helping cyclists to navigate their way around the inner ring to either the most appropriate City Centre entry point or to continue their cross-city journey. The City Centre measures are key to the whole package, as at present cyclists get "stuck" at the inner ring road, with few attractive options for getting into or across the centre, which discourages cycling. The City Centre measures will link into the City's Connecting Eastside strategy, in which Bellar Gate and Huntingdon Street will be made two-way, with through traffic pushed out on to Huntingdon Street and Bellar Gate becoming quieter and enabling cycle lanes to be added. Funding for this was secured through the City Deal process with delivery programmed for completion by 2015. Additional capacity for the city cycle hire scheme will be provided through more bikes and docking stations.

The orbital route surrounding the core City Centre will provide direct access to all of the radial corridors ensuring coherent links across the City from all directions, communities and areas of employment.

- Neighbourhood level cycle improvements will initially target three localities – Bulwell, Lenton and St. Anns. The aim here is to make local cycle journeys easier and more attractive, in particular for less experienced cyclists (Bikeability Level 2). They can then build up confidence and as they become more experienced will start making longer distance cycling trips (for example, the cross-city routes and in due course, other commuter routes). The neighbourhood level cycle improvements will be designed and implemented as part of the package, with extensive input from local people, and will bring benefit to pedestrians as well as cyclists. This will utilise information and taken from the public via the LSTF supported Community Smarter Travel Hubs.

A network of locally signed routes will provide access to local shops and community facilities. These routes will also provide access to the cycle corridors. This network will be based on the Bikeability Level 2 audit which has already been conducted on all of our roads.

We will also deliver more Citycard (Nottingham's integrated smart card) cycle parking and hire locations. This parking and cycle hire will be activated by the Citycard and will build on the start up scheme which came about as part of our on-going LSTF programme.

- A "Greenway" package, which will include completion of the River Leen off-road cycle path and improvement of cycle paths within and around major parks, some of which are important economically in Nottingham as they host events that attract significant numbers of visitors. These are The Embankment, Wollaton Park, Colwick Park, Highfields Park, Harvey Hadden and Broxtowe Park. The River Leen cycle path is partly existing but has significant gaps and at present therefore does not constitute a complete route. Closing these gaps will create an off-road route (suitable for less confident cyclists and pedestrians) that links the deprived areas of north-west Nottingham with major employment centres in the City Centre and the south-west of the city (thus giving wider economic benefits); it will also serve as a leisure cycling route that helps build up the general cycling culture in Nottingham. A full appraisal and scheme design has been undertaken with the scheme 'ready to go', including innovative use of floating bridge structures. The work on the Leen will in coordination with Sustrans become a new revised section of the National Cycle Network through Nottingham.

6.2 An overview of the above measures is shown in Figure 6.1.

6.3 Figure 6.2 shows the two cross city cycle routes and City Centre improvements, and how they interact with key generators of travel demand across the City.

6.4 Figures 6.3 – 6.6 shows the location of improvements within each of the targeted neighbourhood areas. The base plans are taken from our cycle map which fully audited the City and surrounding areas to identify the Bikeability Level 2 roads.

6.5 Figure 6.7 illustrates the extent of the greenway package.

7 HOW THE PREFERRED OPTION MEETS THE CHALLENGES

7.1 Table 7-1 sets out how the preferred option directly meets the challenges defined in Section 5 above.

Table 7-1: How the preferred option addresses the challenge

Challenges to be addressed	How the preferred option addresses the challenge
Supports local businesses and helps people into work	**Cross City Cycle Routes and City Centre Improvements** – Provide essential high quality direct commuting corridor linking key housing with employment sites. High impact investment with significant potential for modal shift when combined with supporting smarter choices measures. **River Leen Greenway** – Offers new direct off-road link between north-west communities and new employment sites, including Enterprise Zone, connecting people with jobs. **Neighbourhood Improvements** – Provides the opportunity for safe access to the Cross City Cycle Routes and Greenway, offering out-reach links into residential areas, developed and delivered with local support. Cycle hire and cycle parking offer provides local support to businesses. **Combined Impact** – Strong overall impact in terms tackling key issue of transport affordability amongst lower paid workforce.
Support significant growth in cycle use (from private car)	**Cross City Cycle Routes and City Centre Improvements** – Strong impact on mode shift as a result of new safe, convenient and attractive alternatives associated with new prioritised cycle corridors. **River Leen Greenway** – Strong impact on mode shift as it offers an excellent off-road high quality commuting route to alleviate congestion on heavily traffic ring road, linking housing and employment centres. **Neighbourhood Improvements** – Offers the potential for existing car users to access cross city cycle routes, serving to facilitate modal shift across the wider network. **Combined Impact** – Overall package expected to achieve a mode shift of around 3.5% points by 2016, and 7% points by 2023 (trips shifting from car to cycle).

Challenges to be addressed	How the preferred option addresses the challenge
Increases cycling amongst least active people	**Cross City Cycle Routes and City Centre Improvements** – Offers novice cyclists the opportunity to try on road cycling for the commute to work with confidence. Works alongside other LSTF and package elements to nurture confidence amongst the least active groups as part of a long term strategy. **River Leen Greenway** – offers excellent off road leisure and commuter route perfectly suited to encourage least active people to start cycling for the first time. Supports the existing cycle training and health rides. Provides completely off road access to many key employment sites. **Neighbourhood Improvements** – Provides the platform for novice cyclists to gain confidence on road before widening their experience and travelling further afield by bike. Cycle hire provides access to those who may not own a bike. **Combined Impact** – Overall the package will have a strong impact on the least active groups, as they have been designed to complement the health and well-being, decade of health, LTP and LSTF programme which specifically target the least active people through referrals, health rides / walks, training and mentoring.
Is supported by stakeholders	**Cross City Cycle Routes and City Centre Improvements** – Full stakeholder endorsement. **River Leen Greenway** – Full stakeholder endorsement. A full strategy is in place for the Leen which has stakeholder endorsement. **Neighbourhood Improvements** – Full stakeholder endorsement **Combined Impact** – The package has been developed with full participation of stakeholders across the public, private and third sector. Letters of support are provided within the business case documentation. Note: all elements are included in the Cycling Action Plan which has wide ranging stakeholder endorsement .
Enhances existing programmes, resulting in a step change - ambitious	**Cross City Cycle Routes and City Centre Improvements** – Works alongside the LTP, LSTF and Cycling Action Plan to offer viable and appealing alternative for existing car users to switch to cycling. Matches key commuter demands and switch to cycling influenced by clear parking strategy which manages City Centre car demand including WPL). **River Leen Greenway** – Works alongside long term behavioural change and training programme to nurture novice cyclists on off road routes, and help them make transition to on road cycling in the longer term. **Neighbourhood Improvements** – Works with the LSTF 20mph zone roll-out to provide clear message associated with cycling in neighbourhoods and continues to support and provide safer routes to schools. **Combined Impact** – Developed to sit alongside all existing transport, health, planning and economic development programmes to maximise the combined impact by creating the ideal environment for a cycling culture to flourish.

Challenges to be addressed	How the preferred option addresses the challenge
Makes cycling safer	**Cross City Cycle Routes and City Centre Improvements** – Offers high quality and defined priority corridor on key arterials into City Centre. Additional segregation and priority will have direct safety benefit for cyclists. Quality surface improves ride quality and reduces risk of road surface related incidents. **River Leen Greenway** – Replaces existing on road section of National Cycle Network and removes all conflict with vehicles. Strong positive impact on safety. Brings significant additional safety benefits to pedestrians due to sensitive lighting and opening out the corridor (visibility). **Neighbourhood Improvements** – Reduces traffic speeds on local neighbourhood roads, with corresponding safety improvements for cyclists and pedestrians as well as identifying the best routes for novice cyclists to take. **Combined Impact** – Strong positive impact as a result of collective improvement on both cyclists and pedestrians.
Is affordable	**Cross City Cycle Routes and City Centre Improvements** – High level of confidence in cost estimates based on locally determined experience and comparator costs. 3rd party funding fully secured. **River Leen Greenway** – High level of confidence in cost estimates based on locally determined experience and comparator costs. 3rd party funding fully secured. **Neighbourhood Improvements** – High level of confidence in cost estimates based on locally determined experience and comparator costs. 3rd party funding fully secured. **Combined Impact** – The package has been prepared with a key emphasis on affordability from the outset (early screening exercise on unaffordable options removed those that didn't meet this criteria).
Is deliverable	**Cross City Cycle Routes** – Fully deliverable – all land and consents within the control of local authority or partners. **River Leen Greenway** – Fully deliverable – all land and consents within the control of local authority or partners. **Neighbourhood Improvements** – Fully deliverable – all land and consents within the control of local authority or partners. **Combined Impact** - The package has been prepared with a key emphasis on deliverability from the outset (early screening exercise on undeliverable options removed those that didn't meet this criteria).

7.2 The following table summarises how the NCCAP bid directly addresses the more specific cycling related issues (rather than the more strategic challenges above).

Table 7-2: Addresses the specific cycling related issues

Specific Cycling Issues	Solution	Link to NCCAP Bid
Lack of continuous, high quality, direct routes linking housing with employment (existing and future)	Provide a core axis of north south, east west cycle corridors	These routes form a major component of our bid, linking together discrete part of the existing network into continuous corridors
Challenging inner core prevents cross city cycle route options	Radical redesign of City Centre to enable joint walk and cycle improvements in core central area (through the displacement of vehicles to outer ring road)	Definition and signing of new cross City Centre cycle routes
Speed of traffic in community areas creates hostile environment for novice cyclists	20 mph zones being delivered across all neighbourhoods as part of LSTF programme	Improvements at the community level driven forward by local residents and champions
Fear, apprehension or feeling the journey by bike is too far/long	A programme of marketing, events, led rides, training and local signing	Improvements to local signing will be undertaken based on a Bikeability Level 2 audit of all our roads to ensure routes are safe and encourage non-cyclists to take up short journeys by bike
Difficulty in providing for both experienced and novice cyclists, in particular the least active members of society	Need to invest in both high quality on road and off road networks	Provision of 2 cross city routes provides high quality options for confident cyclists, whilst off road River Leen corridor combined with parks network provides appropriate network for new cyclists
Lack of family focused cycle facilities within our Parks and Open spaces	Provide cycle routes and tracks for various bike types, users and ages. Provide cycle hire and good quality where possible off road routes to link communities to the Parks.	Invest cycle routes in and around our Parks. We will invest in the River Leen corridor and links from this corridor to our Parks.

How does the NCCAP support and compliment on-going LSTF, LTP and Cycling Action Plan programmes

7.3 The NCCAP bid has been developed to add significant value to our on-going Cycling Action Plan, LSTF and LTP delivery programmes. Table 7-3 summarises how this value will be captured, the complementary nature of our NCCAP proposals.

