

## 4.0 Our Objectives and their Delivery

This chapter describes the Council's strategy to improve the Borough's transportation infrastructure and help achieve the wider goals set by the Council. A costed programme of works is provided for the financial years 2011/12 through to 2013/14.

Each year, a programme of schemes is drawn up which is influenced by factors such as:

- The Greenwich Strategy
- The Local Development Framework/ Unitary Development Plan
- The Borough Street Maintenance Plan
- The Winter Service Plan
- The Road Safety Plan
- The Sustainable Modes of Travel Strategy
- The programme of traffic surveys,
- The annual Greenwich Resident survey
- Public Transport usage surveys
- Local concerns which have been brought to our attention
- Data forming what will become the Highway Asset Management Plan

The goals of the Mayor's Transport Strategy are also taken into account  
These goals are to:

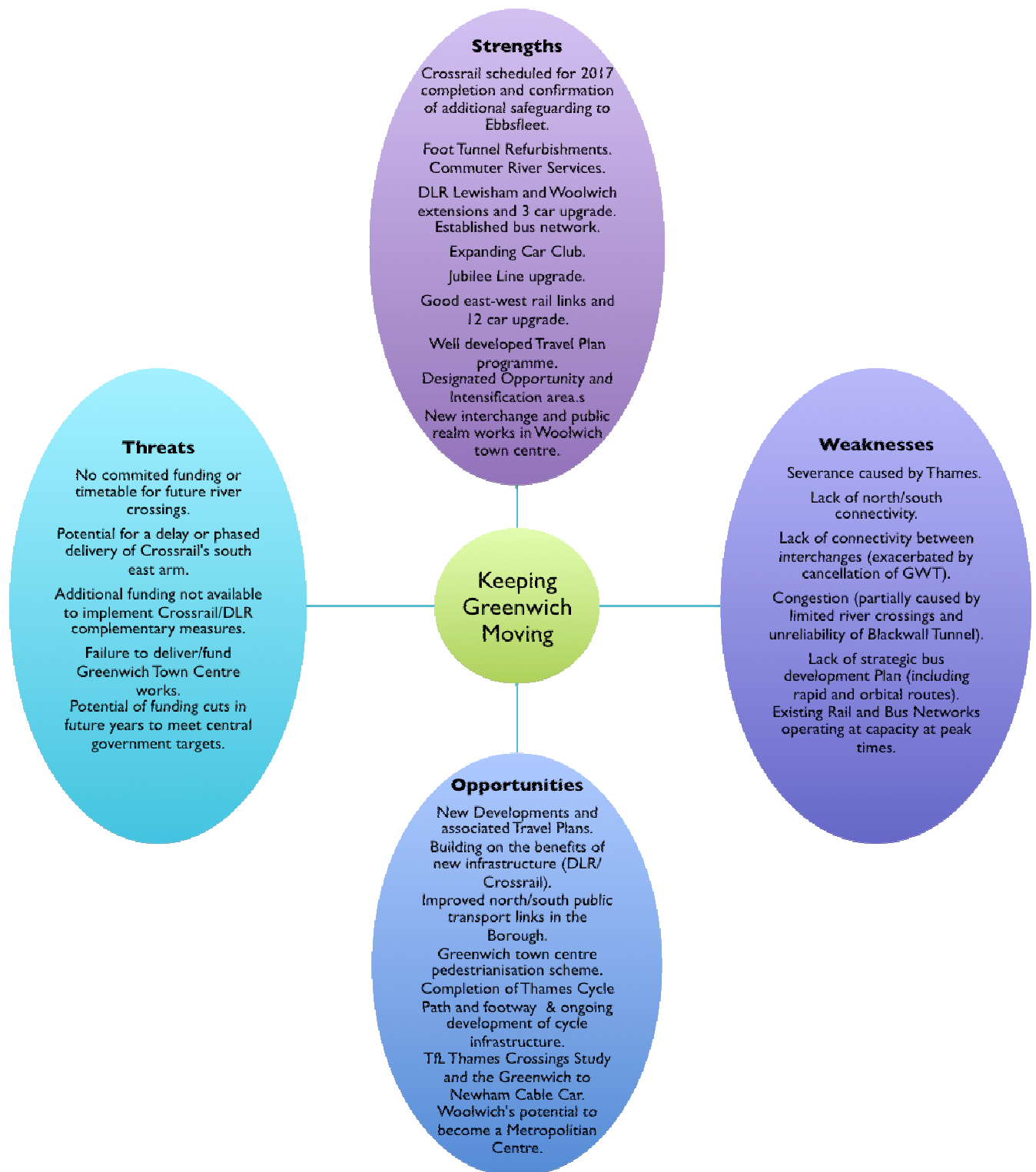
1. Support economic development and population growth
2. Enhance the quality of life for all Londoners
3. Improve the safety and security of all Londoners
4. Improve transport opportunities for all Londoners
5. Reduce transport's contribution to climate change and improve its resilience
6. Support delivery of the London 2012 Olympic and Paralympic Games and its legacy

A programme of proposed works is developed and the schemes are prioritised in terms of the factors listed above, along with an evaluation of their benefit to cost ratio.

## 4.1 Strengths, Weaknesses, Opportunities and Threats (SWOT)

While there are many positive aspects of transport provision in the Borough, there are physical and financial constraints which can impact on improving transport. This can in turn, affect travel opportunities including access to education, employment, health, social and leisure. Our Delivery Plan aims to make the best use of our strengths and opportunities to improve areas of weakness and minimise threats to transport provision in Greenwich.

**Figure 4.1: Summary of Strengths, Weaknesses, Opportunities and Threats in Greenwich**



## 4.2 Local Challenges and Opportunities

The following section sets out Greenwich's response to dealing with the challenges that have been identified in the Mayor's Transport Strategy (May 2010). Overcoming these challenges will help move towards achieving the Mayor's transport goals over the course of the next 10-15 years. In tables 4.1 to 4.16 the challenges have been looked at within the context of local issues facing Greenwich, and which have helped to shape this Plan's strategic objectives (shown first on page 7). Each of the tables then goes on to show key examples from the delivery plan for addressing the issues. It should be noted these are examples of how the specific challenge might be tackled, and is not an exhaustive list.

At the end of this section Table 4.17 links the Objectives with both the wider Greenwich strategies and those set out in the Mayor's Transport Plan. This is followed by Figure 4.3 which sets out the challenges and opportunities faced in the wider south-eastern sub region and Thames Gateway

## 4.3 Goal 1: Supporting Economic Development and Population Growth

**Table 4.1: MTS Challenge 1: Support sustainable population and employment growth**

<b>MTS Challenge 1: Support sustainable population and employment growth</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
1	Investment in public transport, walking and cycling is essential to facilitate continued growth despite difficult economic conditions. Predicted population growth outstrips the predicted increase in jobs. Predictions for local employment will not meet the needs of the growing local population.	1	1, 3, 4, 6, 7, 8, 10, 11, 12	To continue to work with TfL and to use contributions from developers to maximise the access to committed transport infrastructure. To invest in bus priority improvements, walking and cycling measures to allow inter modal journeys to be achieved smoothly (for example complimentary measure that will allow access to the Crossrail Stations at Abbey Wood and Woolwich)
2	Improved public transport links between employment areas in the north and residential areas in the south of the Borough are necessary to assure and support growth.	1, 4	1, 2, 6, 7, 11, 12	To work with TfL towards a holistic strategic review of bus provision and future demand in the Borough. In 2010 this began with a review of the bus strategy for Greenwich Peninsula in partnership with both TfL and stakeholders
3	Limited cross river connectivity will stifle economic growth. The notable lack of north-south river crossings in East London, compared to those available in the West and Central London, poses a real barrier to business and regeneration.	1, 2, 4, 5	9, 10	The Council is supportive of the review of river crossings which is being undertaken by TfL, but is continuing to stress the necessity of this to have commitment to the schemes in both funding and timeframe.

Greater economic activity in the borough, increased population, higher demands to access jobs, labour and essential services alongside higher demands to participate in leisure activities will inevitably create an increased demand for travel. There are also conflicting demands which must be balanced such as the differences between the uses that are attractive to the market and those wanted by local communities.

The population in Greenwich will increase considerably in the next few years. In 2010, the population of the Borough was 235,000. By 2027 this is projected to reach 288, 000, representing a 22.6% increase. Greenwich's transport networks must adapt appropriately to meet these needs. There is a need to ensure that capacity and demand are balanced and where possible look towards ways of reducing the need to travel.

The Draft London Plan identifies a number of Opportunity Areas which include: Greenwich Peninsula, Charlton Riverside, Woolwich, Deptford Creek / Greenwich Riverside, Thamesmead and Abbey Wood. Kidbrooke will experience greater development and has been identified as an area for intensification. Greenwich's housing growth targets, set out in London Plan, will primarily be met by providing housing in these Opportunity and Intensification Areas. Greenwich has the second largest housing target of all London Boroughs. (25,950 new dwellings between 2011 and 2020/21). In order for Greenwich to develop a sustainable pattern of growth, effective integration with land use planning will be required.

