





Kingston mini-Holland
Programme Outline
Business Case

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Royal Borough of Kingston upon
Thames

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Prepared by:

Steer Davies Gleave
28-32 Upper Ground
London SE1 9PD

+44 (0)20 7910 5000
www.steerdaviesgleave.com

Prepared for:

Royal Borough of Kingston upon
Thames
Guildhall 2
High Street
Kingston upon Thames
KT1 1EU

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- A Borough Input to TfL’s Mini-Hollands Programme Level Business Case: Document Map**
- B Programme**
- C Scheme cost components**

Executive Summary

In March 2014 the Royal Borough of Kingston upon Thames was successfully selected to receive funding through Transport for London's mini-Hollands programme to deliver transformative change which encourages and stimulates more cycling. The Borough wants to ensure that the programme investment also provides benefits to all residents and businesses in the borough regardless of whether or not they cycle.

The aim is to deliver, through historic and unprecedented levels of investment in infrastructure and associated complementary measures, a borough that is conducive to cycling as a natural choice for short urban journeys – encouraging more people to cycle more often regardless of their age or ability.

This document sets out the Outline Business Case for the Kingston mini-Holland programme investment.

Programme Objectives and Strategic Fit

The Borough's vision for cycling is a vision for everyone, benefiting all road users, not just cyclists. It is to reduce congestion by encouraging more people to cycle, freeing up road space for those making journeys for which the car or bus is the only sensible option. And it is to improve relations between cyclists, drivers and pedestrians through innovative design that caters for the needs of all road users.

In contributing to the delivery of this vision, the mini-Holland programme has six key objectives:

1. Transform the environment for cycling in the borough.
2. Reduce congestion and smooth the flow of traffic.
3. Improve the level of satisfaction with cycling infrastructure.
4. Improve the safety of all road users.
5. Through cycling related investment, improve the quality of the public realm.
6. Support the vitality and viability of our town, district and local centres.

The Kingston mini-Holland programme is strongly interrelated with plans for the Kingston Town Centre (in particular Kingston Futures and the Kingston Town Centre Movement Strategy), helping to achieve and facilitate the aspirations for this area that will benefit all town centre users. It will also play a key role in delivering existing wider local and regional objectives including key objectives of the Mayor's Transport Strategy, the Mayor's Cycling Vision and The Kingston Plan; to support economic vitality, development and population growth; protect and improve the quality of the local environment; improve safety and security for all; and improve the access, connections and resilience of the transport network.

Need for Investment

Kingston has the second highest mode share of cycling in outer London, reflecting the success of implementing a range of measures that have together made the borough attractive for cycling. The borough is relatively flat and already has some good cycle routes and infrastructure. However, this mode-share is compromised by the quality and consistency of cycle infrastructure and facilities across the borough. There are also other challenges include transport congestion, both on roads and public transport. Looking forward, there are expected

to be over 5000 new dwellings built in the borough over the next decade or so, placing additional pressure on the borough's transport network.

This significant level of growth will naturally increase demand for travel on the borough's transport networks. It is vital that the person carrying capacity of the road network is maximised by making more efficient use of the finite amount of road space that is available, and the mini-Holland programme clearly aligns with this. The mini-Holland funding will therefore unlock the untapped cycling potential through implementation of consistent, high quality cycle infrastructure improvements borough wide.

Scheme Description

The current list of schemes that form part of the mini-Holland programme has been refined and optimised over time as we have thought through and investigated how they fit together a coherent package, as well as gaining a better understanding of the costs and challenges involved in each scheme. The key factors that were considered are:

- Deliverability – if the scheme could be delivered within the available funding timescales. Whether the scheme would be supported.
- Diversity – a mixture of landmark, network and supporting measures to combine to make a coherent programme of investment, giving support to all users.
- Supporting strategic objectives – contribution of the scheme towards the programme objectives .
- Connectivity – improvement to the cycling journey and provision of a comprehensive network.

The schemes included in the Stage II bid were then prioritised, to fit within the funding envelope advised by TfL. The table below lists the schemes included in the programme.

	Scheme name	Scheme type	Length (for linear schemes)	Cost (£'000)
Landmark schemes [LM]				
<i>Early start schemes</i>				
LM.1a	Kingston Enterprise Hub / Kingston station access (interim scheme)	Off-road	N/A	£1,574
<i>Other schemes</i>				
LM.1	Kingston station cycle hub + Kingston station plaza (full scheme)	Off-road scheme	N/A	£6,293
LM.2	Wheatfield Way Greenway	Segregated facility	0.8km	£2,490
LM.3	Riverside Boardway	Off-road	0.8km	£5,728
LM.4	New Malden to Raynes Park link	Off-road	Core section: 1.1km Additional section: 0.8km	£1,933
Network schemes [NW]				
<i>Early start schemes</i>				
NW.1	Kingston Hill / Kingston Vale (A308)	On-road, semi-segregated	3.6km	£3,085
NW.1a	Interim local connectivity to Kingston town centre	On-road, quietway	0.9km	£488
NW.2	Local connectivity: to Kingston Bridge	On-road, quietway	0.3km	£163
NW.3	Portsmouth Road north + south (A307)	Segregated / semi-segregated facility	1.6km	£1,373
NW.3a	Local connectivity to Portsmouth Road	On-road, quietway	0.3km	£163

<i>Other schemes</i>				
NW.4	Kingston to Surbiton	On road, semi-segregated facility / quietway	1.7km	£1,533
NW.5	Cambridge Road / Kingston Road (A2043)	On road, semi-segregated	2.8km	£3,205
NW.5a	Local connectivity: Kingston Hill / London Road	On-road, semi-segregated / quietway	0.9km	£812
NW.6	Ewell Road (A240)	On-road, semi-segregated	2.5km	£2,255
NW.6a	Local connectivity: St Mark's Hill (B3370)	On-road, quietway	0.4km	£217
Supporting measures [SM]				
<i>Early start and ongoing schemes</i>				
SM.1	Complementary measures	Supporting measures	N/A	£1,135
Mini-Holland Programme				
Programme preparation costs to date				£300
TOTAL COST				£32,747

Costs

The base cost estimate for the programme is £39.89 million (in 2013 prices), which includes a 22% allowance for risk as a full quantified risk assessment has not been undertaken at this point. Taking inflation into account, the outturn scheme cost for the mini-Holland programme is currently estimated at £44.21 million.