Table 7-3: Adding value to the Cycling Action Plan, LSTF and LTP delivery programmes

Key Objectives	How the NCCAP bid will add value....
Nottingham Local Transport Plan (2011 – 2026)	
Delivering a world-class sustainable transport system which supports a thriving economy and enables growth.	Provides platform for step change in high quality, attractive, safe and direct cycle network across Nottingham, appealing to all user groups, and directly addressing travel demands associated with travel to work and job opportunities.
Creating a low carbon transport system and a resilient transport network.	Results in significant shifts away from private car towards cycling, reducing reliance on fossil fuels and helping to further de-carbonise the local transport networks.
Improving access to key services, employment and training including creation of local employment and training opportunities.	Cross city cycle routes and River Leen cycle way provide direct improvements in 'access to services and employment' providing affordable transport options for future targeted employees within the growth sectors identified for Nottingham.
Improving the quality of citizens' lives and transform Nottingham's neighbourhoods.	Neighbourhood programmes will be tailored to specific needs of local communities, with key emphasis on reducing traffic speeds, improving the urban realm, improving safety and creating a better local environment (including improved air quality and well being).
Supporting citizens to live safe, independent and active healthy lifestyles.	Provides the infrastructure and supporting measures (match funding) to radically change cycling levels contributing directly to more people leading active and more independent lifestyles. Safety improved through better provision for cyclists and reduced traffic speeds in neighbourhoods.
Nottingham LSTF (2011 – 2015)	
Smartcard development and integrated ticketing	Promotes greater use of cycling which in turn adds value to LSTF cycle parking provision and city cycle hire scheme. Additional cycle hire bikes and docking stations provided to increase scale and visibility of LSTF programme. Citycard Cycles offers attractive alternative cycling network to encourage greater uptake in cycling and smartcard development ensures LSTF Personal Travel Planning programme gains maximum impact by offering viable alternatives.
Liveable neighbourhoods and community travel hubs to roll-out a local delivery model for travel behaviour change	Community travel hubs will assist in promoting cycling at the neighbourhood level, maximising the value obtained from NCCAP infrastructure improvements Neighbourhood programmes will be tailored to specific needs of local communities, with key emphasis on reducing traffic speeds, improving the urban realm, improving safety and creating a better local environment (including improved air quality and well being).

Key Objectives	How the NCCAP bid will add value....
Worksmart business support and low carbon transport network.	Enhanced business support activities to promote and enable sustainable travel for staff and visitors,. Results in significant shifts away from private car towards cycling, reducing reliance on fossil fuels and helping to further de-carbonise the local transport networks.
Active Travel Solutions Partnerships and Solutions.	Provides significant added value through high quality cycle infrastructure and network provision, maximising value of broader LSTF active travel programme (behaviour change and infrastructure components which complement NCCAP). NCCAP will allow us to double cycling numbers across the City, building on the work that LSTF is looking to achieve in specific intervention areas.
Nottingham Cycling Action Plan (2012 – 2015)	
Increase cycling numbers across the City by 50% from 2010 levels by 2015.	NCCAP provides a stretch target of 100% increase by 2016 (from 2010 levels), and 10 year vision of 200% increase by 2023.
Directly meeting the needs of all different types of cyclists and abilities.	Measures have been specifically tailored to address all cyclist and non-cyclists (spanning age, gender and ability).
Creating a culture of cycling across Nottingham.	Provides the step change in infrastructure necessary across the City to transform cycling levels and work towards top performing UK cities and European City cycling levels.

8 REACHING THE TARGET AUDIENCE

8.1 The NCCAP bid is primarily an infrastructure programme which seeks to change the cycling landscape in Nottingham by providing high quality, direct, attractive and safe corridors across the City. The bid is also supplemented by locally funded campaigns, events and promotions which seek to maximise the use of the new infrastructure and support a culture of cycling (relevant to current cyclists and non-cyclists) and builds on work being undertaken as part of the LSTF programme.

8.2 In scoping out the proposed measures we examined the current transport challenges, general socio-demographics and local stakeholder views to ensure the NCCAP will be most effective in achieving change, whilst ensuring it is also deliverable and affordable by March 2015. Further background to this was reported in section 7 above.

8.3 In addition we have also considered two sources of specific geo-demographic information:

- Mosaic is a geo-demographic dataset from Experian, which aims to describe the UK population in terms of typical demographics, and social, cultural and lifestyle behaviour.
- GreenAware profiles combine the Experian household characteristics with the Stockholm Environment Institute's REAP econometric model to segment the population according to their environmentally relevant behaviours, attitudes and carbon footprint into ten Types.

8.4 Analysis of Mosaic data for the local population allows us to identify which groups are likely to be receptive to specific measures and how interventions can be packaged to influence citizens and deliver the optimum travel behaviour change. Use of the GreenAware profiles allows us to identify the prevalent environmentally relevant perceptions and behaviours in different parts of the urban area to inform which activities and services are likely to be of most interest to different population groups and how to promote those measures.

8.5 This section sets out the findings of the Mosaic and GreenAware analysis.

Mosaic segmentation

8.6 The new 2010 Mosaic classifies the population into 69 'Types' of individuals that are as similar as possible to each other, and as distinct as possible from other types. The Types group together into 15 'Groups'.

8.7 Analysis of Mosaic data suggests that there are a number of dominant Mosaic Groups in Nottingham. **Group G** (Young, well-educated City dwellers) are the largest group, comprising over a fifth of City's households. Over half of the 28,000 households in this group are characterised as being student types – living in privately rented housing or purpose built university accommodation. This group also includes young professional singles and families as well as more transient singles.

8.8 Other dominant Mosaic groups are:

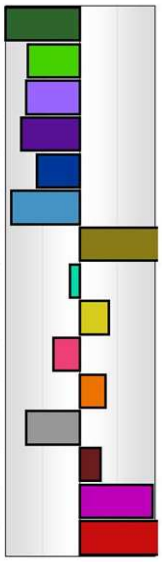
- **Group O** (families in low-rise social housing with high levels of benefit need) comprising 17% of City households
- **Group I** (lower income workers in urban terraces in often diverse areas) make up a further 12%

- **Group K** (residents with sufficient incomes in right-to-buy social housing) make up 11% of households
- **Group N** (young people renting flats in high density social housing) are also seen in large numbers in Nottingham comprise 10% of households
- **Group M** (elderly people on state reliant support) are also over-represented in the City compared to the national average making up 6% of households.

8.9 Overall these six groups represent over 75% of all households in the City. Figure 8-1 shows which Mosaic groups are over-represented in Nottingham compared to the England profile.

Figure 8-1: Mosaic profile comparing households in Nottingham with households in England

Mosaic Public Sector Groups	Nottingham HH	%	England HH	%	Pen. %	Index
A Residents of isolated rural communities	0	0.00	844,195	3.83	0.00	0
B Residents of small and mid-sized towns with strong local roots	3,420	2.64	1,945,991	8.83	0.18	30
C Wealthy people living in the most sought after neighbourhoods	1,167	0.90	716,555	3.25	0.16	28
D Successful professionals living in suburban or semi-rural homes	2,265	1.75	1,818,146	8.25	0.12	21
E Middle income families living in moderate suburban semis	6,157	4.76	2,496,266	11.33	0.25	42
F Couples with young children in comfortable modern housing	579	0.45	1,203,473	5.46	0.05	8
G Young, well-educated city dwellers	28,318	21.88	2,072,342	9.40	1.37	233
H Couples and young singles in small modern starter homes	5,801	4.48	1,138,566	5.17	0.51	87
I Lower income workers in urban terraces in often diverse areas	15,129	11.69	1,855,287	8.42	0.82	139
J Owner occupiers in older-style housing in ex-industrial areas	6,555	5.06	1,727,307	7.84	0.38	65
K Residents with sufficient incomes in right-to-buy social housing	14,136	10.92	1,795,595	8.15	0.79	134
L Active elderly people living in pleasant retirement locations	1,613	1.25	999,008	4.53	0.16	27
M Elderly people reliant on state support	8,395	6.49	1,123,266	5.10	0.75	127
N Young people renting flats in high density social housing	13,359	10.32	1,153,966	5.24	1.16	197
O Families in low-rise social housing with high levels of benefit need	22,537	17.41	1,146,550	5.20	1.97	335
Total	**129,431**	**100**	**22,036,513**	**100**	**0.59**	**100**



Experian

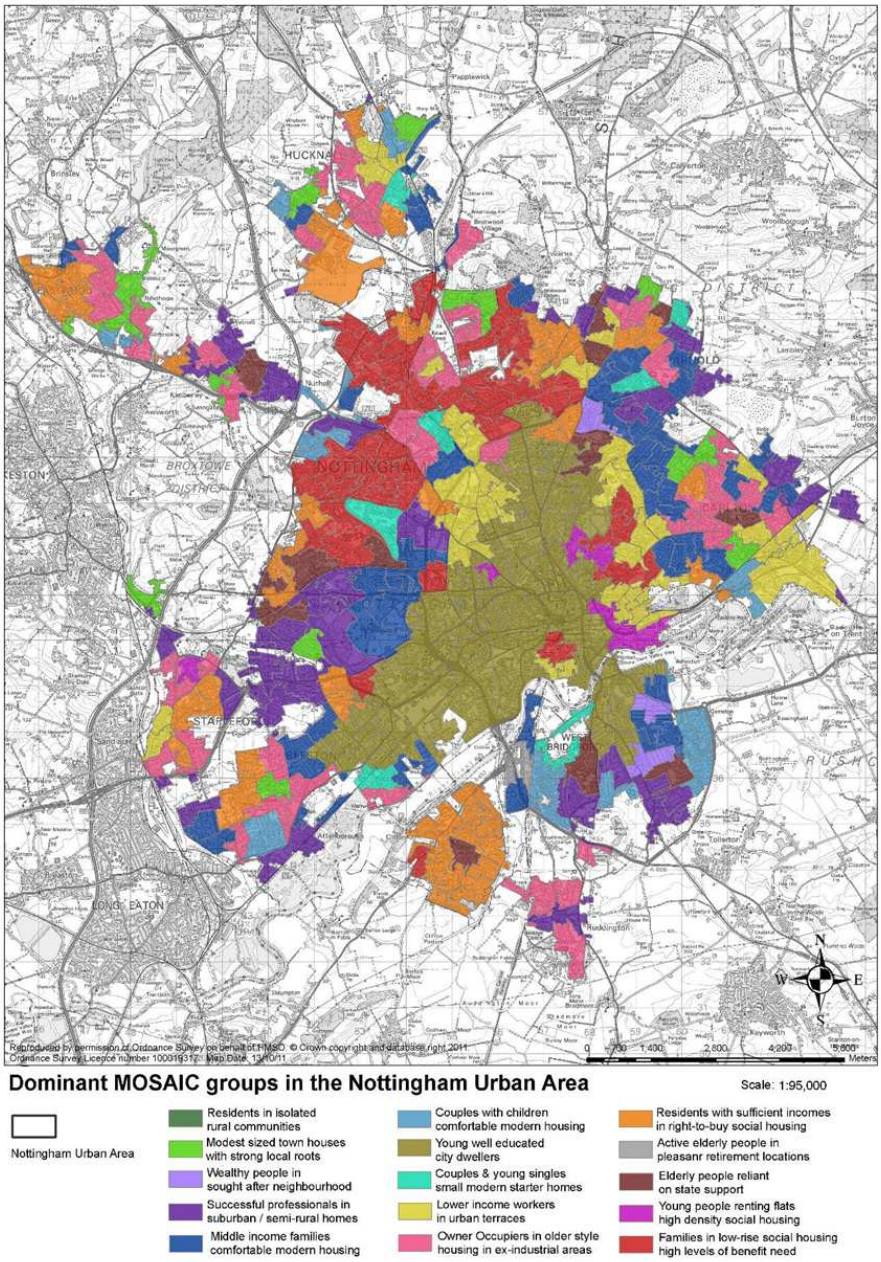
8.10 Figure 8-2 shows the dominant Mosaic groups by ward for the bid area. Analysis of transport and environmental characteristics for the most dominant Mosaic groups identifies the following issues relevant to the NCCAP bid:

Mosaic Group	NCCAP relevance
The younger and more deprived groups are over represented with regard to not owning/having use of a car (Groups I, M, N and O) and comprise two-thirds of city households concentrated around Radford Lenton, Forest Fields, Beechdale, St Ann's the Meadows, Aspley Bulwell and Bestwood.	All these areas benefit from the cross city corridors providing essential access to the City Centre, employment and wider services. Improved City Centre and River Leen corridor also bring benefits to these groups, with strong potential for greater uptake in active travel when combined with on-going LTP and LSTF investment programmes.

Mosaic Group	NCCAP relevance
Group G, the largest group in the City concentrated in Radford and Lenton, is over represented for having no car access, using public transport and being motivated by environmental messages indicating that not owning a car could be an environmental choice. Group G are also more likely to walk to work.	These areas benefits from the eastern corridor and City Centre improvements, and the River Leen. In particular the enhancements improve conditions for existing and new cyclists / walkers, and directly connect these residential areas with new employment opportunities and the Enterprise Zone.

8.11 Mosaic characteristic **participation in individual recreational activities** which could be an indicator of the likelihood of being more self-motivated to take up walking or cycling for leisure is more likely in the affluent educated Groups: C (Wealthy people living in the most sought after neighbourhoods), D (Successful professionals living in suburban or semi-rural homes) and F (Couples with young children in comfortable modern housing), as well as Group G. Groups C, D and F are more prominent in the outer conurbation. **The River Leen and Parks programme provide particular benefits to this group.**

Figure 8-2: Dominant Mosaic groups by ward in the Nottingham Urban Area



GreenAware segmentation

8.12 Nottingham City Council has invested in Experian's GreenAware dataset to inform the development of local action plans for the City's Climate Change Strategy. The GreenAware dataset combines the Experian household characteristics with the Stockholm Environment Institute's REAP econometric model to segment the population into ten Types according to

their environmentally relevant behaviours, attitudes and carbon footprint. This provides another source of data about target markets to supplement the Mosaic analysis. Analysis of GreenAware data for Nottingham shows that the most prevalent Types are 10 ("Wasteful and Unconvinced") comprising 20% of households, Type 4 ("Confused but Well-behaved") comprising 18% of households and Type 9 ("Constrained by Price") comprising 16% of households.

8.13 A full analysis of the GreenAware segmentation was included within the Nottingham City LSTF bid, with the pertinent issues relevant to the NCCAP bid listed as follows.

8.14 The cross city cycle routes and City Centre improvements provide essential connections in the north of the city which is dominated by:

- Type 4 - 26% of households, extremely concerned about climate change and are willing to act.
- Type 10 - 25% of households, who perceive being green as involving a sacrifice, are reluctant to give up their current lifestyles and display some price sensitivity, however their travel behaviour is sustainable due to low car ownership. They are not motivated by environmental concerns, but the direct cycle routes will appeal on a cost and time saving basis.
- Type 9 - 24% of households, who's environmental behaviour of this group is entirely determined by price sensitivity as they mainly comprise low income households. Cycle improvements will have a direct impact by reducing journey times and cost through direct cycle route interventions.

8.15 The River Leen corridor provides cross city improvements for those in the north, central, east and southern areas, in particular:

- Type 10 (20% in central area, 25% in northern area) and
- Type 1 (25% in central area, who are very environmentally conscious in their attitudes and are strong believers in the power of consumer action to make a difference to climate change - generally this group is open to change if convinced this would make a difference)
- Type 2 (15% of households in southern area, who are willing to change behaviour and exhibit a high awareness and knowledge of environmental issues, and their biggest deterrent to action is convenience, hence the direct cycle routes will provide an excellent platform for promoting cycling as the most direct and convenient option)

8.16 Neighbourhood programme will target the prevalence of Types 9 and 10, and in particular will offer viable long term walk / cycle options alongside access to employment opportunities – in essence seeking to re-enforce sustainable behaviour and prevent a switch to the private car as they become more affluent.

8.17 The preliminary analysis of the GreenAware data highlights that transport behaviour in the city area is already sustainable. However for many groups this may largely be due to lack of access to a car rather than being a positive choice, with the exception of Mosaic Group G and GreenAware Types 1 and 2. The NCCAP therefore has a key role to play not only in terms of seeking to encourage car drivers to switch from car to cycle, but also to support those that currently cycle and walk to continue to do so.

9 MEASURING SUCCESS: OUTPUTS, OUTCOMES AND WIDER IMPACTS

9.1 A monitoring and evaluation plan is reported within a separate section of the business case, which clearly defines how we will assess out performance in delivering the NCCAP programme, and securing outputs and outcomes. The following provides a summary of the pertinent issues of the proposed evaluation process.

Type of evaluation proposed

9.2 The primary focus will be on impact evaluation - i.e. measuring the impacts of the interventions and relating those to the objectives of the programme. A delivery process evaluation, which looks at what has been delivered and how well the process of delivering the outputs and influencing behaviour is working, will also be developed, in order that refinements can be made either during the current programme or in future similar work. This will also assist in the sharing of best practice with other authorities.

Outcome indicators

9.3 Based on consideration of the programme objectives and the nature of the interventions included, we have identified a list of **core impact indicators**. These are:

- Numbers of cycle trips being made in and around the intervention corridors and areas
- Numbers of pedestrians using the new off-road shared-use infrastructure
- Numbers of disabled people using the new infrastructure – either as pedestrians or cyclists
- Cycling-related accident rates
- Perceptions of people (from different population segments) in the catchment areas for the new infrastructure of:
  - Accessibility of employment opportunities by bike
  - Accessibility of other activities by bike
  - Safety of cycling and walking
- Subjective (self-assessed) wellbeing of people in the catchment areas for the new infrastructure – in line with the experimental indicators being used in the Government's annual population survey.

9.4 **Additional impact indicators** will be calculated based on the core indicator data. These include:

- Health benefits from increases in cycling levels (using the HEAT tool)
- Carbon emissions from mode switching away from motorised modes to cycling.

9.5 The overall evaluation question for the **impact evaluation** naturally flows from these potential performance indicators. This is:

- To what extent and in what direction have each of the indicators changed due to the programme interventions?

9.6 For the **delivery process evaluation**, the key evaluation questions can be summarised as:

1. What outputs have been delivered, and when?
2. What approaches were particularly effective in delivering the outputs?
3. What delivery difficulties were encountered and how were they overcome?
4. What delivery lessons can be learned for the future?

Summary of expected impacts

9.7 Table 9.1 summarises the relationship between project inputs, outputs and expected outcomes.

Table 9-1: Summary of expected impacts

Inputs	Outputs	Outcomes	Wider Impacts
Investment in cross city cycle corridors and City Centre improvements	5.5 kilometres of additional off road cycle paths and 10.9 kilometres of non-segregated on-road cycle lane forming north south east west axis of priority routes across the city	• Journey to work mode share by bike of at least 10% by 2023 (from 2011 baseline of 3.5%) • Journey to work mode share by car reduced to 39% by 2023 (from 2011 baseline of 46%)	Health improvements, local air quality improvements, economic prosperity, congestion reduction
Investment in River Leen cycleway and parks programme	7.5 kilometres of additional off road cycle paths and 1.8 kilometres of non-segregated on-road cycle lane alongside River Leen and within parks	• Journey to work mode share by bike of at least 10% by 2023 (from 2011 baseline of 3.5%) • Journey to work mode share by car reduced to 39% by 2023 (from 2011 baseline of 46%) • Increase in recreational cycling of at least 100% on River Leen corridor by 2016 (compared to current competing on-road route)	Health improvements, local air quality improvements, economic prosperity, congestion reduction
Investment in Neighbourhood level improvements	6 kilometres of additional off road cycle paths and 6 kilometres of non-segregated on-road cycle lane (locally defined cycle network enhancements across 3 community areas)	100% increase in local cycle usage by 2016, reported as cycles parked at community hubs A reduction in cycle accident rate	Health improvements, local air quality improvements, economic prosperity

Inputs	Outputs	Outcomes	Wider Impacts
All elements of the NCCAP package combined		Reduction in car use (7% reduction in mode share by 2023, travel to work) Improved health (reduced inequalities) Increase in numbers attending cycle related events Improved streetscape and perceptions of well being Reducing cycle accident rate	Reduced congestion, improved safety, local health improvements, local air quality improvements, economic prosperity

9.8 Appendix A provides a high level summary of 'comparator' towns and cities where similar types of interventions have been delivered and appraised. The findings of this review have been used to inform the targets above, and also provide inputs to the assumptions made in the economic case.

10 THE ROLE OF PARTNERS

10.1 Partners have had a key role in the development of this bid, and will continue to play an important role in its delivery (if we are successful in securing funding). The following summarises the role that the partners will play, with further detail provided in the management case.