Greenwich's Draft Core Strategy indicates that 21,000 new jobs will be created in the Borough by 2027<sup>20</sup>. The Borough's town centres will remain as key contributors to economic activity and employment. To assure local economic growth, employment opportunities will also need to increase.

The causes of the relative underperformance of the outer London economy include the agglomeration effects identified in the GLA's Office Policy Review of 2007. This identified a 20-year trend for major employers either to cluster together in the West End or City/ Canary Wharf, or to seek new build premises in key locations, made more accessible by new road infrastructure, principally the M25. In Thames Gateway this has manifested in the loss of office based employment from our town centres, in addition to the loss of traditional manufacturing and river based industries over many years.<sup>21</sup> An important objective for Greenwich's economic regeneration is to maximise local employment and business benefits by developing key sites in the borough and across the Thames Gateway.

Predictions for local employment will not meet the needs of the growing local population. While completion of Crossrail is welcome, improvements to radial connectivity into London is required. The proposed package of three crossings at Silvertown, Woolwich and Thamesmead remains critical to successful economic development through improved access to employment opportunities north of the river.

The Borough's Core Strategy supports the development of an integrated and sustainable transport system. In particular,

- Policy C3 supports public transport schemes that are critical to the Borough's development.

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<sup>20</sup> Draft Core strategy (2010)

<sup>21</sup> Outer London Commission Consultation - Response by London Borough of Greenwich

- Policy C(a) – locating intense uses such as school and shops close to public transport, cycling and pedestrian nodes and interchanges, thus reducing the need to travel by car.
- Policy C4 advocates that the needs of pedestrians and cyclists are prioritised in the design and layout of developments.
- Policy C(b) – protection and enhancement of the Borough's footpaths and cycle ways and ensuring that new developments provide for the needs of these users.
- Policy C(c) – ensuring developments provide minimum parking provision. Supported by removing the need for car ownership and encouraging greater use of car clubs.

Greenwich Peninsula will continue to grow as a leisure destination; building on the O<sub>2</sub> Arena's standing as the most popular indoor entertainment venue in the world with increasing leisure, retail and entertainment uses. A new district centre will be established at Greenwich Peninsula as the area around the O<sub>2</sub> Arena continues to develop. A major new business and creative industries precinct will also be developed on the Peninsula.

Greenwich is a host borough for the Olympic and Paralympic Games. This will have a positive impact on the local economy in 2012. The Olympic legacy will offer significant benefits post 2012.

The TfL Business Plan identifies a number of planned infrastructure improvements within Greenwich, which will partly address the need for increased public transport capacity, facilitate walking and cycling and smooth traffic flows through the borough. These include:

- Constructing Crossrail, which will increase London's rail network capacity by 10 per cent, cutting journey times substantially and relieving congestion on many other rail and Tube lines
- The Blackwall Tunnel Northbound Refurbishment is due to be completed by 2012. The refurbishment includes new safety, lighting and communications systems.
- Woolwich Town Centre – Changes have already been delivered such as the ongoing redevelopment of the Royal Arsenal and the Love Lane sites. The opening of the Woolwich DLR extension in 2009 and Crossrail in 2018 bring major new infrastructure advantages to the area. Existing infrastructure has been developed to best effect and these changes have seen significant improvements to the public realm including the linking of the Royal Arsenal to the town centre by means of a 'super-crossing' of the A206 and the pedestrianisation of two sides of General Gordon Square.

**Table 4.2: MTS Challenge 2: Improve transport connectivity**

<b>MTS Challenge 2: Improve transport connectivity</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
4	The road network is extremely sensitive to the operation of the Blackwall Tunnel. The Borough has little resilience if disruption occurs	1, 4	9, 11, 12	The Council is supportive of the review of river crossings which is being undertaken by TfL, but is continuing to stress the necessity of this to have commitment in both funding and timeframe.
5	Links to the transport hubs at Woolwich, North Greenwich and Abbey Wood (for Crossrail) from the south of the Borough and Opportunity and Intensification Areas are essential to maximise use of the committed infrastructure projects	1, 2, 4	1, 3, 6, 7, 12	The Council is proactive in requiring access for public transport in and through new developments. However this requires a commitment for TfL in order to provide the transport and infrastructure necessary to link these developments to existing transport hubs. This is particularly crucial following the cancellation of Greenwich Waterfront Transit by the Mayor for London which would have linked Abbey Wood, Woolwich and North Greenwich
6	Improvements of links to the Queen Elizabeth Hospital (particularly from the west of the Borough) are required to address its general inaccessibility.	1, 2, 4	1, 3, 6, 11, 12	Queen Elizabeth Hospital is another destination which attracts sub regional visitors and as such needs to be part of the strategic bus review which the Council is asking TfL to undertake in partnership.

The vast majority of public transport provision within the Borough is delivered by buses and trains. However these modes are not able to provide the frequency and reliability of service that would be offered by an equivalent underground service, indicating that improvements or additions to these networks and services are still needed. Assuring improvements to the flow and reliability of passenger movements will help towards improving access to business and employment markets. Improving the speed and reliability of freight will enhance the efficiency of business operations and productivity.

Utilisation of the river as an asset for both freight and passenger movement is supported by Greenwich Council in allowing the free use of use of its pier at Woolwich for commuter services and the joint subsidy it provides to support the Thames Clipper rivers service extension to Woolwich. Section 106 conditions also require developers to use the river for the movement of materials to and from their sites where appropriate, and example of this was the removal of all spoil from the DLR tunnels between North Woolwich and Woolwich Arsenal by barge.

A standard measure of accessibility in London is the public transport accessibility level (PTAL) which uses the range, proximity and frequency of public transport services for any given location to score accessibility to the transport system at peak times. (See Figure 3.5 for the PTAL map). Access to public transport is good to the North of the borough, in particular Greenwich Peninsula (North Greenwich Underground Station) and Woolwich (Rail and DLR). However, residents to the East and South of the borough are reliant on rail and bus connections.

Significant trip generators need to be served well by public transport; currently this is not always achieved. An example of a development where an ongoing review of transport provision is required is Belmarsh Prison in Thamesmead. The Prison is expanding significantly; Belmarsh West will house an additional nine hundred inmates, and the recently

opened Isis unit is expected to reach capacity of four hundred and eighty inmates by 2011. There is a significant number of staff and visitors attending this site. Transport mitigation for the expansion focused on the implementation of Greenwich Waterfront Transit by 2011.

We will therefore work with TfL to support delivery of committed enhancements to the public transport provision in the borough. We will need to work with TfL and London Buses to increase bus capacity in the Borough.

Both the Blackwall Tunnel and Woolwich Ferry act as major traffic attractors for those travelling through the Borough. A significant challenge to support continued economic development is the limited reliability and resilience of the existing infrastructure. The Woolwich Ferry has been operational for many years and capacity cannot meet demand. The network is extremely sensitive to the operation of the Blackwall Tunnel. Greenwich has little resilience if disruption occurs, causing severe congestion across the entire network.

Completion of Crossrail will improve radial links, but intermodal connectivity will also be improved. The Borough is committed to ensuring that existing and proposed infrastructure is designed to meet the needs of pedestrians and cyclists. For example, at Abbey Wood cycling facilities will be provided to allow cyclists to securely leave their bicycles at the station for their onward journey.

Shorter journeys of typically less than 3km in the Borough will be made more attractive to encourage greater take up of sustainable modes. By utilising Smarter travel measures, people will have a greater awareness of the travel options that are available to them. Choosing to make these types of journeys by foot, bicycle or public transport can contribute to improved local air quality, healthier lifestyles and improvements in road safety.

**Table 4.3 MTS Challenge 3: Deliver an efficient and effective transport system for people and goods**

<b>MTS Challenge 3: Deliver an efficient and effective transport system for people and goods</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
7	Continued investment in the road network is required to maintain it in a state that is fit for purpose.	1, 2	2	The maintenance programme is funded by the LIP bids, additional work is being undertaken with the preparation of the Highway Asset Management Plan and investigation into other, innovative, funding models to maintain and improve the asset is also being undertaken by the Council.

Congestion on main routes, in part caused by commuting and through traffic, causes bus journeys to be unreliable, it has negative environmental impacts and causes accidents and hazards for pedestrians and cyclists. It can also stifle economic growth, affecting local business activities.

Growth in freight movement is expected with the number of Light Goods Vehicles forecast to grow by up to 30 per cent between 2008 and 2031, accounting for 15 per cent of traffic.<sup>22</sup>

The predominant traffic flows in the Borough are towards central London in the morning peak and vice versa in the evening peak. Roads with high flows are the A20 from the boundary with Bexley towards Lee Green, and the A2 from the Bexley boundary to the Sun in Sands roundabout and then west towards Deptford. Much of the A2 traffic joins the A102 to head for the Blackwall Tunnel. In the morning peak the northbound queues at the tunnel start at around 6.30AM. The A207 Shooters Hill and Shooters Hill Road also carry high flows of traffic, most of which heads for the Sun in Sands roundabout to join the A2 traffic heading west or north via the A102 to the tunnel.