Benefits

The investment will contribute to increasing the overall capacity of the transport network in a cost effective manner to facilitate and cater for future economic and population growth in the borough in a sustainable manner. The cost of providing cycling facilities is relatively low (compared to expanding the road network), but helps to achieve more efficient use of available road space. This means that the mini-Holland investment will enable Kingston to accommodate growth sustainably and in a way that puts less pressure on the existing public transport and road networks. It will therefore help to unlock the borough's development potential and accommodate newly generated trips sustainably.

The investment aims to result in more residents and visitors to the borough travelling by bicycle. The targets are to increase the level of cycling in the borough by 80% in the first three years of the programme and by 400% within 10 years of the programme delivery commencing. This will include more cycling among members of traditionally 'hard to reach' groups. The mini-Holland programme will focus on delivering improvements that are inclusive and enable all people to start cycling. The schemes will help to create new cyclists who are representative of the people who live, work and study in Kingston.

More people cycling to town centres rather than driving will reduce town centre congestion, release car parking spaces for those who need them and reduce pressure on public transport leading into our town centres. Adding cycle parking in to town centres will encourage more people to shop locally rather than going further afield, helping local businesses to survive and expand, sustaining and increasing the variety of shops and services that people want to use.

The mini-Holland programme will transform the quality of roads and public spaces. Pavements adjacent to the new cycle lanes and tracks will be improved while the lanes and tracks will put

a distance between pedestrians and motor vehicles, making walking more comfortable. Pavements will be levelled to make access by wheelchairs and those with sensory impairments easier. In places, zebra crossings will be required to address the loss of informal refuges and this will give pedestrians greater safety and priority when crossing the road.

Assessment

The business case analysis has assessed two cycling mode share scenarios against a future baseline with a cycling mode share of 7.0% by 2026:

- Low impact scenario – cycling mode share in the core catchment area will reach 10% by 2026.
- High impact scenario – cycling mode share in the core catchment area will reach 15% by 2026.

The benefits assessed include user benefits – benefits perceived by existing cyclists and those who change mode from car to non-car modes of transport; externality benefits – benefits that affect other road users who remain on the road as a result of reduced car use (these include decongestion, collision savings, local air quality etc.); and health and absenteeism benefits.

The assessment shows that the Benefit Cost Ratio (BCR) is between 2.5:1 and 5.2:1. This means that for every £1 invested there is more than £2.5 returned in benefits. In accordance to the Department for Transport's value for money assessment criteria, the programme is considered between **high and very high value for money**, and well in excess of TfL's threshold of 1.5:1.

Delivery programme

A detailed programme is provided in Appendix B. The delivery programme covers the period from June 2014 to June 2018, which is a period of 49 months.

Grant funding will be provided by Transport for London. Other sources of funding contributing to the delivery of the investment includes LIP funding (for delivery of routes that complement the main mini-Holland programme); extracting value from routine maintenance programmes; and possible opportunities for Section 106 funding.

1 Introduction

Background

- 1.1 The Royal Borough of Kingston upon Thames' vision for cycling is a vision for everyone, benefiting all road users, not just cyclists. It is to reduce congestion by encouraging more people to cycle, freeing up road space for those making journeys for which the car or bus is the only sensible option. And it is to improve relations between cyclists, drivers and pedestrians through innovative design that caters for the needs of all road users.
- 1.2 In March 2014 the Borough was successfully selected to receive funding through the mini-Holland programme to deliver transformative change which encourages and stimulates more cycling. The Borough will ensure that the programme investment also provides benefits to all residents and businesses in the borough regardless of whether or not they cycle.
- 1.3 The Council's aim is to deliver, through historic and unprecedented levels of investment in infrastructure and associated complementary measures, a borough that is conducive to cycling as a natural choice for short urban journeys, encouraging more people to cycle more often regardless of their age or ability.
- 1.4 This document sets out the Outline Business Case for the Kingston mini-Holland programme.
- 1.5 The funding for the mini-Holland programme is being made available by Transport for London (TfL). In order to obtain the mini-Holland funding the project will need to meet the requirements set out by TfL and promote the programme in accordance with TfL guidance and advice. The following documents have been used to guide the production of this business case:
 - Guidance for Major Scheme Submission of LIP Schemes.
 - TfL's Business Case Development Manual (BCDM).
 - Department for Transport's Transport Appraisal Guidance (TAG).
- 1.6 This business case has been prepared for the Royal Borough of Kingston upon Thames for the purposes of ensuring the scheme will deliver value for money. It sets out the economic and other benefits of the scheme which underpin the cost-benefit appraisal. It also provides input

to TfL's business case for the wider mini-Holland programme investment. A document map which identifies the information for TfL is provided at Appendix A.

Assumptions and Limitations

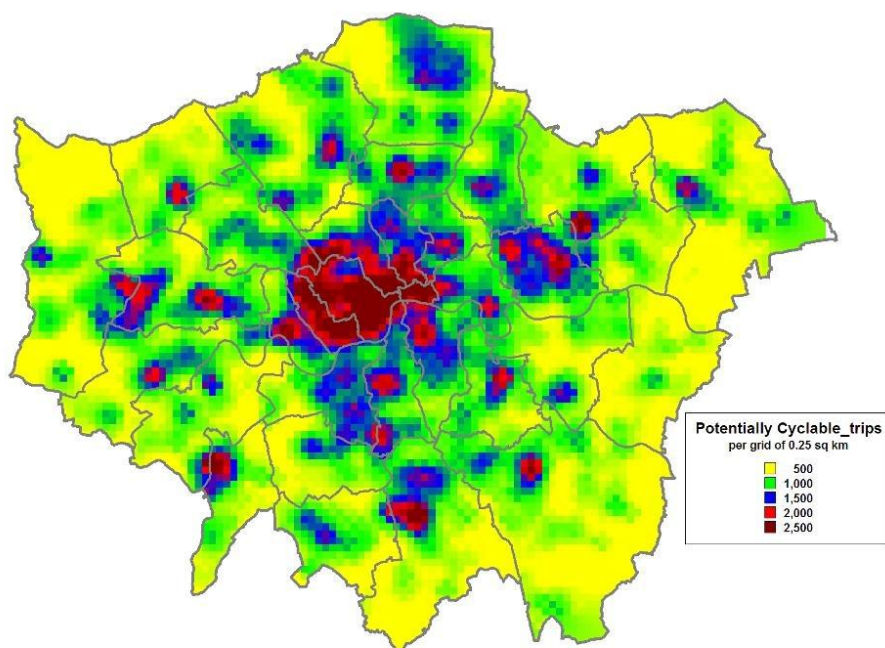
- 1.7 This is a preliminary business case for the Royal Borough of Kingston upon Thames mini-Holland programme. The project is in its early stages with detailed modelling and design work yet to be completed. The assessment undertaken largely draws on the information set out in the Stage 2 bid submission sent to TfL in January 2014 amended for known changes in the programme since bid stage. This programme of schemes is set out in Chapter 3. The assessment provides an early indication of the value for money of the mini-Holland investment and must be considered in the context of the stage of development work undertaken thus far.