Partner	Involvement in the NCCAP Bid / Programme
Strategic partners	
Nottingham City Council	The City Council is leading the preparation of the NCCAP Bid supported by a partnership comprising public, private and third sector organisations, and is responsible for managing the delivery programme and the central budget holder responsible for financial management. In particular Nottingham City Council facilitates the **Cycling Development Group** (chaired by the GNTP) and **Nottingham Recreational Cycling Forum** which brings together key stakeholders to co-ordinate cycle improvements across the city. Both of these groups have been actively involved in preparing this NCCAP bid.
Nottinghamshire County Council	There is long history of joint working with Nottinghamshire County Council on planning and transport through the Core Strategy and the LTP processes. The County Council is supportive of the NCCAP bid and will work with the City Council to ensure any cycle improvement works undertaken outside the city boundary are complimentary to the NCCAP programme.
Sustrans	Sustrans is the UK's leading sustainable transport charity and main delivery partner for the Ucycle Nottingham programme which has been developed in partnership with the Nottingham Trent University, University of Nottingham and the Nottingham University Hospital Trust. Ucycle Nottingham provides a comprehensive cycle promotion programme for staff, students and visitors. Sustrans have been involved in the scoping of measures within this bid, are fully supportive of it, and will play an important role in assisting with the delivery of supporting measures. They are currently delivering 'Bike It' which is a behaviour change focused activity that positively supports the bid.
Greater Nottingham Transport Partnership (GNTP)	GNTP is a public and private sector partnership which has been in place for 10 years and is hosted by a third sector local not for profit social enterprise, RideWise. GNTP has a wide reach with representation from major employers in the Nottingham urban area, from business representative organisations such as the Chamber of Commerce and the Federation of Small Businesses and from local transport operators. The GNTP have been involved in all aspects of developing this bid, and will play an important role in assisting with the delivery of supporting measures.
Nottingham Health and Well Being Board	The City Council has worked closely with the health sector over the last 10 years on a variety of transport/health related issues such as active travel including community cycling projects, access to health services and healthy food and joint strategic needs assessment. The responsibility for public health including commissioning, health promotion activities in relation to physical activity and active travel transferred to the local authority from April 2013. In 2010 the NHS Nottingham City and City Council jointly launched its public health behaviour change programme 'Decade of Better Health'. This has a number of strands and provides a local proven exemplar model for community engagement on behaviour change programmes. Increasing active travel is also a key component of the City's Healthy Weight strategy to address obesity.

Partner	Involvement in the NCCAP Bid / Programme
Multi-sector partners – these are existing well-established partnerships with a clear focus on economy and carbon, which have the commitment and engagement of local constituent bodies and provide effective communication channels through these networks.	
D2N2 Local Enterprise Partnership (LEP)	The D2N2 is the Local Enterprise Partnership (LEP) for Derby, Derbyshire, Nottingham and Nottinghamshire. It is a locally owned partnership between the local authorities and businesses, and plays a central role in deciding local economic priorities and undertaking activities to drive economic growth and create local jobs. D2N2 is one of the largest LEPs in England with a vision to make the area one of the strongest and most resilient economic regions in the UK. The purpose of D2N2 is to support and encourage economic growth in the D2N2 region. D2N2 fully support the bid, and have provided a formal letter of support.
Private sector support: There is strong evidence of engagement with the business sector through the GNTP and through the Green Nottingham Partnership and these, along with other local business networks, will continue to be used to develop and share good practice on cycle development programmes. In addition the following organisations have offered their support to the bid. These represent a range of sectors, have demonstrated a track record in travel planning and have commitment to this agenda at a senior level.	
Alliance Boots	Alliance Boots is a global organisation with its headquarters in the bid area. The company is a market leader in carbon reduction for the health and well-being sector as part of their approach to corporate social responsibility and is an ambassador for sustainable transport within the local business community. Alliance Boots wishes to work with the bid partnership regarding smartcard integration, commuter cycle hire at transport interchanges and eco driving programmes to improve energy efficiency of business travel and fleet operations. An Enterprise Zone has been established on the Boots' site offering a multi-use employment site of 100 acres with the potential to create 5,000 – 10,000 jobs.
Capital Shopping Centres (Victoria & Broad Marsh Shopping Centres)	The Victoria and Broad Marsh Shopping Centres are served by the electric Centrelink shuttle bus service. Capital Shopping has agreed to support the NCCAP bid and is committed to improving facilities for cyclists to complement the NCCAP proposed measures.
E.ON UK	E.ON is another international organisation with a significant workforce in Nottingham and will shortly be relocating one of it's main offices to Nottingham City Centre because of the good transport links. Again E.ON is a local ambassador for sustainable transport and a leader in carbon reduction in the energy generation sector. E.ON UK is already involved in a number of sustainable travel initiatives to help employees to reduce their reliance on the car and will support the NCCAP bid through an increased focus on cycle provision and promotion across the workforce.
ITP Consultants	ITP Consultants' Nottingham office comprise a team of highly experienced transport planners, with particular expertise in understanding the needs of cyclists and non cyclists through various research programmes. Their staff also cycle across Nottingham each day and have offered their time to act as a critical friend on the evolving detailed designs of the cross city routes
Nottingham Trent University	A promoter of sustainable travel to both staff and students and a Ucycle partner. As a key City Centre institution the City Council would work with them to ensure the City Centre improvements provide good access to their campus as this is a top priority for the University.

Partner	Involvement in the NCCAP Bid / Programme
Nottingham University	Nottingham University are a partner in the Ucycle scheme. As well as encouraging staff and students to cycle they have and will continue to invest in cycling facilities within their campuses. Over the course of the next two years whilst NCCAP is being delivered the University expects to invest a further £350,000 in their own cycling facilities for the benefit of staff, students and the public.
Nottingham University Hospitals Trust	Nottingham's biggest employer and a partner in the Ucycle scheme. The Trust is a major supporter of sustainable travel with transport interchange facilities between bike and bus provided, which is also to be expanded to include the tram. The Trust has and will continue to invest in cycle facilities to cater for the growing numbers of staff that cycle.
Games Workshop	A major employer located in Nottingham. Of the 700 employees 140 are regular commuter cyclists. If the bid is successful improvements in the Lenton area will provide direct benefits to these cyclists and help the business increase their cycling leveks further.
Third sector delivery partners: The local delivery model proposed through the Community Smarter Travel Hubs will strengthen the capacity of the third sector in Nottingham. The Neighbourhood Smarter Travel Co-ordinators will commission local travel activities and services tailored to the needs of individual communities from a range of private and third sector provider organisations. The following third sector partners with considerable experience of delivering community level sustainable transport interventions and will be actively involved in supporting the delivery programme.	
British Cycling	British Cycling are the national governing body for cycle sport in the UK and are delivering the 'Breeze' programme in Nottingham in 2012 and 2013 to get more women cycling. The Breeze Champions coming out of this programme will support the development of community cycling activities which will be enhanced by the provision of city wide infrastructure improvements delivered as part of the NCCAP bid. We will also work to with British Cycling to deliver major events such as this year's Milk Race
Framework Housing Association	Framework Housing Association is a homelessness charity based in Nottingham providing housing, support, training care and resettlement services. As part of the support and resettlement programmes Framework's clients are encouraged to renovate old or abandoned bikes which are then used by the RideWise cycle training organisation to enable anyone to get involved in cycling irrespective of whether they own a bike. FHA will provide expertise and outreach services to support the NCCAP programme, helping to set up additional community bike recycling schemes in the Community Smarter Travel Hub areas.
RideWise	RideWise is a local community enterprise providing cycle training, cycle loans, led rides and support services. In addition to providing general community cycle training activities RideWise specifically deliver the following local programmes: 'Cycling for Health' scheme commissioned by NHS Nottingham City to increase cycling in adults particularly amongst people aged over 40 years in the most deprived areas of the city; Cycle training in primary schools in Nottingham City, particularly in areas of multiple deprivation through the Bikeability scheme; Training also extends to further education colleges and Universities through the Ucycle Nottingham project. RideWise will be actively involved in the supporting programmes to maximise value from the NCCAP infrastructure.
Sustrans	Will play an important role in assisting with detailed design, monitoring and supporting community level sustainable travel interventions.
Others: There are a range of other third sector delivery partners not already mentioned above. Many of whom are already active in the NCCAP bid area, whose expertise will be drawn on for the delivery	

Partner	Involvement in the NCCAP Bid / Programme
of the supporting elements of the NCCAP programme, as summarised below.	
Active travel	• **Age UK Nottinghamshire** – Provide the Best Foot Forward community guided health walk programme commissioned by NHS Nottingham City • **Sport Nottinghamshire** – Active travel promotion such as Workplace Cycle Challenge • **Walk England** – Community walking interventions • **Nottinghamshire YMCA** – Provide a Physical Activity Referral Service commissioned by NHS Nottingham City
Community engagement	• **Smarter Choices Roadshow** – community engagement and behaviour change activities

11 COMPLIANCE WITH DFT GUIDANCE

11.1 The strategic case reported above has set out how the bid has been developed, the role it will play in addressing key local and national challenges, the key elements of the bid, the role of stakeholders in developing and delivering the bid, and what we expect to achieve. As such it forms a core element of the business case to support the NCCAP bid.

11.2 This final section summarises the pertinent issues specifically in relation to the Strategic Case criteria established in the DfT guidance for Cycling Ambition Grant cities.

Support the local economy and facilitate economic development

11.3 The CAG has been developed specifically to support the local economy and facilitate economic development in the following ways:

- Carefully devised strategic routes which provide access to major employment areas, offering high quality direct cycle links from residential areas to existing and future employment sites, including those within the Enterprise Zone and Creative Quarter in the City Centre and high end industry such as science parks.
- Access to parks, which offer a key focus for commercial events in Nottingham and provide access to the wider strategic cycle network. For example, a recent evaluation of the 2012 EoN Cycle Live Event demonstrated an economic return of around £235,000, and attracted around 10,000 people to take part. The NCCAP supports further park related events, by offering high quality and well connected parks across Nottingham.
- Securing local employment opportunities and commercial ventures within Nottingham communities through the role out of local hubs and cycling centres.
- Making Nottingham a more attractive place for business to come to, and encourage high earning professional jobs to help support our local and the national economy. Provides an important platform to encourage students to stay in Nottingham once they have finished studying here.

11.4 The City Council has recently published its Growth Plan, which sets out a series of clear proposals to further enhance the City as the regional economic driver of economic activity. Table 11.1 demonstrates how the NCCAP helps deliver our economic objectives.