Plumstead Road also carries high flows, being an extension of the South Thames Distributor Road. The A2016 brings traffic in from the east in the morning, but joins the A206 Plumstead Road resulting in congestion as far as Woolwich. Much of this traffic then heads west to join the A102 for the tunnel, or continues along the A206 to Greenwich Town Centre and then A200 Creek Road towards Central London. All of these roads are congested in the morning peak, with similar congestion in the evening peak in the eastbound direction.

The percentage of principal roads in need of repair within Greenwich was 5% in 2009/10. Greenwich is in the top quartile compared with other boroughs indicating that significant investment has been made in recent years to improve the quality of the roads.<sup>23</sup> The Council is committed to bring its local transport infrastructure to a state of good repair. The Council as Highway Authority is developing a Highway Asset Management Plan (HAMP), to address a number of issues which demand a more structured approach to the management of the Highway assets.

## **Bus reliability**

Average excess wait time (EWT) on high frequency bus routes is 1.0 minute for 2009/10. The 2009 TfL Business plan forecasts that EWT across London will increase from 1.1 minute to 1.2 minutes by 2011/12.

The measure of bus reliability allows the Borough to monitor delays to buses arising from traffic congestion. This data can be assessed to enable the Borough to develop measures which can improve the reliability of buses to make bus use more attractive; increase mobility for people without access to a car; increase accessibility to essential services or transport interchanges and reduce car use. High Frequency bus services serve the main arterial routes. Low frequency buses serve local routes. Using the Bus Quality Service Information (Bus QSI) the data for Greenwich indicates that the borough is 21<sup>st</sup> in London for percentage of low frequency services departing on time. By contrast, Greenwich is 1<sup>st</sup> in

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<sup>22</sup> Mayor's Transport Strategy

<sup>23</sup> TfL/ tkins Benchmarking report



London for high frequency bus routes which are measured in minutes of excess waiting time.

#### 4.4 Goal 2: Enhancing the Quality of Life for All Londoners

**Table 4.4: MTS Challenge 4: Improving journey experience**

<b>MTS Challenge 4: Improving journey experience</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
8	In order to achieve growth in public transport and active travel choices, and movement away from private car use, the whole journey experience must be positive for both single and multi modal trips	2	1, 4, 5, 6, 8, 9, 10, 11, 12	Improvements to interchanges designing out crime and allowing easier movement between modes, the provision of cycle parking at stations and piers and the package of complimentary measures identified for Crossrail stations all form part of plans to deliver an improved whole journey experience. The Council continues to subsidise the fast ferry Woolwich extension which fell outside the Mayor of London's funding package for river services, securing its provision until the complete river service subsidy is reviewed in 2013.

Congestion and poorly maintained roads can be hazardous to all users and can affect their journey experience. Reliability of public transport remains a key indicator of satisfaction. (See MTS Challenge 2). For pedestrians and cyclists, poorly maintained roads can be a perceived (and actual) barrier to opting to travel by these modes (See MTS Challenge 3). Disabled people suffer disproportionately from badly maintained footways, ramps and crossing points.

At transport hubs, there is scope to enhance integration at key interchanges. Complementary measures to support cycling and walking will be introduced around transport hubs to enhance the journey experience. This includes introducing or improving measures such as cycle storage, improved lighting and footways.

Issues such as overcrowding on buses can also negatively impact on the journey experience, particularly at peak times. A particular issue, that has become evident, is the overcrowding of buses caused by school children. Developing a school travel plan provides schools with the opportunity to raise this issue and look towards ways of working with partners in addressing overcrowding. The Council will need to work with TfL and other partners to address these issues and improve road user satisfaction across the Borough.

Improvements to public spaces and the public realm can encourage take up of walking. Schemes such as General Gordon and Beresford Square in Woolwich have been designed to revitalise the local environment. The completed Interchange works and regeneration of General Gordon Square and Beresford Squares was part funded by TfL (contributions were also successfully sought by the Council from Central Government and developers). The Woolwich projects will help regenerate the area and improve movement between the main public spaces, public transport, shops and businesses.

**Table 4.5: MTS Challenge 5: Enhance the built and natural environment**

<b>MTS Challenge 5: Enhance the built and natural environment</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
9	As part of considering the whole journey approach improvements to the physical streetscape, particularly in town centres and on routes to stations and bus stops are required. This is particularly significant to disabled and vulnerable users.	2	1, 4	Phases 1 and 2 of the Interchange works in Woolwich are now complete and work to regenerate and link development between the two squares will be complete in spring 2011. This has been funded by Central Government, Developer and TfL contributions. Development work in 2010 has seen two public consultations on the proposed pedestrianisation of part of Greenwich town centre. If the proposals are agreed this work will be undertaken and complete before the 2012 Olympics. Funding forms part of the 2010 -10 and 2011 – 12 LIP spending programme

The first phase, completed in 2008, included the planting of more than 100 trees and installing high quality street furniture and lighting, improved footways and the introduction of a raised 'super crossing' on Plumstead Road to enable pedestrians and cyclists to cross four lanes of traffic. The second phase, linking the Woolwich Arsenal Station to Wellington Street and the Town Hall and new Woolwich Civic Centre, was completed in 2010 and enabled the Woolwich Squares project by rerouting buses out of General Gordon Square.

In order to preserve the environment, green spaces and heritage of the Borough, growth must be managed to assure that the quality of life for Greenwich residents is not compromised. This can be achieved through reduction in air pollution and improving our streets and public spaces. Our emerging Local Development Framework (and Unitary Development Plan) will help address this challenge delivered through policies to improve Greenwich's centres and consider the environmental impacts of design, the implications of transport and issues around public safety.

Consistent and reliable public information helps to build user confidence. TfL are currently piloting their Legible London scheme which uses a range of information, including street signs and maps to help people find their way. Importantly, walking routes should be integrated with other modes, so that people can quickly identify the route to their destination. The design of the Legible London initiative has been devised to ensure that disabled groups are represented. As a result, maps showing steps, pavements widths and pedestrian crossings have been created which are important for visually impaired people, wheelchair users and others with limited mobility. As Greenwich has a high number of tourist attractions and will be a host borough for the Olympics, ensuring that visitors can easily reach their destination is a priority. In some areas of the Borough (such as Woolwich) work has already been undertaken to remove unnecessary signage, barriers and street furniture.

Greenwich Council has established the largest automatic monitoring network run by any local authority in the UK. These stations mainly monitor Nitrogen Dioxide and PM10, although, depending on location, we also look at PM2.5, 1, 3-butadiene, Sulphur Dioxide, Carbon Monoxide and Ozone. This system is backed up by 58 passive Nitrogen Dioxide diffusion tubes and 15 benzene tubes. By 2010, we expect there to be over 20 automatic stations looking at particle levels in the Borough.

**Table 4.6: MTS Challenge 6: Improve air quality**

<b>MTS Challenge 6: Improve air quality</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
10	Vehicle based emissions are a major contributor to poor air quality in London. In order to address this, a continued shift to sustainable transport choices, or reduction in the need to travel, has to be maintained.	2	1, 3, 4, 8, 9, 10, 11, 12	The promotion of Smarter Travel and achieving modal shift from single occupancy vehicle journeys is being continued with initiatives such as the marketing of sustainable travel in schools, cycle training schemes for both children and adults, conditioning and monitoring travel plans and service delivery/freight plans for developments as part of their planning approval, provision of on street electric vehicle charging points and the expansion of car clubs. Ensuring that the provision of and access to public transport, and providing the environment and infrastructure to choose active travel as a viable alternative to driving is a major factor in the reduction of vehicle based emissions

The Council has established the largest automatic monitoring network run by any local authority in the UK. These stations mainly monitor Nitrogen Dioxide and PM10, although, depending on location, we also look at PM2.5, 1, 3-butadiene, Sulphur Dioxide, Carbon Monoxide and Ozone. This system is backed up by 58 passive Nitrogen Dioxide diffusion tubes and 15 benzene tubes. The Greenwich Peninsula became the first Low Emission Zone (LEZ) in the UK. The Peninsula LEZ attempts to use criteria to both discourage the most polluting vehicles affected by the scheme, whilst using financial incentives to encourage the use of the cleanest vehicles. Controls are applied to all aspects of the development including private car ownership and commercial vehicles. Greenwich Peninsula's LEZ complements the London wide LEZ.

The purpose of the Council's Air Quality Action Plan is to ensure that air quality is considered corporately and seeks to reduce air pollution within the Borough in line with the Government's air quality objectives and national strategy. The Council is however limited in its abilities to influence local air quality, firstly as a result of pollution arising elsewhere in London (and beyond) and secondly because it has limited responsibility for the main sources of emissions within the Borough. Major roads in the Borough are not the responsibility of the Council, however we are taking steps locally to reduce vehicle movements and therefore emissions.