2 Scheme Objectives and Fit with Strategy

Scheme Objectives

- 2.1 TfL's Analysis of Cycling Potential report shows Kingston town centre and adjoining neighbourhoods to be a notable hotspot of cycling potential in southwest London (Figure 2.1). However, realising this potential is constrained by the quality and consistency of cycle infrastructure and facilities across the borough. The mini-Holland programme will greatly accelerate the unlocking of this cycling potential. By transforming conditions for cycling it will enable many more of our residents and visitors to cycle.
- 2.2 The Borough's vision for cycling is a vision for everyone, benefiting all road users, not just cyclists. It is to reduce congestion by encouraging more people to cycle, freeing up road space for those making journeys for which the car or bus is the only sensible option. And it is to improve relations between cyclists, drivers and pedestrians through innovative design that caters for the needs of all road users.
- 2.3 In contributing to the delivery of this vision, the mini-Holland programme has six key objectives:
1. Transform the environment for cycling in the borough.
 2. Reduce congestion and smooth the flow of traffic.
 3. Improve the level of satisfaction with cycling infrastructure.
 4. Improve the safety of all road users.
 5. Through cycling related investment, improve the quality of the public realm.
 6. Support the vitality and viability of our town, district and local centres.
- 2.4 These objectives have been used in developing the schemes and reviewing and prioritising schemes throughout the bid development process.

Figure 2.1: Cycling Potential in London



Source: *Analysis of Cycling Potential*, Policy Analysis Research Report, Transport for London, December 2010

Assessment against Strategy

- 2.5 The mini-Holland programme will play a key role in delivering existing wider local and regional objectives.

The Mayor's Transport Strategy

- 2.6 The Mayor's Transport Strategy (MTS) sets out six goals to achieve an overarching vision of making London the world's number one location as a place to visit, do business and invest:

London's transport system should excel among those of world cities, providing access to opportunities for all its people and enterprises, achieving the highest environmental standards and leading the world in its approach to tackling urban transport challenges of the 21st Century.

Goal 1: Support the economic development and population growth

- 2.7 Kingston town centre is defined in the London Plan as a Metropolitan centre and, as a retail centre, ranks second in London and 17th in the whole UK (only Oxford Street ranks higher in London). The mini-Holland programme will improve pedestrian and cycle access to this strategic location. Cycling in particular will increase overall effective capacity of the town centre and the number of people able to access the centre, because cyclists are able to use routes to bypass congested streets.
- 2.8 It will significantly enhance the public realm that will encourage more people to spend more time in the borough, linking people with local shops and services, reducing their need to travel further afield for these opportunities. This is good for local business and helps people to save on travel costs.

- 2.9 The mini-Holland programme is intended to transfer journeys to bicycle that might otherwise have been made by the private car or public transport. This shift has the potential to reduce congestion on the highway network, improve journey time reliability, increasing the transport system capacity to enabling more sustainable delivery of new development.

Goal 2: Enhance the quality of life for all Londoners

- 2.10 Cycling and walking are 'active' modes of transport and more people cycling and walking more often will mean that more people are benefitting from physical activity.
- 2.11 The schemes will also significantly enhance to the public realm of the borough, particularly the landmark schemes such as Kingston station plaza and the Riverside Boardway. These will enhance links to surrounding business, retail and leisure destinations, which will benefit all users.
- 2.12 More local cycling journeys will help to relieve pressure on bus and rail capacity.

Goal 3: Improve the safety and security of all Londoners

- 2.13 The mini-Holland programme will improve conditions for vulnerable road users by reducing road danger. For example, many of the schemes will provide increased separation between cyclists and other vehicles, which will provide safer routes for cyclists.

Goal 4: Improve transport opportunities for all Londoners

- 2.14 The mini-Holland programme will create new high quality links within the borough and with neighbouring boroughs. It will greatly improve connectivity between Kingston town centre and the railway station.
- 2.15 The improved infrastructure will provide increased transport choice for residents and visitors with the complementary measures scheme increasing the awareness of these choices for people. This can have a number of positive impacts, such as improving access to job opportunities, providing affordable transport for those on low incomes and those starting new enterprises on limited budgets.
- 2.16 Growth in cycling levels also has the potential to increase stopping trade for independent retailers, particularly those located in smaller shopping parades. Experience elsewhere (such as in Hackney) shows that increased walking and cycling can lead to the revival of ailing parades and the creation of new retail businesses.

Goal 5: Reduce transport's contribution to climate change and improve its resilience

- 2.17 The programme is intended to transfer journeys to the bicycle that might otherwise have been made by the private car or public transport. This shift has the potential to reduce congestion on the highway network and reduce reliance on greenhouse-gas emitting forms of transport.
- 2.18 The extent to which mini-Holland programme addresses the key objectives from the Mayor's Transport Strategy (MTS) is quantified in Table 2.2 according to the scale detailed in Table 2.1.

Goal 6: Support delivery of the London 2012 Olympic and Paralympic Games and its legacy

- 2.19 In 2012, the Olympic road cycling events came to the borough, generating excitement in the local community and putting Kingston firmly on the cycling map. Since then, Kingston has been a key part of the route for the annual Prudential RideLondon event.