Table 11-1: Summary of growth plan

Nottingham Growth Plan Aims	Contribution made by NCCAP
Create a manufacturing renaissance in the city – rebuilding Nottingham's international reputation as a place that designs and makes things.	NCCAP provides the essential direct high quality commuter corridors (by bike), connecting people with job opportunities (including the Enterprise Zone). Cycling directly meets the needs of targeted employees in this sector.
Give outstanding support to businesses in the emerging digital content, lifesciences and clean technology sectors that can provide prosperity and sustainable employment.	The concept of 'sustainable employment' cuts across all 3 pillars of sustainability, with the NCCAP providing essential cycling connections across the City Centre, joining together people and new job opportunities, and creating the environment where growth sectors can flourish

Nottingham Growth Plan Aims	Contribution made by NCCAP
Exploit to the full Nottingham's strengths – its world-renowned universities, central and cost-effective location, good transport and the quality of life enjoyed by its residents.	NCCAP compliments Nottingham's commitment to sustainable transport by integrating with and enhancing the excellent public transport provision and creating a truly sustainable city
Create growth across the city for the benefit of all our communities.	The NCCAP reaches out to all corners of the Nottingham population, including deprived communities and areas of lower employment

11.5 More specifically Table 11-2 ties together the relevant objectives of the Growth Plan with the role that the NCCAP will play in facilitating growth.

Table 11-2: Relevant objectives of the Growth Plan with the role that the NCCAP

Nottingham Economic Growth Plan (relevant Objectives out of the full list of 40)	Role of NCCAP in facilitating economic growth
1. Ensure that Nottingham's citizens are able to benefit from economic growth through access to employment opportunities.	Provides direct high quality cycle routes between major employment centres and residential communities
3. Attract, retain and develop people's talent.	Transformational change in urban realm, accessibility and levels of cycling within City Centre, will influence culture and perception of Nottingham as a place that attracts and retains the highest quality people
7. Prioritise and continue to invest in major transformational transport schemes which will benefit the wider Nottingham economy.	Builds on cross party vision already established as part of Cycling Action Plan
9. Improve the efficiency and reliability of city wide transport networks.	Results in significant shifts of travel away from private car providing decongestion benefits coupled with wider accessibility benefits for those that switch to cycling on new infrastructure
10. Further improve access from residential areas to major education and employment locations.	Provides direct links from major employment areas to residential communities (including deprived communities and those with low levels of employment)
20. Ensure a coordinated approach to supporting young people to move into self-employment.	Provides the basis of a longer term access to work programme predicated on the bike as a major mode of travel across the City.
21. Prioritise the successful development of the Enterprise Zone.	Network focuses directly on cycle access to/from the Enterprise Zone
22. Ensure that Nottingham City Council is encouraging development by putting in place a proactive and positive planning service.	Planning service will promote access by bike as a fundamental principle of future planning requirements to further enhance cycle network and provision for cyclists.
26. Co-ordinate a strategy for the growth of Nottingham City Centre and retail.	Tackles access by bike to key employment areas and City Centre retail opportunities, and unblocks the City Centre as a place for cyclists and pedestrians enhancing the retail offer.
29. Secure an increase in significant national and international conferences and events within	Provides platform for sustainable access to major parks which act as main focus for local, regional

Nottingham Economic Growth Plan (relevant Objectives out of the full list of 40)	Role of NCCAP in facilitating economic growth
Nottingham.	and national events
30. Establish a high quality, new visitor offer centred around the castle and the links to Robin Hood.	Links together bike hire scheme with high quality leisure routes providing platform for visitors to explore Nottingham buy bike
39. Support the creation of a low carbon training academy.	Bike recycling and maintenance included alongside the development of the academy

Level of ambition, cross party support and commitment to a long term vision for transformational change

11.6 Nottingham's City Action Plan was first launched in 2008, and since then has already started to have a major impact on cycling levels and culture across the City. The vision is clear and ambitious within the Cycling Action Plan, and the NCCAP would enable us to accelerate our on-going work, and deliver a cycling network which that will reach out to all communities, non cyclists and existing cyclists of all levels and standards.

11.7 The current target within the Cycle Action Plan is to increase cycling levels by 50% by 2015 (from a 2010 base). Our NCCAP target is to stretch this significantly, with the aim of increasing cycling levels by 100% by 2016 (from a 2010 base – equivalent to a mode share for cycling to work of around 7%, against a baseline of 3.5% reported in the 2011 Census). Put into context this would see Nottingham become comparable to Bristol in terms of cycling levels (which has been a Cycling City for some years). Our longer term target associated with the NCCAP bid is to increase cycling levels by 200% by 2023 (equivalent to a mode share for cycling to work of around 10.5%).

11.8 The Nottingham Cycling Action Plan, on which the NCCAP is based, has full cross party support as well as the active endorsement of stakeholders in the public, private and third sector from across the City and beyond. The Council Plan which states what elected members will deliver includes cycle facilities as a priority.

11.9 Businesses and their employees have consistently recognised the importance of promoting cycling, and their support for it. For example the following is taken from the Big Wheel business survey of 200 employers across the City.

11.10 63% of the 200 businesses who participated in the interviews thought that it was important to encourage their staff to walk, cycle, car share and use public transport. In addition the majority of respondents (91%) felt that they were supported by their superiors (where applicable) in doing this. The respondents were asked what modes their company would like to encourage their staff to use to travel to work: 62% stated would like to encourage their staff to cycle to work

11.11 The Council Leader, Chief Executive and Transport Portfolio Holder (all regular cyclists), voluntary champions, local cycling groups, health ambassadors and business leaders all support our Cycling Action Plan and our NCCAP bid. This strengthens our long term vision by ensuring our approach cannot be derailed by political changes in the short or medium term. In all respects we have an unwavering commitment to cycling across Nottingham.

Overall value for money

11.12 The NCCAP represents very high value for money. An independent economic appraisal over a 10 year forecast period has been carried out in accordance with DfT approved appraisal procedures. This demonstrates that the Benefit to Cost Ratio of NCCAP is 4.86:1 (i.e. £4.86 return for every £1 invested). It is important to stress that the BCR has been developed using conservative estimates throughout, and hence we are confident that the outcomes benefits will be much greater.

11.13 The economic appraisal has also been the subject of sensitivity tests (to ensure robustness), as reported in the economic appraisal. Further information and details of the appraisal process can be found in the *economic case*.

Level of engagement with Director of Public Health and Health and Well Being Boards. We expect bids to be accompanied by a letter of support from the relevant Director(s) of Public Health and an explanation of how cycling proposals and Health and Wellbeing Strategies will be aligned

11.14 The Director of Public Health and Health and Well Being Board are fully supportive of our NCCAP bid, and actively endorse it. They have been involved throughout all stages of the development of the bid and remain active participants in the Nottingham cycling development groups. A letter of support is provided separately.

11.15 Nottingham has a long established and successful track record of aligning its transport and health programmes, with several examples of jointly funded programmes which bring benefits to both sectors. For example the well respected and successful Ridewise cycle training programme received funds from the health sector to provide specific training to deprived communities and areas of poor health and inactivity.

11.16 The Community Nottingham Plan (Sustainable Community Strategy) sets out a clear priority for a 'Healthy Nottingham' which includes priorities to promote active lifestyles for young and old people and to tackle adult and child obesity. The Nottingham Healthy Weight Strategy and Action Plan set how the City Council and partner agencies will work towards the local targets to reduce adult and child obesity. This strategy includes measures to address the obesogenic environment and targeting health improvement interventions. The Council transport department are members of the Healthy Weight Strategic Group and provide six monthly update reports on relevant active travel measures in the LTP and LSFT which contribute to this agenda. The health improvement programmes commissioned by the council public health team which are entirely complementary to our NCCAP bid include: Cycling for Health; the Healthy Change telephone based healthy lifestyle referral service; Physical Activity on Referral Service; Best Foot Forward walking scheme, Ridewise Adult Cycle training, Active Families Sport and Leisure Programme, Change-makers Community Volunteers for Health, and Decade of Better Health pledges for health.

11.17 The consultation draft of the Health and Well Being Strategy is also aligned with the bid, providing targeted interventions which include preventative health care, tackling mental health and supporting families into work. Councillor Nicola Heaton, the executive assistant responsible for Health is a signed contributor to the Foreword of this bid.

Reduction in carbon emissions, traffic noise and improvements to air quality through enabling big shifts in the amount of cycling.

11.18 The NCCAP will result in significant and noticeable shifts in cycling across Nottingham. As a result of our existing commitment to the Cycling Action Plan we expect to achieve a 50% increase in cycling levels (between 2012 and 2015). The additional injection of capital and supporting revenue funding (match funding) provided by the NCCAP will enable us to meet more ambitious and progressive targets allowing us to get moving much quickly to where we want to be in terms of sustainable travel. These revised targets are:

- 100% increase in cycling (2010 – 2016, from 3.5% mode share to 7% mode share),
- 200% increase in cycling (2010 – 2023, from 3.5% mode share to 10.5% mode share).

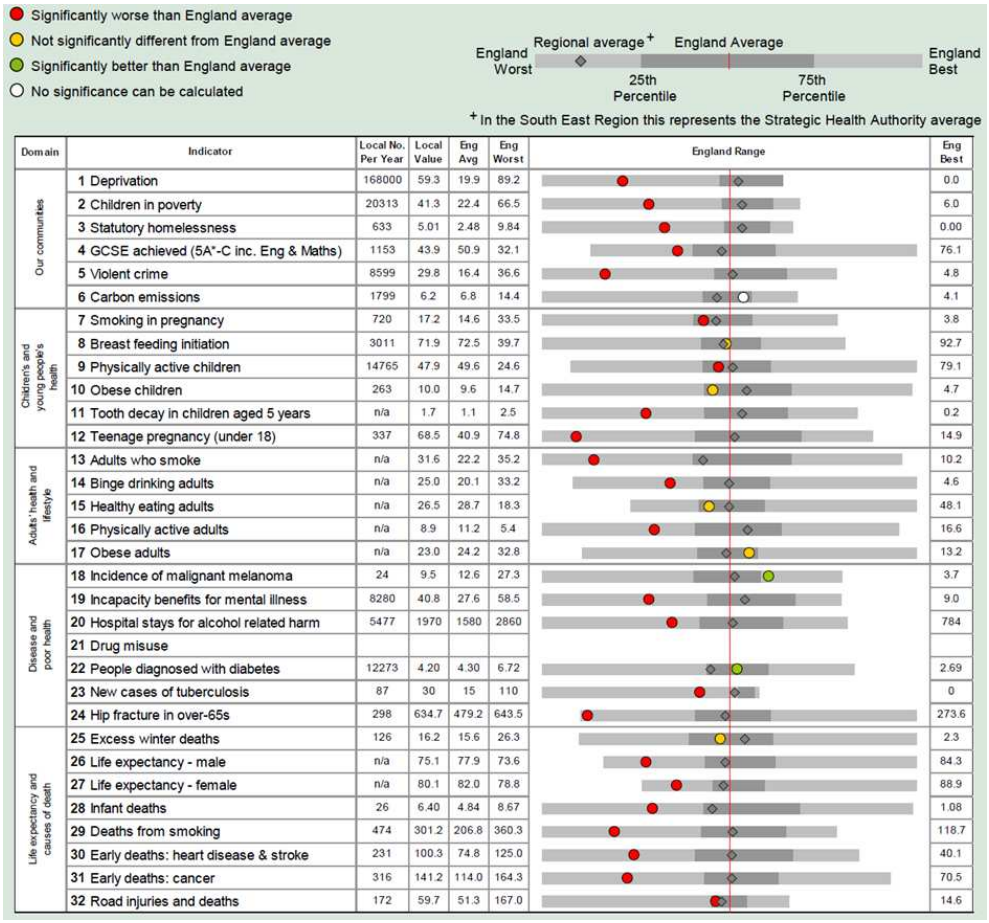
11.19 A conservative estimate is that this will lead to a reduction of approximately 25 million less vehicle kilometres (over the 10 year appraisal period). Further details of the economic appraisal including the impact on carbon, traffic noise and air quality are reported elsewhere in the appraisal.