**Table 4.7: MTS Challenge 7: Improve noise impacts**

<b>MTS Challenge 7: Improve noise impacts</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
11	Noise caused by vehicles, both when moving and more specifically the slamming of car doors registers as a major noise nuisance for Londoners	2	1, 3, 4, 7, 8, 9, 10, 11, 12	Movement away from private vehicle journeys and reducing the need to travel helps reduce noise nuisance caused by vehicles, therefore the delivery examples in Issue 11 are equally applicable to the issue.

Ambient noise from transport impacts on the quality of life of residents in Greenwich, which when excessive, can impact on the health and wellbeing of people.

Whilst the Council does not have a specific noise strategy relating to transport in general, UDP policy M12 states in relation to aircraft “...reductions in existing levels of overflying will be sought and proposals generating an increase in noise and/or frequency will normally be opposed...”. Some concerns have been raised regarding noise from approaching and departing aircraft at Heathrow and City Airports.

Council policies relating to lowering emissions also have a beneficial effect on noise. More modern vehicles, meeting latest standards, including those which use LPG/ CNG, hydrogen or electricity, also tend to produce less noise. The promotion of walking, cycling, and use of public transport reduce the number of motor vehicles on the road and lead to reduced noise from transport.

The Council will monitor latest research and findings and take due account of any findings when designing and implementing traffic calming schemes. It will continue to maximise the use of low noise negative profile road surfacing in its major maintenance programme and to work with statutory undertakers to minimise extraneous noise generated by loose or out of level manhole and service covers. Where necessary the additional powers available to the Council under the Traffic Management Act will be utilised.. It will continue to regularly inspect the highway and arrange prompt repair of potholes and other defects in accordance with its Highway Maintenance Plan .

**Table 4.8: MTS Challenge 8: Improve health impacts**

MTS Challenge 8: Improve health impacts				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
12	Tackling obesity, especially with children, is of primary concern for health professionals	2	1, 3, 4, 6	The promotion of active travel with walking and cycling schemes, and initiatives such as the proposed joint funding of a post to promote smarter and active travel in partnership with NHS Greenwich

There are high levels of poor health in Greenwich which ranks 37<sup>th</sup> out of 326 boroughs nationally for premature mortality (deaths under 75 years of age) (*ref: DSR for All Cause Deaths under 75 years: National Centre for Health Outcomes Development, 2010*), with heart disease, strokes, cancers and respiratory disease being the main causes of early death in the borough.

Whilst health and life expectancy continues to improve overall in the Borough, levels of obesity continue to rise which if left unchecked will lead to a growing problem of disability and deaths from diabetes, heart disease, strokes and cancers.

Childhood obesity levels in the borough are of particular concern not least because of the longer term impact this will have on health outcomes. Data collected through the National

Child Measurement Programme in 2008-09 (NCMP 2008-09, DH) shows that 12% of children in Greenwich are obese by the time they reach Reception at the age of 4 or 5 (9.6% nationally). This figure almost doubles to 22.9% of children being obese by Year 6 (18.3% nationally). Child obesity at Reception in Greenwich increased by almost 3% between 2006/07 and 2008/09, whilst for London and England obesity prevalence has remained relatively consistent.

The Joint Strategic Needs Assessment for Greenwich (*'Where's the Gap?'*, Greenwich Council and NHS Greenwich 2009-10) identified low levels of physical activity across all ages as one of the ten major causes of poor health in the borough. The JSNA found that the proportion of Greenwich citizens commuting by walking or cycling is low with the lowest number commuting by bike and third lowest numbers commuting by foot compared to boroughs with similar deprivation profiles. A strong link has also been drawn between the decline in the amount of walking undertaken by children, particularly as part of their journey to school, and the increasing levels of obesity in younger people.

Improving health outcomes by working through planning process to deliver healthy communities is a key priority within the draft Joint Health & Well Being Strategy for Greenwich (Greenwich Council & NHS Greenwich, 2010), including increasing levels of physical activity by enabling people to walk and cycle more as part of their daily lives. The promotion of active travel will also encourage the population as a whole and those most at risk to build activity into their daily lives, improving health alongside improving the quality and sustainability of the local environment.

By linking these cross cutting policy areas, there are also opportunities to reduce delivery costs and maximise benefits. Joint working between Greenwich Council and NHS Greenwich is making possible a new initiative to promote active travel across the population. This will include using social marketing approaches to encourage the uptake of walking and cycling; supporting the implementation of workplace travel plans; building active travel into the advice given by primary health care professionals to encourage people to become more active.

The recent Cycling Best Value Review (BVR) will highlight the ways in which the Council can coordinate work between departments. The BVR will draw together teams from housing, PCT, community safety and transport to identify opportunities.

Greenwich's Healthy School and School Travel Plan initiatives will continue to work with Greenwich schools to engage in active travel.

## **Walking**

Walking has a major role in transport, leisure, health, social inclusion, the environment and the local economy. Between 2006 and 2009 walking accounted for 27% of mode-share. Greenwich was ranked 27<sup>th</sup> amongst all London boroughs for percentage of trips made by foot.<sup>24</sup>

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<sup>24</sup> TfL/Atkins benchmarking tool

Walking should be as pleasant, safe and convenient as possible. It is an accessible mode for most people, and improving conditions for walking can bring a range of benefits to everyday lives; to health, safety, access to services and even the sense of community. Conditions can be created in which people will choose to walk rather than walking only if there is no alternative. Improvements to the public realm particularly around public transport hubs; improving safety for pedestrians through improvements to footways; increased lighting etc. can encourage people to walk.

The needs of pedestrians will be prioritised wherever possible, along with provision of a segregated network of paths linking major centres and open spaces, by incorporating existing paths and using opportunities afforded by the riverside, Green Chain, open spaces, road closure and redevelopment schemes. Pedestrianisation and improved pedestrian facilities can provide major townscape and environmental benefits and will be focused in the town centres of Woolwich, Greenwich, Plumstead and Eltham.

The policy of expanding the development of a network of pedestrian priority routes includes investment in the following strategic walking routes in the borough:

- Green Chain Walk
- Capital Ring
- Thames Path / Riverside Walk

The London Borough of Greenwich is a partner in the Cross London Partnership for Strategic Walking Routes in London which is being managed by the City of London as lead Borough. This project is London-wide and will complete and promote the six strategic walking routes. These are the London Outer Orbital Path, the Capital Ring, the Thames Path, the Jubilee Walkway, the Green Chain Walk and the Lee Valley Walk.

Local improvements to existing pedestrian and cycle facilities are required including:

- Linking Thamesmead to Plumstead and Abbey Wood in the South;
- Improvements to pedestrian/ cycle route along the riverside. (There is an important missing link to the east of the Thames Barrier which would significantly improve access to the Peninsula and North Greenwich station from the east).

Greenwich has three Olympic and Paralympic venues. The Olympic Delivery Authority is helping to fund improvements to walking and cycling routes around these venues. These enhancements will provide a lasting legacy from the Olympic and Paralympic games.

The joint Greenwich Council and NHS Greenwich initiative to promote active travel will support the development of a Walking Action Plan. This will link to the wider Greenwich 'Get Active' programme being developed as part of the boroughs Olympic legacy and will support the delivery of the LIP and the Health Improvement Strategy for the borough.

## Cycling

Cycling is a healthy and environmentally sustainable form of transport. For short journeys cycling is often much quicker than any other form of transport and offers door to door access with negligible running costs. Cycling only accounts for 1% of mode share in Greenwich. When compared to other boroughs, for percentage of trips made by bike, Greenwich was ranked 18<sup>th</sup>.<sup>25</sup>

Although cycling is often considered a low cost mode of transport, it is predominantly used by those on a higher income.<sup>26</sup> This may suggest that a more sophisticated understanding of the cost of cycling is needed, or may reflect other barriers to cycling among low income groups, such as fear of crime and anti social behaviour, or concerns about image. Another barrier may be lack of storage. The recent consultation with stakeholders for the BVR for cycling indicated that lack of cycle parking/storage was a key concern for people living in shared housing or large estates.

Understanding attitudes to cycling and overcoming barriers is vital to increase numbers cycling in the borough. For example one of the greatest barriers to cycling is fear of traffic. This can be overcome through increased training provision. Similarly, poorly maintained streets can be a barrier to cycling, while also having a significant impact on the journey experience of cyclists (and other users). Greater analysis and data collection is required to understand the particular issues that cyclists face.

Increased promotion of cycling, particularly within low uptake groups will be supported by the new Active Travel initiative outlined above.

### 4.5 Goal 3: Improving the safety and security of all Londoners

Crime and fear of crime have a considerable impact on both the life of individuals and the wider community. People can be deterred from choosing their mode of choice by anti-social behaviour, vandalism and violence. This is particularly significant to vulnerable users, such as the elderly and young.

Greenwich has a statutory duty under Section 17 of the Crime and Disorder Act 1998 (revised) which places an obligation on local and other named authorities to consider the crime, disorder, environmental issues affecting the local area and substance misuse of all their activities and to do all they reasonably can to prevent them.