- 2.20 The programme of schemes that we have put forward will build upon this and deliver a long-term legacy of behaviour change, by encouraging more people to cycle more often, thereby facilitating increased levels of physical activity in the borough.

Table 2.1: Assessment parameters

Score	Descriptor
✓✓✓	the proposal makes an extremely positive contribution
✓✓	the proposal makes a very positive contribution
✓	the proposal makes a positive contribution
-	the proposal is neutral
×	the proposal makes a negative contribution
××	the proposal makes a very negative contribution
×××	the proposal makes an extremely negative contribution

Table 2.2: Assessment against the Mayor’s Transport Strategy goals and key objectives

MTS Goal:	MTS Key Objectives	Assessment	Evidence
Goal 1: Support the economic development and population growth	Balancing capacity and demand for travel through increasing public transport capacity and/or reducing the need to travel	✓✓✓	The programme is designed to deliver a doubling of cycling trips. The complementary measures scheme will support the infrastructure investment to encourage people to use alternatives to car driving and public transport.
	Improving people's access to jobs	✓✓	The Kingston station plaza is a direct investment in a key arrival and departure hub in the borough.
	Improving access to commercial markets for freight movement & business travel, supporting the need for business to grow	✓✓	The Kingston station plaza is a direct investment in a key arrival and departure hub in the borough. Investment in cycling routes creates additional transport system capacity.
	Smoothing traffic flow	✓✓	Mode shift to cycling trips and investment in cycling routes creates additional transport system capacity and contributes to reducing journey time delay.
	Improving public transport reliability	✓	Mode shift to cycling trips and investment in cycling routes creates additional transport system capacity, which contributes to public transport reliability.
	Reducing operating costs	✓	Mode shift to cycling trips and investment in cycling routes creates additional transport system capacity, which contributes to improved resilience of the existing highway network, reducing operating costs and journey time delay.
	Bringing and maintaining all assets to a state of good repair	✓✓	The investment in cycling routes will directly improve the state of the on-highway assets. A number of schemes, such as the Kingston station plaza, are direct investments in the quality and build-life of the urban realm.
	Enhancing the use of the Thames for people and goods	✓✓✓	The Thames Boardway is a direct investment in enhancing the use of the river by more people.
	Improving public transport customer satisfaction	✓	Mode shift to cycling trips and investment in cycling routes reduces crowding on rail and buses, and bus journey time reliability.
Goal 2: Enhance the quality of life for all Londoners	Improving road user satisfaction (driver, pedestrians, cyclists etc.)	✓	Mode shift to cycling trips and investment in cycling routes creates additional transport system capacity and contributes to reducing journey time delay. Provision of safer cycling routes, pedestrian crossings should improve experience for all road users.
	Reducing public transport crowding	✓	Mode shift to cycling trips and investment in cycling routes reduces crowding on rail and buses.
	Enhancing streetscapes, improving perception of the urban realm and developing the better streets initiative	✓✓✓	Most of the schemes, such as the Kingston station plaza, are direct investments in urban realm and better streets. Key corridor investment directly contributes to the better streets initiative.
	Protecting and enhancing the natural environment	✓	Mode shift to cycling trips and investment in cycling routes reduces travel by greenhouse-gas emitting forms of transport.
	Reducing air pollutant emissions from ground-based transport, contributing to EU air quality targets	✓	Mode shift to cycling trips and investment in cycling routes reduces travel by forms of transport that emit air pollutants.

MTS Goal:	MTS Key Objectives	Assessment	Evidence
Goal 3: Improve the safety and security of all Londoners	Improving perceptions and reducing the impact of noise	-	Investment unlikely to have a perceptible effect on perceptions and noise impacts.
	Facilitating an increase in walking and cycling	✓✓✓	Mode shift to cycling trips and provision of high quality cycling and walking infrastructure. A number of schemes (in particular the Kingston station plaza and New Malden to Raynes Park link) will directly benefit pedestrians.
	Reducing crime rates	✓	A cycle hub at Kingston station will increase the security of cycle parking and should reduce theft.
	Reducing the number of road traffic casualties	✓✓	Investment in cycling routes reduces opportunities for collisions between cyclists and other road vehicles.
	Reducing casualties on public transport networks	-	Investment unlikely to have a perceptible on public transport casualties.
Goal 4: Improve transport opportunities for all Londoners	Improving the physical accessibility of public transport networks	✓	The connectivity schemes are a direct investment in improved physical accessibility of the cycling network. Investment in Kingston station plaza projects will be high quality environments accessible for all.
	Improving access to services	✓✓✓	Kingston station plaza, Kingston town centre connectivity improvements, projects are direct investments in key arrival and departure hubs in the borough. Investment in cycling routes improves access through journeys to services.
Goal 5: Reduce transport's contribution to climate change and improve its resilience	Supporting the wider regeneration	✓✓✓	The various schemes in the Kingston town centre will help to support regeneration in this areas. In particular, the Kingston station plaza scheme is a direct investment at a key arrival and departure hub in the borough. In addition, the network schemes will support regeneration in other parts of the borough.
	Reducing CO ₂ emissions from ground-based transport	✓	Mode shift to cycling trips and investment in cycling routes reduces travel by CO ₂ emitting ground-based transport.
Goal 6: Support delivery of the London 2012 Olympic and Paralympic Games and its legacy	Maintaining the reliability of transport networks	-	Investment unlikely to have a perceptible effect on the reliability of transport networks in relation to climate change. The Thames Boardway scheme will need to be developed and delivered in full agreement with the Environment Agency.
	Supporting the regeneration & convergence of social & economic outcomes between the 5 Olympic boroughs and the rest of London	-	n/a
	Physical transport legacy	-	n/a
	Behavioural transport legacy	✓	The mode shift to cycling trips and complementary measures scheme will continue to encourage people to use alternatives to car driving.