11.20 We have also benchmarked this against comparator towns and cities to ensure our expectations are consistent with experience. Our track record in delivering transformational change across Nottingham on pioneering public transport projects and the Workplace Parking Levy provides confidence that the expected outcomes will be achieved.

Impact on the least active groups

11.21 We have looked carefully at the health inequalities across Nottingham and built our proposals to fit with the spatial distribution of those most at risk from poor health associated with inactive lifestyles. With regard to the specific issues of inactive adults and children, Nottingham is above the national average, contributing to a higher than average level of early deaths from heart disease and strokes (as shown in figure 11-1).

Figure 11-1: Early deaths from heart disease and strokes



Domain	Indicator	Local No. Per Year	Local Value	Eng Avg	Eng Worst	England Range	Eng Best
Our communities	1 Deprivation	168000	59.3	19.9	89.2		0.0
	2 Children in poverty	20313	41.3	22.4	66.5		6.0
	3 Statutory homelessness	633	5.01	2.48	9.84		0.00
	4 GCSE achieved (5A*-C inc. Eng & Maths)	1153	43.9	50.9	32.1		76.1
	5 Violent crime	8599	29.8	16.4	36.6		4.8
	6 Carbon emissions	1799	6.2	6.8	14.4		4.1
Children's and young people's health	7 Smoking in pregnancy	720	17.2	14.6	33.5		3.8
	8 Breast feeding initiation	3011	71.9	72.5	39.7		92.7
	9 Physically active children	14765	47.9	49.6	24.6		79.1
	10 Obese children	263	10.0	9.6	14.7		4.7
	11 Tooth decay in children aged 5 years	n/a	1.7	1.1	2.5		0.2
	12 Teenage pregnancy (under 18)	337	68.5	40.9	74.8		14.9
Adults' health and lifestyle	13 Adults who smoke	n/a	31.6	22.2	35.2		10.2
	14 Binge drinking adults	n/a	25.0	20.1	33.2		4.6
	15 Healthy eating adults	n/a	26.5	28.7	18.3		48.1
	16 Physically active adults	n/a	8.9	11.2	5.4		16.6
	17 Obese adults	n/a	23.0	24.2	32.8		13.2
Disease and poor health	18 Incidence of malignant melanoma	24	9.5	12.6	27.3		3.7
	19 Incapacity benefits for mental illness	8280	40.8	27.6	58.5		9.0
	20 Hospital stays for alcohol related harm	5477	1970	1580	2860		784
	21 Drug misuse						
	22 People diagnosed with diabetes	12273	4.20	4.30	6.72		2.69
	23 New cases of tuberculosis	87	30	15	110		0
	24 Hip fracture in over-65s	298	634.7	479.2	643.5		273.6
Life expectancy and causes of death	25 Excess winter deaths	126	16.2	15.6	26.3		2.3
	26 Life expectancy - male	n/a	75.1	77.9	73.6		84.3
	27 Life expectancy - female	n/a	80.1	82.0	78.8		88.9
	28 Infant deaths	26	6.40	4.84	8.67		1.08
	29 Deaths from smoking	474	301.2	206.8	360.3		118.7
	30 Early deaths: heart disease & stroke	231	100.3	74.8	125.0		40.1
	31 Early deaths: cancer	316	141.2	114.0	164.3		70.5
	32 Road injuries and deaths	172	59.7	51.3	167.0		14.6

11.22 The infrastructure provided by the NCCAP bid is complementary to the Health and Well Being programmes by ensuring that the network for cyclists is fit for purpose and provides a safe and attractive opportunity for those referred through the various health improvement programmes (see below). The Public Health team have contributed to all aspects of the bid, and have assisted in ensuring the network improvements will assist their work in this respect.

Impact on pedestrians, including hard to reach (seldom heard) groups

11.23 The NCCAP will have a positive impact on pedestrians. The NCCAP has been considered carefully from both a cyclist and pedestrian perspective. The design of the measures within the NCCAP has been tailored to ensure they prioritise high quality corridors for cyclists on the linear routes coming into/out of the City Centre. Within the core City Centre where cyclist and pedestrians co-exist, the NCCAP use high quality public realm enhancements to further support the retail and commercial core of the city, whilst enabling cyclist and pedestrians to jointly use the space in an equitable way. This will include the use of shared space principles, manual for streets design codes, and will build on Nottingham's recent

experience of high quality urban design (traffic has already been removed from these roads with only buses and wheelchair accessible taxis allowed in).

11.24 Outside of the core urban area the NCCAP will have a further direct positive impact on pedestrians, through the involvement of both pedestrians and cyclists in the design and delivery of community enhancements. Our LSTF programme is establishing community travel hubs, which provide a central focus for local level transport improvements. These are being delivered by local champions, charitable groups and volunteers and provide outreach to support walking and cycling (as part of the active travel programme and 'Decade of Better Health'). We will build on this network to ensure the final detailed design of the NCCAP community components directly meet the need of local pedestrians and cyclists, using participatory techniques to finalise the detailed design (outline design is already complete).

11.25 This approach ensures we engage with 'hard to reach groups (seldom heard)' not only through the strategic planning of the infrastructure, which joins many of Nottingham's disadvantaged communities, but also through an inclusive detailed design process, and on-going community led events and marketing. The latter forms part of our on-going LSTF programme, combined with additional local contributions towards community focussed smarter choices campaigns beyond 2015. This approach ensures that the infrastructure delivered through our NCCAP bid is well used by those hard to reach groups that we are seeking to target.

11.26 Table 11-3 summarises how the NCCAP targets specific hard to reach groups. Across all groups the NCCAP programme has potential to promote community cohesion by making it easier for groups such as people with a disability, women, older, LGBT and people from ethnic minorities to contribute to the community-orientated design activities that are included.

Table 11-3: Targeting specific hard to reach (seldom heard) groups

Comment [m1]: Use of groups and wording to consider

Hard to reach group	NCCAP contribution
Children	The measures involving improvements to off-road track, park and neighbourhood cycle path infrastructure will facilitate a range of early intervention initiatives aimed at working with children and young people (some with learning difficulties and low literacy levels) to support them in adopting cycling as their preferred transport mode.
Older people	The off-road infrastructure included in the programme (the River Leen path and improvements to cycle paths in and around the major parks) will make recreational trips by older people easier and more accessible. The park-related elements will also provide a better, safer environment for older people to learn to cycle and try out new skills.
Disabled people	The off-road infrastructure included in the programme (the River Leen path and improvements to cycle paths in and around the major parks) will make recreational trips by wheelchair users easier and more accessible. The park-related elements will also provide a better, safer environment for disabled people to learn to cycle – either on a one-to-one basis or as part of organised

	disabled cycling initiatives. This is already up and running but will be expanded into the improved Parks.
Black and Minority Ethnic (BME) communities	Particular attention will be paid to ensuring that new infrastructure is safe and well-lit, helping to improve the security of riders and pedestrians who belong to ethnic minorities. Through organisations like Ridewise we have and will continue to directly target minority groups to help break-down barriers as to why more people don't cycle.
Faith communities	Particular attention will be paid to ensuring that new infrastructure is safe and well-lit, helping to improve the security of riders and pedestrians who belong to visually identifiable religious. We will explore opportunities to increase cycle parking at places of worship.
People on low incomes	The focus is on providing the infrastructure to support cycling across all groups, but the supporting measures already in place and enhanced by match funding ensure people on low income can have access to low cost or free bikes, accessories and the skills necessary to maintain their bike in the long term (for example, in support of the NCCAP bid NCC have recently bought 300 bikes which will be offered to people looking for work to help them get to interviews and hopefully the subsequent employment).
Groups who traditionally find cycling inaccessible – women non-cyclists	Particular attention will be paid to ensuring that new infrastructure is safe and well-lit, helping to improve the security of women riders and pedestrians. Off road provision (River Leen) provides dedicated and safe route for new cyclists. The bid will improve the conditions for those already cycling but will also make conditions acceptable for the many people who want to cycle but don't and they will feel confident enough to cycle around Nottingham.

Part of a holistic approach to increasing cycling and walking

11.27 Our NCCAP bid sits alongside a much wider investment in improving conditions for pedestrians and cyclists which is encouraging further trips on foot and by bike across the City. The investment over recent years is already starting to show signs of real success, for example in 2010 The Campaign for Better Transport ranked Nottingham as the least car dependent city in the UK, building on Nottingham's history of investing in public transport with a clear commitment to walking and cycling as part of an holistic approach. Nottingham is also currently the Transport Times' Transport City of the year. In this respect the opening two paragraphs of the Nottingham Local Transport Plan provide a fitting context within which the NCCAP sits.

Over the past decade Nottingham has built up a high quality integrated and efficient transport system. As individuals, the transport we use is integral in assisting a wide range of activities to take place. Transport gives people choice, flexibility and opportunities to travel to

work, access education, healthcare and other services, allowing us to lead better quality lives. For local business, good transport is crucial in generating economic growth and enterprise, bringing with it job opportunities and creating access to other markets to ensure the city remains competitive. The Local Transport Plan (LTP) is the principal policy and investment tool through which the planning, management and delivery of transport improvements take place.

The LTP has been developed with a view to achieving wider health, socio-economic and environmental benefits to local citizens and businesses. Maintaining our current transport assets, the role of transport in supporting neighbourhood transformation, enabling enterprise, and providing and enhancing the sustainable transport system are core themes of this strategy.

11.28 Similarly, the forward to the Cycling Action Plan (2012-15) by Councillor Collins, Leader of Nottingham City Council, provides a clear and unwavering level of support for cycling as part of a holistic approach.