Borough 'hotspots' for inconsiderate behaviour<sup>27</sup> are Woolwich Riverside, Thamesmead Moorings, and Plumstead<sup>28</sup>. The Council's Community Safety Team consider Woolwich Town Centre and its transport hub; Plumstead Corridor which mirrors a large number of

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<sup>25</sup> TfL/Atkins benchmarking

<sup>26</sup> Travel in London, Report 2

<sup>27</sup> The term 'inconsiderate behaviour' is used as a subset of anti-social behaviour, which is more clearly linked to transport hubs. Whereas, the term 'anti-social' behaviour encompasses a range of problem activities such as fly-posting, dog nuisance/fouling.

<sup>28</sup> <http://maps.met.police.uk/access.php?area=00AL&sort=rate>).

bus routes and Charlton as having problems with inconsiderate behaviour. This is identified as most often, inter-rivalry between schools. Clearly this will have an impact on public confidence levels and willingness to use public transport.

**Table 4.9: MTS Challenge 9: Reduce crime, fear of crime and anti-social behaviour**

<b>MTS Challenge 9: Reduce crime, fear of crime and anti-social behaviour</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
13	Areas and interchanges with poor lighting and limited visibility and security encourage crime and engender a fear of crime.	3	4	Design out of crime as part of the implementation of transport schemes, for example work in Woolwich and Greenwich town centres and Greenwich station.

Currently, inconsiderate and antisocial behaviour can have a significant impact on people's perceptions of safety and on their journey experiences. Such behaviour can create a sense of unease for staff and other passengers and increase fear of crime. The Borough will work with Transport for London and other partners to introduce measures for improving behaviour on public transport and bringing about a shift in public opinion about what is acceptable behaviour and what people should expect of others when travelling. To achieve this will require a range of measures which combines enforcement with education and social marketing to persuade people to be more considerate of others when travelling.

The emerging Local Development Framework (Policy DHI) states that development proposals should be of a high quality of design and will be expected to 'demonstrate through proposed land uses, layout and design that the development is consistent with the principles of 'Secured by Design', 'Designing out Crime', and 'Safer Places' and contributes to a safe and secure environment for users and the public.

Designing out crime is an effective strategy for reducing the potential for crime, which also contributes to a more positive urban environment. Good practice examples in the Borough include Greenwich Station where the new forecourt replaced an area originally used for parking. The scheme incorporated disabled parking, cycle parking, improved lighting, high quality footway materials which all helped to create a more reassuring environment for passengers.

'Data from the Transport Research Laboratory shows that 17% of cyclists nationally had suffered bicycle theft in the past three years (TRL 1997). This has a dramatic effect on cycle levels. Some 24% no longer cycle at all and 66% cycle less often because of the risk of theft.' 'There is a need for secure overnight parking facilities in residential areas. Theft figures show that more than 50% of reported bicycle thefts occur in and around the owner's home (TRL 1997).'

<sup>29</sup> GLA London Cycling Action Plan (2004)



Cycle theft is a problem in residential areas and the council is seeking to address this in future developments. Bicycles locked to stands do not provide a suitable deterrent to thieves who are able to break most locks available. In addition bicycles left outside overnight are particularly vulnerable. For existing housing, we are investigating the feasibility of introducing secure cycle storage in disused spaces, e.g. laundry rooms.

**Table 4.10: MTS Challenge 10: Improve Road Safety**

<b>MTS Challenge 10: Improving Road Safety</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
14	The Council and the Mayor both set targets for continued improvements in the reduction of road traffic injuries.	3	5	Local Safety Schemes and 20 mph zones, cycle training, school travel advice, cycle and walking infrastructure improvements.

By the end of 2009, slight casualties in Greenwich were down by 33% on the 1994-98 average, while killed and seriously injured (KSI) were down by 51%. Between 2002 and 2009, Greenwich achieved a 19% reduction in total KSI's (for all roads and junctions). This is an average annual reduction of nearly 2.5%. The total casualty figure for 2009 reached a new low since the base years of the mid 1990s, with corresponding reductions achieved for most target groups – namely killed and seriously injured (KSI) amongst pedestrians, children and powered 2-wheelers (P2W). In all target categories except 'cyclist KSI' Greenwich has met its revised 2010 targets.

The Borough's Road Safety Plan examines road safety issues in the broader context of sustainable transport strategies to reduce traffic and improve the environment. The Council remains committed to the better protection of all vulnerable road user groups and particularly to improving facilities for pedestrians and cyclists. This includes reducing the community severance effects of busy main roads and creating pedestrian-friendly spaces where traffic conflicts are reduced.

Numbers of cyclists killed and seriously injured have continued to increase since 2006 and are showing no improvement on the 1994-98 average. While this is disappointing, the actual numbers involved are relatively small and must be seen in the context of the increasing use made of cycles in recent years.<sup>30</sup>

One in three pedal cycle fatalities in London are from collisions with left- turning Heavy Goods Vehicles (HGVs). Research has shown that HGVs without side-guards are involved in a disproportionately large number of fatal collisions with cyclists considering the very small number of HGVs without side-guards. HGVs with side-guards can additionally have mirrors or electronic warning devices fitted to improve safety. The Borough's cycle training team work with local partners to deliver HGV awareness training.

<sup>30</sup> Greenwich Road Safety Plan, June 2010

Advanced stop lines provide a safer location for cyclists at road junctions. They enable cyclists to pull away within view of other motorists, so they are less likely to be involved in a collision. It is important that cars and lorries do not encroach into advanced stop line areas.

As part of its approach to creating safer streets, the Council has been committed to speed reduction in residential areas. The introduction of 20mph zones through the Local Safety Schemes Programme has contributed to improving safety and delivering reductions in casualties particularly amongst children. Traffic calming is an important element of the programme, but more attention is now being focussed towards other proposals on the major road network and, in particular, those sections of the Olympics Route Network (ORN) which are showing higher than average casualty rates.

Road Safety Education continues to be a priority. Communication with all road users is vital to improving road safety. It is particularly important that the messages reach children and other vulnerable groups who may not generally interact with transport authorities.

**Table 4.11: MTS Challenge 11: Improving Public Transport Safety**

<b>MTS Challenge 11: Improving Public Transport Safety</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
15	Perceptions of levels of crime on the network can cause a reluctance in some residents (especially those who may be classed as more vulnerable) from using public transport.	3	4, 6, 7	Although not directly responsible for the safety of passengers on the public transport network, the Council has schemes to improve safety and reduce crime around transport interchanges, the design of better sight lines, wider access and improved street lighting all contribute towards safety on public transport. The Council has regular, Member led, Public Transport Liaison Meetings on these local issues and safety on the system and processes to address concerns are raised with public transport operators.

Public confidence in the safety of travelling around London is enhanced not just by the visibility of policing, uniformed staff and other members of the public. Partnership working is key to achieving the vision of a safe transport system where people travel confidently without fear of crime or unwanted behaviour. The work of a number of agencies including the Council, the Metropolitan, City of London and British Transport Police (BTP) and transport operators helps to shape how safe travelling in London feels.

Public perceptions of safety and security can be influenced positively by the provision of good quality travel information and an awareness of the safety and security initiatives on the network. Improving the quality and availability of information about travel options and services, such as Wayfinding and real time travel information, enables individuals to make informed decisions and increases their confidence while travelling. Improving signage for pedestrian routes across London will not only encourage walking, but will help pedestrians to feel reassured when making these journeys. Proposals to improve the pedestrian environment are discussed previously (See MTS Challenge 8).

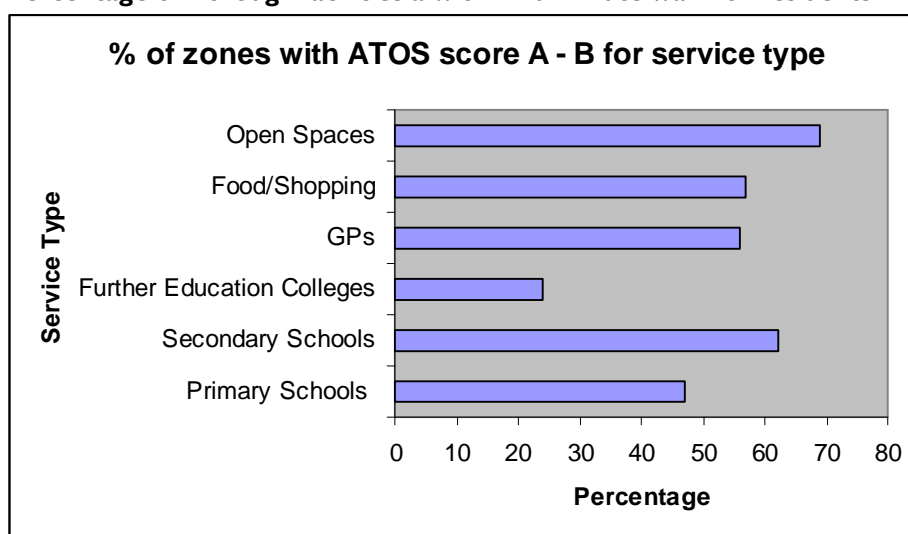
## 4.6 Goal 4: Improving Transport Opportunities for All Londoners

**Table 4.12: MTS Challenge 12: Improve accessibility (including physical accessibility and access to jobs and services)**

MTS Challenge 12: Improving Accessibility				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
16	Major roads like Plumstead Road (the A206) can create barriers which prevent people, particularly the more vulnerable, accessing essential services. They can also affect take up of travel by sustainable modes.	4	1, 6, 7	A package of measures to address the severance of the A206 between Ferry Roundabout and Pettman Crescent have been developed by the Council (working in partnership with Design for London and TfL), which can be implemented in phases when funding permits – the first of which have been implemented as part of the Woolwich interchange works. Additionally work is being undertaken to improve bus stop accessibility throughout the Borough.