The Mayor's Cycling Vision in London

- 2.21 The Mayor's Cycling Vision in London has four key outcomes:
- A tube network for the bike – a network of direct, high-capacity, joined-up cycle routes.
 - Safer streets – streets and places where cyclists feel they belong and are safe.
 - More people travelling by bike – cycling across London to double by 2023.
 - Better places for everyone – creation of green corridors, with more tree-planting, more space for pedestrians and less traffic.
- 2.22 The measures within the *Tube Network for the Bike* outcome will deliver large-scale, high profile network-wide infrastructure projects to enable more people to cycle, more safely, more often. The Vision sets out specific investments to meet this including '*Mini-Holland*' in the suburbs. The Vision aims for the mini-Holland areas to, "over time, become every bit as cycle-friendly as their Dutch equivalents; places that suburbs and towns all over Britain will want to copy".
- 2.23 The mini-Holland programme includes measures to provide safer passage for cyclists off the dual carriageway traffic, making cyclists more visible and reducing conflict at junctions.
- 2.24 It is intended to transfer journeys to the bicycle that might otherwise have been made by the private car or public transport. This shift has the potential to reduce congestion on the highway network, improve journey time reliability, increasing the transport system capacity to enabling more sustainable delivery of new development.
- 2.25 The mini-Holland programme will significantly enhance the public realm that will encourage more people to spend more time in the borough, linking people with local shops and services, reducing their need to travel further afield for these opportunities. This is good for local business and helps people to save on travel costs.

Table 2.3: Assessment against the Mayor's Cycling Vision outcomes

Outcome	Assessment	Evidence
A tube network for the bike	✓✓✓	Direct investment in v. <i>Mini-Holland in the suburbs</i>
Safer streets	✓✓	A cycle hubs at Kingston station will increase the security of cycle parking and should reduce theft. Investment in cycling routes and junctions reduces opportunities for collisions between cyclists and other road vehicles.
More people travelling by bike	✓✓✓	The programme is designed to deliver a doubling of cycling trips. The complementary measures scheme will support the infrastructure investment to encourage people to use alternatives to car driving and public transport.
Better places for everyone	✓✓	Many of the schemes, particularly the landmark schemes such as the Kingston station plaza, are direct investments in urban realm and better streets. Key corridor investment directly contributes to the better streets initiative.

The Kingston Plan

- 2.26 The Kingston Plan sets out the Borough's vision for 2020. The vision is:
"that the Royal Borough will continue to be one of the very best places in which to live and work".
- 2.27 Central to its vision is the promotion of sustainable communities and transport under the core governance principle of agile, collaborative community leadership.
Kingston Plan objectives
- 2.28 The mini-Holland programme will directly help in the fulfilment of eight of the ten Kingston Plan development objectives:
- **Objective 1: Tackle climate change, reduce our ecological footprint and 'reduce, reuse, recycle'** – the mini-Holland programme will help to achieve this objective by reducing reliance on greenhouse-gas emitting forms of transport.
 - **Objective 2: Ensure the sustainable development of our borough and promotion of sustainable transport** – the mini-Holland programme will provide a high quality sustainable transport network and the programme of complementary measures will promote this to residents and visitors.
 - **Objective 3: Protect and improve the quality of our local environment** – the mini-Holland programme, particularly Kingston station plaza, will greatly enhance the public realm.
 - **Objective 4: Sustain and share economic prosperity** – as well as bringing enhancements to public realm that will encourage more people to spend more time in the borough, the mini-Holland programme will help to link people with local shops and services, reducing their need to travel further afield for these opportunities. This is good for local business and helps people to save on travel costs.
 - **Objective 6: Increase supply of housing and its affordability** – the mini-Holland programme is intended to transfer journeys to the bicycle that might otherwise have been made by the private car or public transport. This shift has the potential to enable more sustainable delivery of new development.
 - **Objective 7: Make communities safer** – the mini-Holland programme will improve conditions for vulnerable road users, reducing road danger and improve the security of cycle parking at the key hubs.
 - **Objective 8: Improve overall health and reduce health inequalities** – cycling is an 'active' mode of transport and more people cycling, more often, will mean that more people are benefitting from physical activity.
 - **Objective 10: Encourage people to take an active part in the social and cultural life of the community** – the mini-Holland project will work with a diverse range of groups in the community to promote cycling and increase participation in cycling.
- 2.29 Table 2.4 sets out the assessment of the performance of the mini-Holland programme against the Kingston Plan objectives using the same parameters in Table 2.1.

Table 2.4: Assessment against the Kingston Plan key objectives

The Kingston Plan Key Objectives	Assessment	Evidence
Objective 1: Tackle climate change, reduce our ecological footprint and 'reduce, reuse, recycle'	✓	Mode shift to cycling trips and investment in cycling routes reduces travel by greenhouse-gas emitting forms of transport. The Thames Boardway scheme will need to be developed and delivered in full agreement with the Environment Agency. Complementary measures programme will provide information to enable informed choices on travel options.
Objective 2: Ensure the sustainable development of our borough and the promotion of sustainable transport	✓✓✓	The programme directly promotes sustainable travel options and contributes to more people walking and cycling. The investment in transport system capacity supports more sustainable development. Mode shift to cycling trips contributes to reduced pollution from road.
Objective 3: Protect and improve the quality of our local environment	✓	Investment in urban realm improvements will contribute to increased resident satisfaction with local streets and areas and improved public spaces particularly through the Kingston station plaza, Kingston town centre connectivity improvements projects.
Objective 4: Sustain and share economic prosperity	✓✓✓	The programme directly invests in Kingston town centre, and provides links to secondary town centres and other parts of the borough. Direct investment in key arrival and departure hubs in the borough and investment in cycling routes to improve access to services and employment, linking people with local shops and services, reducing their need to travel further afield for these opportunities.
Objective 5: Raise educational standards and close gaps in attainment	✓	Children who cycle are more likely to do better at school.
Objective 6: Increase supply of housing and its affordability	✓	The programme is in accordance with the principles of the Local Development Framework and investment in cycling routes creates additional transport system capacity to support more sustainable development.
Objective 7: Make communities safer	✓	Cycle hubs at Kingston and Surbiton stations will increase the security of cycle parking and should reduce theft. Investment in cycling routes reduces opportunities for collisions between cyclists and other road vehicles.
Objective 8: Improve overall health and reduce health inequalities	✓✓✓	The programme directly targets increased participation on physical activity.
Objective 9: Support people to be independent	-	Investment unlikely to have a perceptible effect albeit that it does provide improved choice in transport options.
Objective 10: Encourage people to take an active part in the social and cultural life of the community	✓	The complementary measures programme will identify a diverse range of groups in the community and aims to increase their participation in cycling.