Nottingham has a great cycling heritage, as the birth place of one of the world's most famous cycling manufacturers, Raleigh. This plan is launched in the year that has seen Britain host the Olympics and British Success in the Tour De France. Nottingham has also played its part and has seen some of the world's top cyclists ride through our streets as we hosted an opening leg of the Tour of Britain. There has also been plenty for the non professional cyclists amongst us. Following the successful launch of EON Cycle Live, we will continue to provide the weekend of activities, catering for the competitive amongst us, families and those just looking to get back on their bike.

Of course we also need to ensure that the roads and paths are suitable for those of us who cycle as part of our daily lives and we also need to address the reasons as to why some people, who would like to cycle, do not. It is for all these reasons that we have updated our Cycle Action Plan.

This plan is bold. We will deliver on our commitment to make our roads a better place for cyclists. We will give cyclists better priority on our main routes as well as reduce speeds to 20mph in residential areas. I want people to be able to get to work quickly and safely on our roads by bike, for cycling to be a daily activity allowing people to get around and for many more people to be able to enjoy cycling in our City.

I look forward to seeing the benefits this plan will bring to our City.

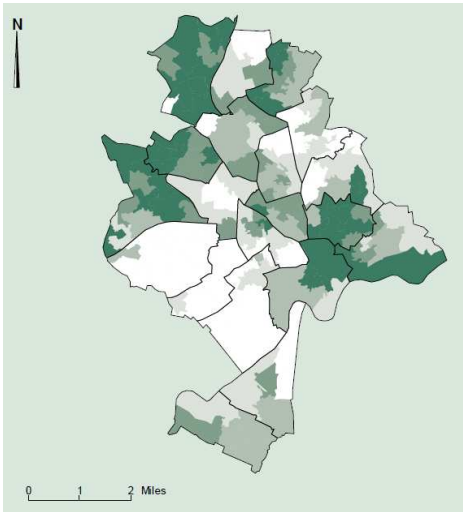
11.29 Cycling and walking are however seen much more widely as important drivers of change across Nottingham. The Economic Plan makes a clear commitment to building a 21st century infrastructure and getting development moving through the enterprise zone, Creative Quarter, regeneration zones and targeted investment programmes centred around sustainable access. The NCCAP provides a platform to link these areas together, and link them with areas of population, to ensure all development opportunities can be unlocked through an access strategy which centres on walk, cycle and public transport connections. Similarly, walking and cycling interventions are integral to our health and well being strategies, most notably through our work on the Decade of Better health and referral

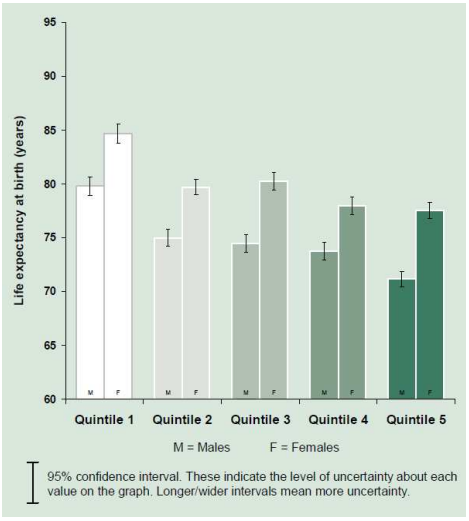
programmes to encourage more cycling and walking and supporting programmes to nurture people back into cycling and walking as part of their everyday active lifestyles. The NCCAP bid provides a rapid acceleration of new infrastructure which directly supports the work of these health focussed programmes.

Impact on improving the health of the local population and reducing health inequalities, in particular by targeting the most physically inactive groups.

11.30 The 2010 public health profile sets out a clear picture of the issues that Nottingham faces and the important role that more active lifestyles associated with increased walking and cycling can play. It is estimated that there are currently 28,000 people in people that need to take more exercise. The following is a snapshot of the key issues:

- *The health of people in Nottingham is generally worse than the England average. Deprivation levels are high and life expectancy is lower than the average for England. Rates of infant deaths, deaths from smoking, hospital stays for alcohol related harm, new cases of tuberculosis and road injuries and deaths are all higher than the England average.*
- *There are inequalities in Nottingham by gender and level of deprivation. For example, life expectancy for men living in the least deprived areas is 9 years higher than for men living in the most deprived areas.*
- *The Nottingham Local Area Agreement has prioritised reducing smoking, road accidents, child obesity, teenage pregnancy and early deaths from heart disease and stroke, increasing physical activity, and improving alcohol and drug misuse treatment.*
- *The map below shows differences in deprivation levels in this area based on local quintiles (of the Index of Multiple Deprivation 2007 by Lower Super Output Area). The darkest coloured areas are the most deprived in this area. The chart shows the life expectancy at birth for males and females (2004-2008) for each of the quintiles in this area.*





11.31 Nottingham is making great strides in improving public health and putting active travel at the heart of this programme. For example, the health improvement services programme (see http://www.nottinghamcity.gov.uk/dobh/index.aspx?articleid=13246) sets out a clear agenda for change. This includes:

- *Cycling for Health* - a service delivered by Ridewise CIC offering a range of free cycle training sessions and organised group rides for people in Nottingham. Ridewise helps people to improve their confidence and skills to get cycling safely, either on or off the road from venues around the city. Cycling for Health provides regular weekly rides that are nice and easy, lasting between 45 - 60 minutes at a gentle pace along quiet roads and cycle paths. Rides are suitable for people who have a basic level of cycling and the rides are led by Cycling Instructors or experienced Ride Leaders but under 14s must be accompanied by an adult. If people don't have a bicycle, then Ridewise provide loan bikes free of charge for three months at a time. As well as this service, Ridewise provide schools cycle training, route advice, bike buddies and cycle maps. A new cycle planner is also available which allows people to plan cycle routes in selected areas around Nottingham, and to choose whether you prefer the quickest or quietest route.
- *Healthy Change* - a new, innovative referral and support service for adults living in Nottingham who are at risk of developing heart disease. If you smoke, are overweight, physically inactive and/or have a poor diet, Healthy Change can help individuals and families to adopt a healthier lifestyle with:
    - Telephone access to trained staff who will assess needs and ensure easy access to the right support services, which could include the Physical Activity on Referral Service, Slimming World on Referral, Cook and Eat sessions, Cycling for Health and Best Foot Forward.
    - On-going individual motivational support and coaching.
- *Physical Activity on Referral Service* – which offers a 12 week exercise and education programme to support people to become more active and make healthy lifestyle choices. The programme is free of charge and includes free access to the Nottinghamshire YMCA Active for Life Health and Fitness Centre and various community classes around the city.
- *Best Foot Forward* - a programme of free short guided health walks around various open spaces in the city. These walks are free, everyone is welcome and they provide a great opportunity to improve your health, make new friends and have some fun.
- *Pledge programme* - to encourage individuals to pledge to ‘walk more’ or ‘go for a walk around the park with your children’.
- *Nottingham’s Sport and Leisure Department* – Learn to ride for 4 – 8 year olds, Sportivate for 14 – 21 minority groups and Adults coaching into Cycling.

11.32 The NCCAP bid focuses on providing the infrastructure necessary to connect communities with particular issues of health inequality and less active groups, to employment opportunities, parks and recreational opportunities. Once this provision is in place the supporting behavioural change work coordinated through the transport, health and economic teams, directly facilitated by the local champions and community groups, will provide a powerful platform for change at the local level. By reaching out to our target group in this

way we are able to nurture them into a culture of cycling, whilst ensuring they have safe, attractive and high quality cycle routes to use for their daily activities. Complimentary work on cycle training, health referrals, guided walks / rides, ledges and events (as described in the Decade of Better Health above) will all contribute to the shift in cycling culture across the City.

Well being impacts through improved public realm

11.33 Nottingham is renowned for providing the highest standards of public realm. It forms a key part of the city offer, and plays a major role in attracting businesses and people to the City. Despite the national economic downturn Nottingham remains a thriving place to live and work, with a growing young population, and a committed Growth Plan that has widespread support amongst business leaders and stakeholders that is bold, achievable and directly tackles the barriers to growth. Maintaining a strong sense of place and identity is inherent within these wider plans.

11.34 The NCCAP offers the potential to further extend the connectivity and reach of the City Centre, employment, public services, retail, leisure and education provision, whilst at the same time improving the overall public realm and attractiveness of the City Centre.

Cycle infrastructure plans that also support walking and do no harm to the pedestrian environment.

11.35 The NCCAP programme has been developed to promote cycling and enhance the pedestrian environment. This is summarised as follows for each of the main components of the bid.

- Cross city routes and City Centre enhancements **(neutral / slight positive):** Corridors focus on the on-road network providing high quality, direct and attractive routes, largely through the re-allocation of road space. Impact on pedestrians on the strategic routes is neutral, with some positive impacts in the City Centre through improved public realm and reducing the impact of traffic
- River Leen and access to parks **(large positive):** Creates a new cycle and pedestrian route with significant benefits for pedestrians (for both amenity and leisure walks).
- Neighbourhood improvements **(slight positive)**: Will create better public realm, reduced traffic speeds and greater awareness of walking and cycling, hence will have slight positive impact on pedestrians.

Assessment of capability to model impacts and set out high level delivery milestones for the next 2 years

11.36 The economic appraisal has been conducted in accordance with WebTag requirements and is based on data derived from:

- The validated Nottingham transport model (as used in the successful LSTF bid) to provide the overall levels of transport demand
- Attitudes of local people and businesses derived from the 2012 Big Ideas survey of transport issues across Nottingham (2,000 citizens and 200 businesses)
- Local network of cycle counts to gain an understanding of baseline cycle usage

- Case study experience of comparable towns and cities which have undergone similar types of cycling improvements
- Local experience of success based on monitoring of recent delivery programmes

11.37 We have undertaken several sensitivity tests on the model outcomes to ensure our assumptions are robust. All assumptions and model parameters are reported transparently in the *economic case* documentation.

11.38 High level delivery milestones are shown in the Gantt chart which is included in the *management case*. Deliverability and affordability were pass or fail criteria in the early screening options, ensuring that all options carried forward had confidence that they could be delivered within the June 2013 to March 2015 time-period.

Appendix A
Evidence supporting scheme components

Change in cycling mode share in European cities

City	From	To	No. of years	Baseline mode share	End mode share	Average annual increase in cycling flows
Strasbourg	1996	2002	6	8%	12%	+7.0%
Vienna	1986	1999	13	2%	4.5%	+6.4%
Graz	1979	1991	12	7%	14%	+5.9%
Munich	1980	2002	22	4%	13%	+5.5%
Hanover	1979	1990	11	9%	16%	+5.4%
Freiburg	1976	1992	16	10%	20%	+4.4%
Munster	1981	1992	11	29%	43%	+3.6%
Zurich	1981	2001	20	7%	11%	+2.3%
Delft	1979	1985	6	40%	43%	+1.2%

Extract from Analysis and synthesis of evidence on the effects of investment in six Cycling Demonstration Towns, DfT (2009) - Attrib. Transport for London (2004) Creating a Chain Reaction: the London Cycling Action Plan. Average annual increase in cycling flows' has been derived from the change in mode share by TfL and gives compound percentage growth rate required to achieve the reported change in mode share between baseline and end date.