Data using the ATOS (Access to Opportunities and Services) is calculated by Transport for London to show areas that are easily accessible defined as areas within less than 10 minutes walking distance which are given a score of A or B.

**Figure 4.2: Percentage of Borough facilities a within 10 minute walk for residents.**



Source: LIP Benchmarking Tool (Atkins)

Figure 4.2 above shows that in most areas of Greenwich, access to open spaces and secondary schools is better than access to further education facilities. This may have an impact on young peoples' decision to continue into further education. In addition, improving access has been identified as a priority area within the Greenwich Strategy.

For young people choosing to continue with education, travelling to college and university is predominantly undertaken by public transport. Greenwich Town Centre and the Peninsula are key Higher Education areas, and trip generators in the Borough. In order to support learners to access facilities for skills training to enhance employment prospects, it is vital that the Council and its partners deliver an efficient and effective transport system, which will support our growing population's and local economy's needs. The cost of using public transport can also act as a barrier to accessing both training and employment. Universities

and Workplaces are able to identify and address their travel needs through development and implementation of a travel plan. In particular, provision should be made for walking and cycling improvements.

Major roads like A205 (The South Circular Road), the A206 which runs in the north of the Borough from Bostall Hill to Greenwich; and the A2, which forms the major link between Central London and Kent, can create physical barriers and severance in communities. The speed and volume of traffic can inhibit pedestrians and cyclists using and crossing these roads.

Vulnerable users such as the young, the elderly and the disabled may experience difficulties accessing essential services such as schools and hospitals. The Delivery Plan identifies ways in severance can be reduced. A coordinated programme of infrastructure improvements to support an increase in walking, cycling and public transport use are planned alongside delivery of Smarter Travel initiatives; such as travel planning to reduce the need to travel or encourage take up of sustainable modes.

**Table 4.13: MTS Challenge 13: Support regeneration and tackle deprivation**

<b>MTS Challenge 13: Supporting Regeneration and Tackling Deprivation</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
17	Access to services and opportunities is a key factor in tackling deprivation and facilitating regeneration	4	1, 3, 6, 7, 9, 10, 11, 12	Ensuring that there is a local transport network which facilitates movement from residential areas to town centres, educational, leisure, retail, health and employment areas, as well as transport hubs and interchanges, is critical. This is supported in the Plan by bus priority schemes and the provision of measures to access the new Crossrail stations at Abbey Wood and Woolwich, as well as the continued expansion of car clubs which include a specific project to test their use in areas of high multiple deprivation.

Greenwich is a borough of contrasts. It's both a major tourist destination with World Heritage Site status, and a borough with pockets of extreme deprivation. To combat the decline in certain areas the Council has created local partnerships to link the Council, local community and businesses. The Council has also developed strategies to foster an integrated approach to the regeneration of the borough.

The physical development of land and new transport networks has contributed to the regeneration of Greenwich which benefits residents by improving skills, income, housing, health and the environment.

Using the Government's measure of deprivation, the Index of Deprivation 2004, Greenwich is the 41st most deprived borough in England and Wales.

Sub-ward areas – Super Output Areas – are used in the identification of deprivation.

Wards with areas in the 10 per cent most deprived in England are:

- Abbey Wood
- Charlton
- Eltham West
- Glyndon
- Greenwich West
- Middle Park and Sutcliffe
- Peninsula
- Thamesmead Moorings
- Woolwich Common
- Woolwich Riverside

This shows a concentration of deprivation along the waterfront wards, but with significant concentrations further south. Most of these wards are located to the north of the borough which is served well by a range of transport options. However, there are a range of reasons, apart from cost as to why people located in areas experiencing high levels of deprivation do not travel.

In the East sub-region 43 per cent of households have no car. Car ownership is lower towards the Inner London areas of the sub-region, which are also the parts of the sub-region where the highest growth is projected. The 2001 Census indicated that 41% of Greenwich households do not have access to a car or van but this disguises significant differences between areas, with wards in the north of the Borough having very high rates of car and van non-availability (55% in Woolwich Riverside, 51% in Woolwich Common), compared to 27% in Coldharbour and New Eltham (the most southerly part of the Borough). The current levels of car ownership reflect pockets of deprivation; regeneration could be expected to bring higher car ownership rates. Due to the dispersed nature of trips in Outer London, the role of the car is recognised as sometimes necessary, particularly for medium to longer distance trips.

Ensuring that transport provision meets the needs of all people is vital to assist in the regeneration of an area. Promotion of sustainable modes offers free or low cost, independent travel options for those on low incomes. We will need to work with transport operators and TfL to improve transport provision in areas with high indices of deprivation. Improvements to cross river transport links will open up employment opportunities to the north of the river.

Research has also demonstrated a relationship between deprivation and risk of road traffic injury in London, with pedestrians in particular at higher risk of injury in more deprived areas. Greenwich's Road Safety Plan will deliver targeted measures to address this area of concern.

## 4.7 Goal 5: Reducing Transport's Contribution to Climate Change and Improving Resilience

Greenwich Council's LDF Core Strategy and the Greenwich Strategy are committed to reducing the Council's climate change impacts through traffic reduction and sustainable travel (including promotion of walking, cycling, car clubs, electric vehicles, sustainably fuelled vehicles). Greenwich has high car use when compared to other Inner London boroughs, but this reflects the poor transport provision to the south of the borough. Greater car ownership is found to the south, in wards such as Eltham. Whilst bus services are used reasonably well (27% of mode share), given that there is no public transport provision to the south of the borough, this figure is surprisingly low emphasising the reliance on the car. Nevertheless, mode-share of car and motorcycle use is disproportionately high which can impact on safety, health and environmental objectives set out previously.

There is scope to continue to increase non-car modes significantly, particularly cycling, which is currently 1% of mode-share. Clearly, with only one underground station in the borough (North Greenwich Station) this mode will be little used. Greenwich has demonstrated its commitment to work with central government, communities and partners to tackle the causes and impacts on climate change when it signed the Nottingham Declaration on 30 January 2008.

**Table 4.14: MTS Challenge 14; Reduce CO<sub>2</sub> Emissions**

<b>MTS Challenge 14: Reducing CO<sub>2</sub> Emissions</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
18	Vehicle based emissions are a major contributor to both CO <sub>2</sub> emissions and poor air quality in London. In order to address this a continued shift to sustainable transport choices, the promotion of less polluting vehicle choices or reduction in the need to travel has to be maintained.	5	1, 3, 4, 6, 7, 8, 9, 10, 11, 12	The promotion of Smarter Travel and achieving modal shift from single occupancy vehicle journeys is being continued with initiatives such as the marketing of sustainable travel in schools, cycle training schemes for both children and adults, conditioning and monitoring travel plans and service delivery/freight plans for developments as part of their planning approval, provision of on street electric vehicle charging points and the expansion of car clubs. Ensuring that the provision of and access to public transport, and providing the environment and infrastructure to choose a viable alternatives to driving all have a role in reducing CO <sub>2</sub> emissions

**Table 4.15: MTS Challenge 15: Adapting for climate change**

<b>MTS Challenge 15: Adapting for climate change</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Example
19	Climate change is expected to result in a wetter warmer climate which results in road surfaces having to deal with additional high temperatures and surface water.	5	2	Changes to road drainage and surfacing materials are being considered as part of the Borough's road maintenance programme.

## 4.8 Goal 6: Supporting the delivery of the 2012 Olympic and Paralympic Games and their Legacy

**Table 4.16: Developing and Implementing a Viable and Sustainable Olympic Legacy**

<b>MTS Challenge 16: Developing and Implementing a Viable and Sustainable Olympic Legacy</b>				
Issue Number	Local Issue	Links to MTS Goals	Links to LIP Objectives	Key Delivery Plan Examples
20	Greenwich has three Olympic and Paralympic sites at Woolwich Barracks, Greenwich Peninsula and Greenwich Park. The creation of a post event legacy is an important objective for the Borough.	6	1, 3, 4, 6, 8	Proposals and works include the pedestrianisation of part of Greenwich town centre; widening footways and improvements to the public realm to provide walking links between Woolwich pier, the Arsenal stations and the event site at the Royal Artillery barracks; improvements to sections of the riverside walk/Thames pathway walking and cycle route

As an Olympic host borough Greenwich will look to benefit from the long term legacy of the Games. It is particularly important for the Borough to ensure the opportunities to enhance health and wellbeing by increasing Active Travel (cycling and walking) are maximised.