The Local Implementation Plan

- 2.30 The Local Implementation Plan (LIP) is a statutory document setting out how the Mayor's Transport Strategy is delivered within the borough and governs expenditure of the transport budget. LIP2 came into effect in July 2011 and targets improvement to the borough for the period up until 2031.
- 2.31 The overarching objective for LIP2 is to have:
- “a safe, efficient, integrated, inclusive, responsive, and sustainable transport network that supports the economic vitality of the borough, minimises its impact on (and where possible enhances) the natural and physical environment, minimises carbon emissions, and supports travel choices that meet the needs of residents, workers, and visitors to the borough”.*
- 2.32 The LIP reflects local priorities and objectives. The mini-Holland programme is fully consistent with the five LIP themes which are:
- Theme 1: Reduce transport's contribution to climate change, and improve its resilience to the effects of climate change.
 - Theme 2: Reduce congestion and traffic levels in the borough.
 - Theme 3: Create safer communities and a safer transport network.
 - Theme 4: Improve transport opportunities and enhance the quality of life for all Kingston Council residents.
 - Theme 5: Sustain and share economic growth and prosperity.
- 2.33 The mini-Holland programme is complementary to many of the LIP2 policies including.
- Policy C1 'to provide a comprehensive cycle network that enables safe and convenient cycle trips throughout the Borough'
 - Policy C2 'to enable the secure and convenient storage of bicycles'
 - Policy C4 'to increase cycling uptake and ensure road safety'.
- 2.34 Table 2.5 sets out the assessment of the performance of the mini-Holland programme against the LIP2 objectives.

Table 2.5: Policy fit against the Local Implementation Plan

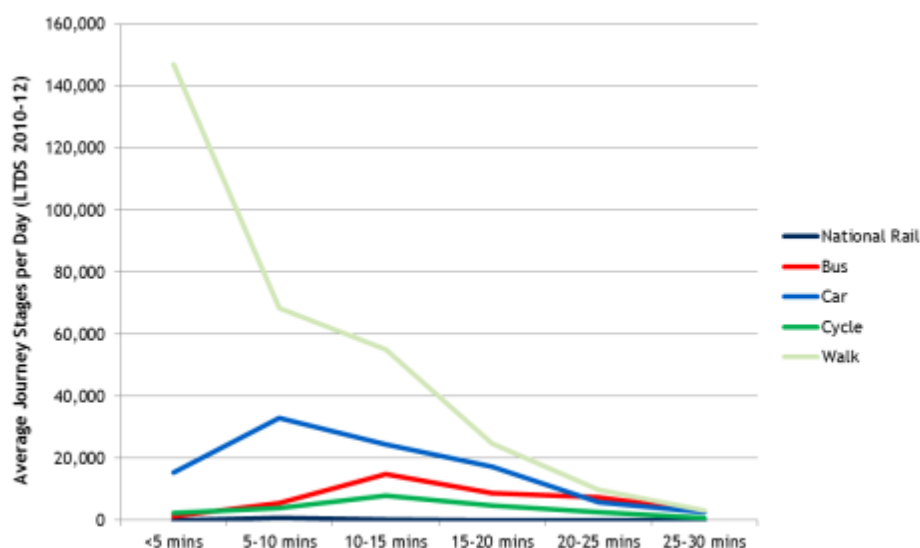
The Local Implementation Plan Themes	Objective	Policy Fit
Theme 1: Reduce transport’s contribution to climate change, and improve its resilience to the effects of climate change	Reduce CO2 emissions from road based transport	The programme is intended to transfer journeys to the bicycle that might otherwise have been made by the private car or public transport. This shift has the potential to reduce congestion on the highway network and reduce travel by greenhouse-gas emitting forms of transport.
	Maintain and enhance the resilience of the Kingston transport system to the effects of climate change	
Theme 2: Reduce congestion and traffic levels in the borough	Promote and enhance public transport, walking, and cycling	The programme will provide a high quality sustainable transport network and the programme of complementary measures will promote this to residents and visitors.
	Reduce congestion and smooth traffic flow in congestion hotspots	The programme is intended to transfer journeys to the bicycle that might otherwise have been made by the private car or public transport. This shift has the potential to reduce congestion on the highway network.
	Reduce the need to travel during peak congestion times	
	Reduce serious injuries and deaths on the borough's transport network	The programme will improve conditions for vulnerable road users, reducing road danger. Investment in cycling routes reduces opportunities for collisions between cyclists and other road vehicles.
Theme 3: Create safer communities and a safer transport network	Reduce crime and fear of crime while in the public realm and on public transport	The programme is intended to promote positive perceptions and behaviours in public spaces. A cycle hub at Kingston station will increase the security of cycle parking and should reduce theft. High quality urban design will promote positive perceptions of public spaces.
	Improve sustainable transport links to/from/within socially deprived areas and areas with poor access to public transport	The connectivity schemes are a direct investment in improved physical accessibility of the cycling network. The schemes invest in better links between Kingston town centre and Surbiton, Tolworth, New Malden and other parts of the borough.
Theme 4: Improve transport opportunities and enhance the quality of life for all Kingston Council residents	Improve the physical accessibility of the borough’s transport network, especially for disabled people	Better connections between bus and rail and walking links to the rail station are improved and at-grade.
	Improve pedestrian and cycling permeability and connectivity throughout the borough	Contributes to an improved walk and cycle network across the region.
	Protect and enhance the built and natural environment	A major contribution to the improvement of the public realm, particularly the Kingston station plaza.

The Local Implementation Plan Themes	Objective	Policy Fit
Theme 5: Sustain and share economic growth and prosperity	Improve air quality and reduce impacts of noise and vibration from transport	The programme is intended to transfer journeys to the bicycle that might otherwise have been made by the private car or public transport.
	Improve transport’s contribution to health and wellbeing	Cycling and walking are ‘active’ modes of transport and more people cycling and walking more often will mean that more people are benefitting from physical activity.
	Improve economic viability of the borough by improving the accessibility of key employment, retail, entertainment, education, and growth areas	Provides better connections to Kingston town centre and will encourage growth in employment, retail, entertainment in the district centre. The programme, particularly the Kingston station plaza, will greatly enhance the public realm in these areas.
	Improve public transport links to key attractions outside of the borough e.g. Waterloo, London’s airports	Improved connections to riverside, rail stations, Kingston town centre and other local centres. The programme, particularly the Kingston to Surbiton link and the Kingston station plaza, will deliver this.
	Better manage and improve freight access, particularly to key industrial and commercial areas	Freight and service access maintained.
Bring and maintain all transport infrastructure assets to a state of good repair	Quality finish will be maintained to a high standard. Lighting and other public realm improvements will contribute to the overall state of the assets.	