Component	Evidence Summary	Source
Overall	**BRISTOL** Bristol has invested on a similar scale to that proposed in Nottingham, with the current (2011) mode share for journeys to work being 7.7% (compared to the current Nottingham figure of 3.5% and a NCCAP target of 7% by 2016). The project, spanning two and a half years, led to an increase in investment of spend per head of population to £16 per annum, with the vision of more people cycling, more safely, more often. This funding was split according to population size, equating to 72% for Bristol and 28% for South Gloucestershire. The programme aimed to: • Double cycling to work • Double cycling to school • Double cycle flows counted on existing cordons and screen lines • Double the provision of on-street cycling parking • Double the number of people who see cycling as a realistic travel option in Greater Bristol Key measures: • Introduction of signed 20mph Limits in 2 areas • Tackling pinch points • On-road and traffic-free improvements • Addition of more cycle parking and wayfinding signage • Grant schemes • Business and resident engagement	Greater Bristol Cycling City End of Project Report – Bristol City Council & South Gloucestershire Council (2011)
Connection of existing cycle routes and development of new routes to provide continuous, high quality cycle network	**VIENNA** **Scheme** Cycle route network extended from 200km in 1991 to 900km in 2002 (out of a total of 2,730km roads). Key measures: • Completion of network • Closing gaps • Opening one-way streets • 20mph zones **Benefits** • Share of cycling trips up from 1.5% (1991) to 4.5% (2001) - 180% increase	Analysis and synthesis of evidence on the effects of investment in six Cycling Demonstration Towns – DfT (2009)

Component	Evidence Summary	Source
	LANCASTER & MORECAMBE **Scheme** The priority of the 2008/11 infrastructure programme was the City Centre of Lancaster. Schemes were developed to overcome the barrier presented to cyclists by the gyratory system around the core area and to improve permeability and access into and across the pedestrian zone. Key measures: • 4 Contra flow cycle lanes, • 3 Toucan crossings on cross town routes • 7 new or improved on road cycle lanes • Completion of missing links **Effects** • To be reported – draft CDT evaluation report was removed from DfT web-site	
	CYCLING DEMONSTRATION TOWNS The first phase of the Cycling Demonstration Towns programme ran from 2005 to 2008 and saw six towns across England receive funding which aimed to significantly increase cycling levels. Cycling England invested £7m across three years which was supplemented with match-funding. The six towns were: • Aylesbury • Brighton & Hove • Darlington • Derby • Exeter • Lancaster with Morecambe An average of 79% of total budget was spent on infrastructure. An average of 12% of budgets were spent on activities related to marketing and enabling cycling **Benefits** • Cycling levels increased by an average of 27% between 2006-2008 • Percentage of the adult population cycling for at least 30 minutes once or more per month increased from 11.8% to 15.1% between 2006 - 2008 All six towns showed an increase in the proportion of adults doing any cycling in a typical week, ranging from +6% to +29%, between 2006 and 2009, according to the ICM survey	Analysis and synthesis of evidence on the effects of investment in six Cycling Demonstration Towns – DfT (2009)

Component	Evidence Summary	Source
Neighbourhood level cycle and pedestrian improvements	**DARLINGTON** **Scheme** Several branded radial routes were developed. These focused on the quietest, not necessarily the shortest, routes to destinations and made use of quiet streets and traffic free routes. The new routes were designed to run broadly parallel to the key road routes. In total, 22km of new cycle route was created through the programme (bringing the total for the town to 41km), as well as 13 toucan crossings, and over 100 new cycle parking spaced were installed in the town. **Benefits** • Cycle counts show an increase of 57% against 2005 baseline • The proportion of adults cycling per week[1] has increased by 6% (+1.2%-points from 21.3% to 22.5%)	Analysis and synthesis of evidence on the effects of investment in six Cycling Demonstration Towns – DfT (2009)
	BOOTLE **Scheme** Series of improvements to an existing route close to several schools. Key measures: • Re-surfacing • Some new route construction • Marking, signalling and lighting **Benefits** • Annual growth in cyclist numbers of 5% between 2005-11	Economic Appraisal of local walking and cycling routes - Sustrans (2006)
	HANOVER **Scheme** Development of cycle routes and speed reduction to enhance the cycling conditions. Key measures: • 450km cycle routes (on a total of 1,360km roads) • 120 20mph zones • Cycle parking service points in the City Centre **Benefits** • Cycling mode share of trips increased by 78% from 9% (1979) to 16% (1990)	Analysis and synthesis of evidence on the effects of investment in six Cycling Demonstration Towns – DfT (2009)

[1] Change in the proportion of adult residents doing any cycling in a typical week in the previous year (household surveys)

Component	Evidence Summary	Source
	BRISTOL **Scheme** This pilot scheme saw the introduction of 'signs only' 20mph speed limit in Inner South and Inner East Bristol covering approximately 500 roads and 30,000 households. **Benefits** • The scheme has led to a small reduction in average daytime vehicle speeds and an increase in walking and cycling counts, particularly at weekends. • Increase in counts for cycling range from 4% increase to 37% increase, according to the same variables. • Pedestrian activity increased by 1% on a weekday and 12% on the weekend in the Inner South area • Cycling levels increased by 4% on a weekday and 12% on a weekend in the Inner South Area. • Pedestrian activity increased by between 10% (rain affected) and 15% on a weekday and between 21% (rain affected) and 36% on the weekend in the Inner East Area . The inner east area saw a total increase in weekday cycling levels of between 8% (rain affected) and 23% and weekend cycling by between 22% (rain affected) and 37%. • The scheme has not had any impact on bus journey time reliability • The scheme was supported by local residents, 89% supported 20 mph on all residential streets and 56% supported 20mph on 'main' roads. Over a third (35%) of respondents from the main roads felt roads were safer following the • 20mph limits being installed.	20mph Speed Limit: Pilot Areas: Monitoring Report, Bristol City Council (2012)
Provision of Greenway package of off-road cycle paths and improvement of cycle paths within and around major parks.	**COUNTRY LANES** (Brockenhurst, Hampshire) **Scheme** Country Lanes is a cycle hire company based at Brockenhurst Railway Station, in the New Forest National Park. **Benefits** Cycle tourism has economic benefits for: • Accommodation providers • Train/bus/taxi operators • Local employees • Suppliers of equipment • Local business services • Regional restaurants, pubs and shops	Sustaining a Vibrant Cycling Culture in Leisure and Tourism - Achmatowicz, S. (2006)

Component	Evidence Summary	Source
	EUROVELO (The European Cycle Route Network) **Scheme** The European Cyclists' Federation (ECF) is coordinating the development of a network of high-quality cycling routes that connect the whole of Europe. The scheme, known as Eurovelo, currently comprises of 14 routes and it is envisaged that the network will be substantially complete by 2020. **Benefits** There are an estimated 2.295 billion cycle tourism trips in Europe with a value in excess of €44 billion per annum. In the UK it is estimated that there are 149 million day trips and 1.23 million overnight trips which contribute €2.83 billion to the economy. On average, overnight holiday cyclists (staying more than 2 nights) spend €71 per day, of which €28 is on accommodation and €25 on food and drinks (Attrib. Ickert et al., 2005; Utiger & Ickert, 2005). Overall average daily spending by day excursionists is €28 per person per day, but €19.40 in rural areas, €23.90 in small and medium-sized towns and €35.10 in cities over 100,000 inhabitants. Expenditure on day excursions by German tourists abroad is €45 on average (attrib. Maschke, 2005). Spending by day cyclists is only slightly lower than spending by the average day excursionist (€15.39 vs. €19.40).In the UK the daily overnight spending in 2006 was €53.00 and €15.50 for day cyclists	The European Cycle Route Network – Eurovelo, Richard Weston (2012)
Cycle hire scheme	Public bike hire schemes can encourage leisure and utility cycling. Cycle hire schemes allow residents and visitors to cycle without the need to purchase, store and maintain a bicycle, thus removing some of the 'barriers' to starting cycling, particularly for city dwellers where it can be difficult to provide secure cycle parking at home or work. Cycle hire schemes also offer potential employment opportunities and all of the benefits that cycling offers to users and non-users.	Smarter Measures Portfolio: Public Bikes and Cycle Hire Schemes, Cycling England (2009)

Component	Evidence Summary	Source
	VELIB, PARIS **Scheme** Velib is a smartcard-operated public cycle hire scheme which started in 2007 with 10,648 bicycles and 750 docking stations located around the City Centre. Docking stations were located at key sites such as public transport stations, tourist attractions and along commuter routes. The scheme subsequently expanded to 20,000 bicycles and 1,250 docking stations. The scheme operates 24 hours a day, 7 days a week with docking stations located approximately every 300 metres, however, concentrations are higher in core areas. There is a ratio of 1.7 docking stations for every bicycle to help ensure that a docking space is always available to users. **Benefits** • In its first year Vélib' had 198,913 annual subscribers, 277,193 seven day subscribers and 3,683,714 one-day subscribers. The fleet of bicycles were rented 26 million times with an average journey time 18 minutes.	Smarter Measures Portfolio: Public Bikes and Cycle Hire Schemes, Cycling England (2009) Smarter Measures Portfolio: Public Bikes and Cycle Hire Schemes, Cycling England (2009)
	BICING, BARCELONA **Scheme** Bicing was implemented in Barcelona in May 2007, with a contract awarded to advertising company Clear Channel, who also operate schemes in Oslo, Stockholm and Lyon. The scheme initially operated with 1,500 bicycles and 100 docking stations which were located strategically around the City Centre. The scheme has subsequently been expanded and now operates with 6,000 bicycles and 400 docking stations. **Effects** • By November 2007, little more than 6 months after commencing, the system had 90,000 registered users and an average of 22,000 trips a day, 15 trips per bicycle. The average trip is 3km and has a duration is 15 minutes. The peak periods of use are between 08:00-10:00 and 14:00-16:00, however, the greatest demand occurs in the evening at around 20:00. • In February 2009 the scheme had 186,000 registered users, representing 9% of the city's total population.	Feasibility study for a central London cycle hire scheme – Transport for London (2008) Smarter Measures Portfolio: Public Bikes and Cycle Hire Schemes, Cycling England (2009)