Physical measure to improve the walking and cycling networks will be delivered prior to 2012 and will form permanent enhancements to the walking and cycling networks. Schemes to improve access for pedestrians and cyclists to the Borough's three Olympic and Paralympic venues – Greenwich Park, North Greenwich Arena and Woolwich Barracks – will provide a lasting benefit for both visitors and residents in Greenwich.

Working in partnership with the Primary Care Trust, Greenwich Council will continue to actively promote cycling and walking through a variety of methods including travel plans, school travel plans and cycle training for both children and adults, and by working towards implementing the outcomes identified by stakeholders as part of the 2010/11 Best Value Review into improving cycling capacity and facilities in the Borough.

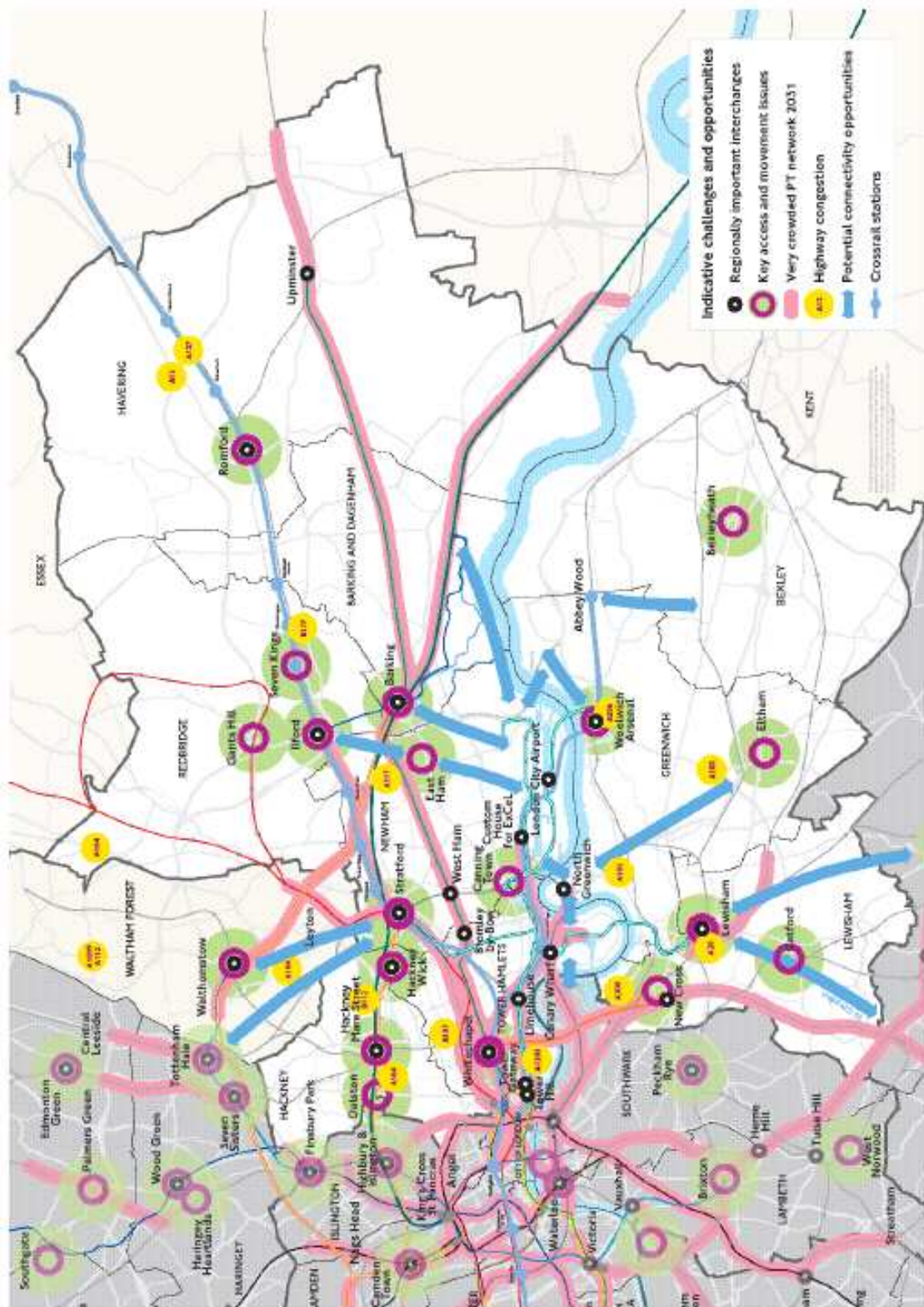
**Table 4.17: High Level Strategies and Local Implementation Plan Objective Correlation**

LIP Objectives	Greenwich Strategy objectives						Mayors Transport Strategy goals					
	A place to Live	A place to work	A place to learn	A place to visit	A Greener Greenwich	An Olympic and Paralympic borough	Supporting economic development and population growth	Enhancing the quality of life for all Londoners	Improving the safety and security of all Londoners	Improving transport opportunities for all Londoners	Reducing transport's Contribution to climate change, and improving resilience	Support delivery of the London 2012 Olympic and Paralympic Games and its legacy
Increase sustainable travel capacity and opportunities for trips to and from key growth and employment centres within the Borough, and ensure the network enables all residents and visitors to access health, education (including 16+ establishments), employment, social and leisure facilities within and beyond the Borough of Greenwich.	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓
Improve the condition of principal roads (to sit within the top quartile of London roads).	✓	✓	✓		✓		✓	✓				
Improve the health of residents by promoting Active Travel – increasing walking and cycling.					✓			✓			✓	✓
Increase walking, cycling and public transport access by reducing crime, fear of crime and antisocial behaviour through well designed, high quality and historically sensitive public realm improvements.	✓	✓	✓	✓		✓	✓	✓	✓			
Reduce the number of people killed and seriously injured on the Borough's roads, and reduce the overall number of pedestrian and cycle casualties	✓	✓	✓	✓				✓	✓			
Improve access to the Borough's three Olympic and Paralympic sites and develop the legacy this provides for the Borough, including improvements to walking and cycling facilities as well as access to public transport	✓	✓	✓	✓	✓	✓	✓	✓		✓		
Improve transport provision and the quality of the transport environment in areas showing	✓	✓	✓	✓				✓		✓		



high indices of multiple deprivation												
Reduce Greenwich's contribution to climate change and improve air quality. Reduce transport-related CO <sub>2</sub> emissions, tackle congestion and smooth traffic flow, and increase the proportion of trips made by sustainable modes.	✓	✓	✓	✓	✓			✓	✓		✓	✓
Continue to promote and support a package of Thames River Crossings (including Crossrail) to improve access to key employment areas and address severance in the East of the Borough.	✓	✓	✓	✓	✓		✓			✓	✓	
Implement Crossrail complementary measures to allow better access to committed infrastructure.	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
Work towards the implementation of express bus routes in (and beyond) the Borough, and towards improvements in journey times for public transport users in the Borough.	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
Improve North/South public transport links within the Borough	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Figure 4.3: Eastern Region Challenges and Opportunities<sup>31</sup>



<sup>31</sup> TfL Developing a Sub Regional Transport Plan East Region 12<sup>th</sup> February 2010

## **4.9 Funding and Delivery of Our Plans**

An annual work programme is presented to Council Members at Highways Committee for discussion and formal approval. The Council ensures that measures to mitigate the detrimental effects of new developments are funded by the developers through Section 106 agreements. This system of agreements is currently being reviewed with the possible future implementation of the Community Infrastructure Levy (CIL) which is informed locally by the Local Development Framework's Infrastructure Delivery Plan.

Funding for the programme of works comes from a number of sources including:

- TfL funding
- Developer Contributions, Section 106 funding/CIL
- Central Government funding (such as the Community Infrastructure Fund)
- Greenwich Council revenue funding (such as cycle stands at the Town Hall as part of the Town Hall Modernisation).

The indicative funding that TfL is to provide to the Boroughs for the 3 years 2011/12 to 2013/14 was prioritised for schemes and the detailed spend for 2011/12 and indicative spend for the next two years was agreed by Highways Committee on 22<sup>nd</sup> September 2010.

The delivery programme is shown in Table 4.18. Whilst this is the current programme, there is sufficient flexibility to allow schemes to be brought forward or put back in response to circumstances such as:

- Review of recent accident data
- Public utility planned work
- Changes in local priorities
- Budgetary changes due to other scheme final outturn.
- Updated asset condition data

## **4.10 LIP Investment Programme**

Table 4.18 sets out our high level programme of investment from the TfL LIP settlement, for the period 2011/12 to 2013/14 (this can be extend to 2015/16 with respect to Major Schemes).

The programme reflects the delivery actions identified in Section 3.3, and is focused on achieving our Local Implementation Plan objectives (and therefore the Mayor's goals for transport) in a cost-effective manner. The programme represents the Borough's business plan for implementing the changes expressed through the Local Implementation Plan.

We have structured our programme around packages of complementary measures or holistic interventions, in order to maximise the benefits of our investment.

Table 4.18 sets out an overview of the three-year spending programme, the full detail of the individual schemes and projects are set out in Appendix H.