Need for Improvement

- 2.35 The Borough already has a relatively high mode share for cycling among the outer London boroughs and analysis shows that there are many more potentially cyclable trips in the borough that could be converted to cycling. The Borough's investment in cycling in recent years has been strongly linked with substantial growth in cycling. The terrain in Kingston is relatively flat and it is a comparatively small borough with many residents living within a few miles of Kingston town centre.
- 2.36 The most recent London Travel Demand Survey (LTDS) showed that 3.9% of all trips in the borough are made by bike. Like London as a whole, the level of cycling in Kingston has been growing in recent years. Annual cordon counts show a 17 per cent rise in cycling between 2010 and 2013, exceeding the targets set in our Local Implementation Plan (LIP) by 100 per cent.
- 2.37 Analysis of LTDS shows that almost one in five passenger journeys undertaken within a 3 km radius of Kingston town centre was made by car. Figure 2.2 illustrates that these journeys typically take less than 20 minutes and there is a significant cycling potential for such trips.

Figure 2.2: LTDS Average daily journey stages made within 3km of Kingston town centre by mode and journey time band (2010 to 2012 average)



- 2.38 The cycling mode share is currently limited by the quality and consistency of cycle infrastructure and facilities across the borough. A number of cycling needs and issues were identified and the mini-Holland programme is designed to address those issues and remove perceived barriers to more cycling.
- 2.39 The Borough has an improving trend in relation to cycling casualties. At the end of 2008 a 38% decrease in the number of cyclists killed and seriously injured was recorded, compared with the average for 1994-98. Kingston is already well ahead of the London average.

Traffic congestion

- 2.40 The Borough experiences relatively high levels of traffic congestion, despite overall traffic volumes decreasing in the borough since 1999. The private car accounts for almost half of all

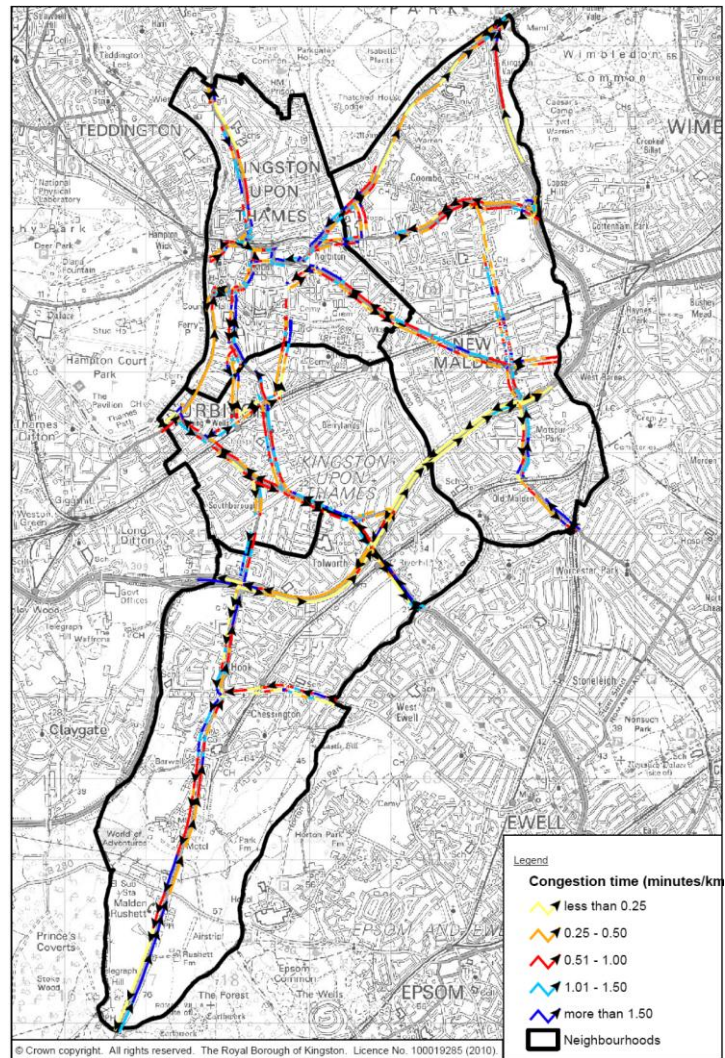
trips in the borough. Congestion was residents' main concern in the RBK 2009 Residents Survey.

- 2.41 Traffic congestion is particularly acute on the relief road around Kingston town centre, and on Richmond Road, Kingston Hill, Coombe Road and Cambridge Road/ Kingston Road on the approaches to the relief road. There are also delays on Ewell Road through Surbiton and on the Malden Road through New Malden town centre. Current levels of traffic congestion are shown in Figure 2.3.
- 2.42 High levels of car dependence are attributed to the borough's poor orbital rail links, high travel costs to central London, low frequency rail services from some stations and areas such as Coombe, Berrylands and Hogsmill where the level of public transport accessibility is low.