The programmes set out here were those agreed by Highways Committee and sent to TfL as the Borough's Annual Spending Submission in October 2010.

Following the Government's Comprehensive Spending Review on 20<sup>th</sup> October the allocation to Greenwich was reduced by £136,000. Under the revised settlement the Corridor and Neighbourhoods and Smarter Travel budgets are combined into a Corridors, Neighbourhoods and Supporting Measures package and are cut from £2,857,000 to £2,739,000 for 2011/12. Bridges, Principal Roads, Borough Allocated Funding and Major Scheme budgets settlements unchanged.

TfL have asked boroughs to not re submit their spending plans, but consider where these savings will be made. It is proposed to take recommendations back to Highways Committee to consider these reductions against the Borough's priorities. This work will be done prior to the agreement of the final LIP2 and the revised project allocations included in that document..

Additionally boroughs have the flexibility to change or update their annual programmes in response to delays and cost over-runs, stakeholder feedback, new evidence of the impact of previous similar interventions, changes in priority, etc.

Investment in actual work on the design and implementation of individual schemes will also be confirmed as part of the annual budget setting process. However the Council's programme management approach is based on the three full years of this Local Implementation Plan, recognising that it is not always feasible or efficient to fund, design *and* deliver a scheme in one year.

Table 4.18: Overview of Greenwich's Spending Plan

		Programme Areas	FUNDING REQUIRED FROM LIP note that schemes with ★ will have works carried out as part of the Greenwich Town Centre project						MTS Goals					
			LIP submission years					Total	Econ. Dev't and pop. growth	Quality of life	Safety and security	Opportunities for all	Climate change	Olympics
			2009/10	2010/11	2011/12	2012/13	2013/14							
Maintenance	BR	Bridges	70	50	25	750	750	1645	✓		✓			
	RO	Principal Roads	571	542	573	552	550	2788	✓		✓			✓
Corridors and Neighbourhoods	PI	Parallel Initiatives	75	0	★	0	60	50	185		✓			✓
	BP	Bus Priority	424	125	★	0	170	150	869	✓		✓		✓
	BSA	Bus Stop Accessibility	75	60	★	0	100	75	310	✓	✓	✓		✓
	LCN+	London Cycle Network +	230	210	0	365	380	1175	✓			✓		✓
	CS	Cycling	165	188	110	265	255	983	✓	✓		✓		✓
	W	Walking	336	205	★	0	535	650	1726	✓			✓	✓
	LSS	Local Safety Schemes	444	259	★	0	480	514	1707		✓		✓	
	ZO	20 mph zones	360	388	0	44	100	892		✓	✓		✓	
	FS	Freight	0	0	0	20	20	40		✓			✓	✓
	ENV	Environment	57	89	20	99	44	309			✓	✓	✓	✓
Smarter Travel	AS	Accessibility	70	160	★	0	200	200	630	✓	✓	✓	✓	✓
	PC	Parking Controls	0	79	★	0	150	85	314		✓	✓		
	STP	School Travel Plans	232	285	158	235	205	1115		✓	✓		✓	
	TA	Travel Awareness	70	20	10	40	40	180	✓	✓	✓		✓	
	ETP	Education Training and Publicity	60	55	35	55	50	255			✓		✓	
	WTP	Workplace Travel Plans	8	8	8	45	45	114	✓	✓	✓	✓	✓	
	GTC	Greenwich Town Centre	0	1008	2515	0	0	3524	✓	✓	✓	✓	✓	✓
	TC	Woolwich Town Centre	150	1450	550	0	0	2150	✓		✓	✓	✓	
	BAF	Borough Allocated Funding	100	70	70	100	100	440						
		Totals	3497	5251	4075	4265	4263	21351						

## **4.1.1 Developing the Programme of Investment**

In developing the Programme of Investment, the Council has:

- Identified delivery actions which address the delivery requirements identified for each of the Mayor's Transport Strategy goals;
- Reviewed the strength of evidence (e.g. before and after analysis of previous local investment, published research, stakeholder feedback, professional expertise, etc.) and prioritised investment in programme areas where there is clear evidence to suggest that intended outcomes will be delivered and will make a significant contribution to Greenwich's Local Implementation Plan objectives. For example, Table 4.19 shows that accident remedial schemes have delivered significant benefits in terms of casualty reduction;
- Assessed whether there could be any negative impacts associated with potential interventions, which need to be mitigated or else balanced against the benefits;
- Structured the programme around packages of complementary measures or holistic interventions, in order to maximise the benefits of the Council's investment – with a specific emphasis on Growth and Employment Areas and more deprived neighbourhoods where there is evidence of a need to address safety issues;
- Ensured walking and cycling improvements are incorporated into all packages, where appropriate, recognising the important role walking and cycling can play in meeting many of our Local Implementation Plan objectives (Figure B.1);
- Reviewed our historic patterns of spend against our intended outcomes for the second Local Implementation Plan period, and identified:
  - a) what additional schemes would be implemented if more resources were available and what the benefits would be;
  - b) what trade-offs would need to be made if lower levels of investment were only available.

This process was undertaken and involved key transport delivery officers and the Lead Member for Transport. This process was supported by an exercise which involved identifying potential areas of spend into the following categories: 'must haves', 'should haves', 'could haves', and 'can't haves'. It considered the scale of change in travel behaviour and transport outcomes required to deliver our Local Implementation Plan objectives and targets, set out in Chapter 4.

The programme has been developed in conjunction with the development of an Equalities Impact Assessment. This assessment ensures that the programme does not discriminate against disadvantaged groups.

The Council's delivery actions for the period 2011/12 to 2013/14 build on our achievements in recent years with the core activities of engineering, education, and

enforcement remaining as key elements. These activities will be supplemented by a programme of engineering measures identified within school travel plans, and infrastructure improvements which will create a safer environment for pedestrians and cyclists, driven partly by our analysis of casualty rates, and our on-going road maintenance programme. Interventions will be focused on addressing killed and seriously injured casualties across all modes, and all pedestrian and cycle casualties.

The Council has adopted a data-led approach to prioritise and inform all casualty reduction investment, e.g. by targeting investment in areas where there is an identified casualty problem. For example, accident remedial schemes (or local safety schemes) will be prioritised according to the number of weighted casualties, giving greatest priority to those killed and seriously injured.

the location of accidents involving cycling and pedestrians (separately) will be monitored, and the evidence reviewed to determine the need for site-specific engineering solutions.

## **4.12 Managing the Risk**

Every programme and scheme, regardless of size, has risks which could prevent the successful delivery of a completed scheme on time and on budget. Greenwich has in place a system of identifying risks and consequences, so that any detrimental effects can be minimised.

This system is based on three key stages;

- Identification of risks, opportunities and uncertainties at both the scheme and programme level
- Risk quantification and analysis for decision support
- On going reporting and review where necessary

The objective is to allow the programme managers to identify the risks and consequences which will have the greatest impact on the schemes.

### **4.12.1 Individual Scheme / Policy Risks**

A risk register will be maintained for each intervention being implemented, with the level of information recorded proportionate to the size and complexity of the intervention.

### **4.12.2 Programme Level Risks**

The project manager for each scheme reports (either directly or via their manager) to the programme manager, who is the single point of contact for liaison with TfL on the progress of the spending programme. If it is apparent that there are significant risks to timescales and / or costs, it is possible to re-prioritise design work so that abortive costs are minimised.



As part of our risk assessment process, programme delivery will also be monitored as a standing agenda item at the monthly Transportation Management Team meeting in order to identify and resolve any problems as soon as they occur.

#### **4.13 Partnerships with Other Boroughs**

Until April 2011 Greenwich will be a member of both SELTRANS (South east London Transport Partnership) and TGLP (Thames Gateway London Partnership). These organisations have allowed us to work formally with neighbouring boroughs on sub regional transport issues.

The Draft Consultation London Plan will see Greenwich becoming part of a newly created East Region from 2011. This is a nine-borough cross river partnership which will give a forum to discuss cross boundary issues, however the Council will also continue to work on specific projects and issues with our neighbouring boroughs who may not be a member of the East region on an 'as required' basis.

Greenwich is also a member of an additional cross borough partnership which is working to deliver benefits and a post Games legacy to the Olympic and Paralympic 'Host Boroughs'. Since the Olympic bidding stage Greenwich, Hackney, Newham, Tower Hamlets and Waltham Forest have been working together to make sure that their communities benefit from the opportunities and investment which the Olympics are bringing to the area.

In November 2009, the Strategic Regeneration Framework (SRF) for the Olympic host boroughs was published. In it, the host boroughs have outlined an Olympic Legacy vision which goes beyond the Olympic Park and sporting arenas. The SRF provides a strategic, cross-borough blueprint for improvement, and an ambitious legacy vision. Its aim is that within 20 years, the communities who host the 2012 Olympic and Paralympic Games will enjoy the same social and economic chances as their neighbours across London. This strategy has been termed the principle of 'convergence'.

The SRF will influence all aspects of the regeneration of the host boroughs for the next 20 years, and transportation is a key enabler of this change.