Public transport overcrowding

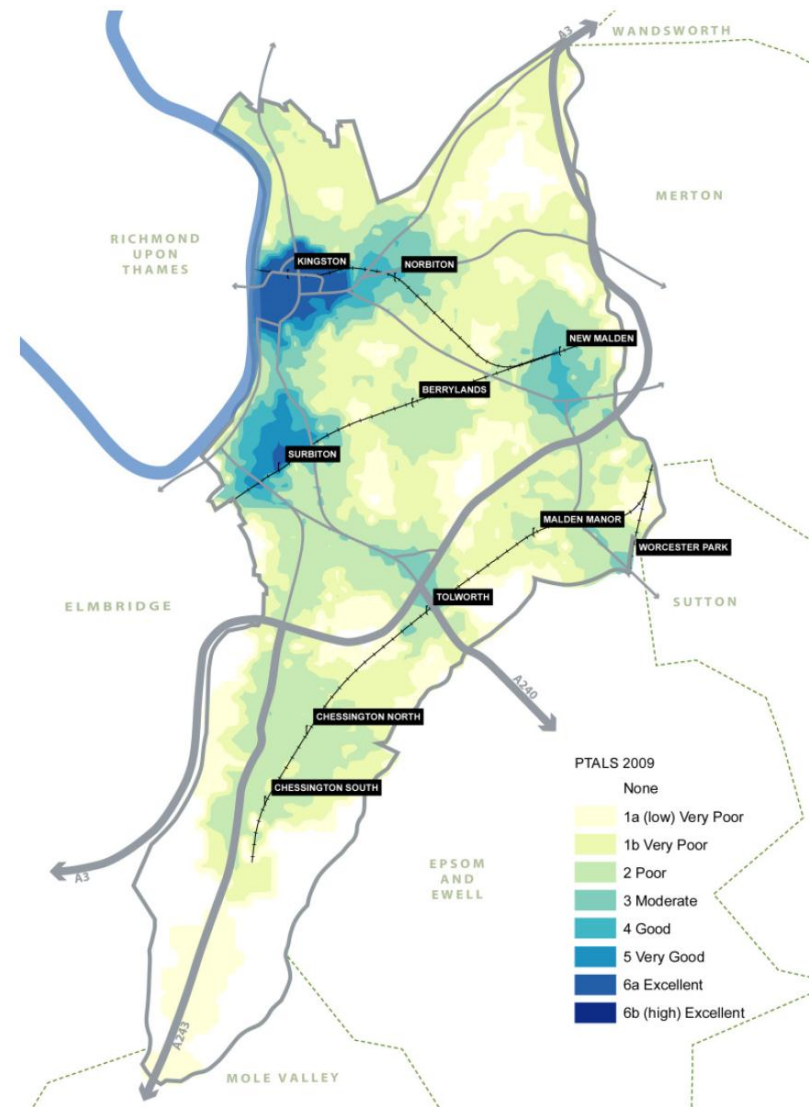
- 2.43 The borough relies heavily on the bus network to provide acceptable levels of public transport accessibility for journeys not served by the rail network. With forecast population growth, the demand placed on buses in the borough will continue to rise, which may exacerbate overcrowding issues on some parts of the network.
- 2.44 The London and South East Route Utilisation Strategy (2011) reports that the South West mainline is running at up to 110 percent of capacity during peak times and is identified as a 'severely stressed' rail corridor in the sub-regional transport strategy which identifies the reduction of public transport overcrowding as a key challenge. Whilst increased cycling is not likely to decrease demand for longer distance rail journeys, there is the potential for some shorter rail journeys to be cycled instead.
- 2.45 Kingston, particularly southern parts of the borough, is expected to accommodate a relatively high proportion of the forecast population growth, which will place additional pressure on public transport capacity.
- 2.46 Figure 2.4 illustrates the Public Transport Accessibility Levels (PTAL) across the borough.

Figure 2.3: Current traffic congestion across the borough (7am-10am)



Source: Traffic Master GPS journey time data supplied by TfL

Figure 2.4: PTALS across the borough



Orbital routes

- 2.47 The sub-regional transport strategy highlights improved connections between Kingston town centre and Wandsworth, Merton and Sutton as priority links. On the Kingston to Wandsworth corridor there are limited cycling facilities to assist connections to Cycle Superhighway 8, while on the Kingston to Merton corridor, cycling trips towards Cycle Superhighway 7 are hampered by poor connections across the A3 at New Malden.
- 2.48 There are poor orbital rail links in the borough and, although the bus network is comprehensive, traffic congestion causes delays to services that make orbital trips by public transport unappealing.

Severance

- 2.49 There are some significant instances of severance across the borough that reduce cycle and pedestrian permeability and accessibility. Kingston benefits in some places from quiet, low-traffic streets with filtered permeability between them. However the borough is most directly connected by its main roads, which in most instances provide the only means of crossing major linear barriers. These main roads are often unsuitable for cyclists who may not be confident riding amongst heavy motor-traffic – especially where crossing major barriers involves negotiating complex, fast junctions. Key areas of severance include:
- The A3 cuts through the borough from Kingston Vale, along the eastern edge of the borough through New Malden, then southwest through Tolworth and Long Ditton. The road contributes to locally poor air quality, congestion on feeder roads and noise pollution, and is a substantial barrier to walking and cycling trips that cross its route.
 - The south west mainline and the Kingston loop line run broadly east-west through the borough; movements across the line are restricted to main roads and a small number of footbridges or tunnels.
 - The River Thames constrains access to the borough and to Kingston town centre from Richmond in the west. All vehicular, cyclist and pedestrian traffic currently arriving from Richmond west must use Kingston road bridge.
 - The cycling permeability of Kingston town centre is limited by the extensively pedestrianised core and encircling relief road which make cycling trips in, around and across the core challenging and can bring cyclists into conflict with pedestrians. K+20, the Area Action Plan for Kingston town centre (adopted 2008), sets out the ambition for new and improved cycle routes in the town centre, including the proposal for a cyclist and pedestrian Boardway on the banks of the Thames.
 - The Fountain Roundabout on the Kingston Road and Malden Road is regularly identified as a cause of severance.

Population growth

- 2.50 The borough is expected to accommodate significant population growth over the coming years. The London Plan proposed early alterations suggest that there will be 6,434 additional dwellings in the borough between 2015 and 2025, whilst Kingston's Core Strategy plans for 5,625 new dwellings between now and 2025. It is planned that these new dwellings will be located close to or within major nodes, with that largest concentrations in Kingston and Tolworth. Such an increase would, in broad terms, be expected to generate in the order of an additional 10,000 to 15,000 trips per day.

- 2.51 This growth will place additional burden on the existing transport network. It is a key priority for the Borough that development happens sustainably. There is the potential for the Borough's streets and bus services to become more congested and overcrowded, affecting journey time reliability.
- 2.52 Figure 2.5 illustrates the location of planned housing in the Core Strategy and Figure 2.6 shows the planned future growth in Kingston town centre.

Figure 2.5: Core Strategy – delivery of housing

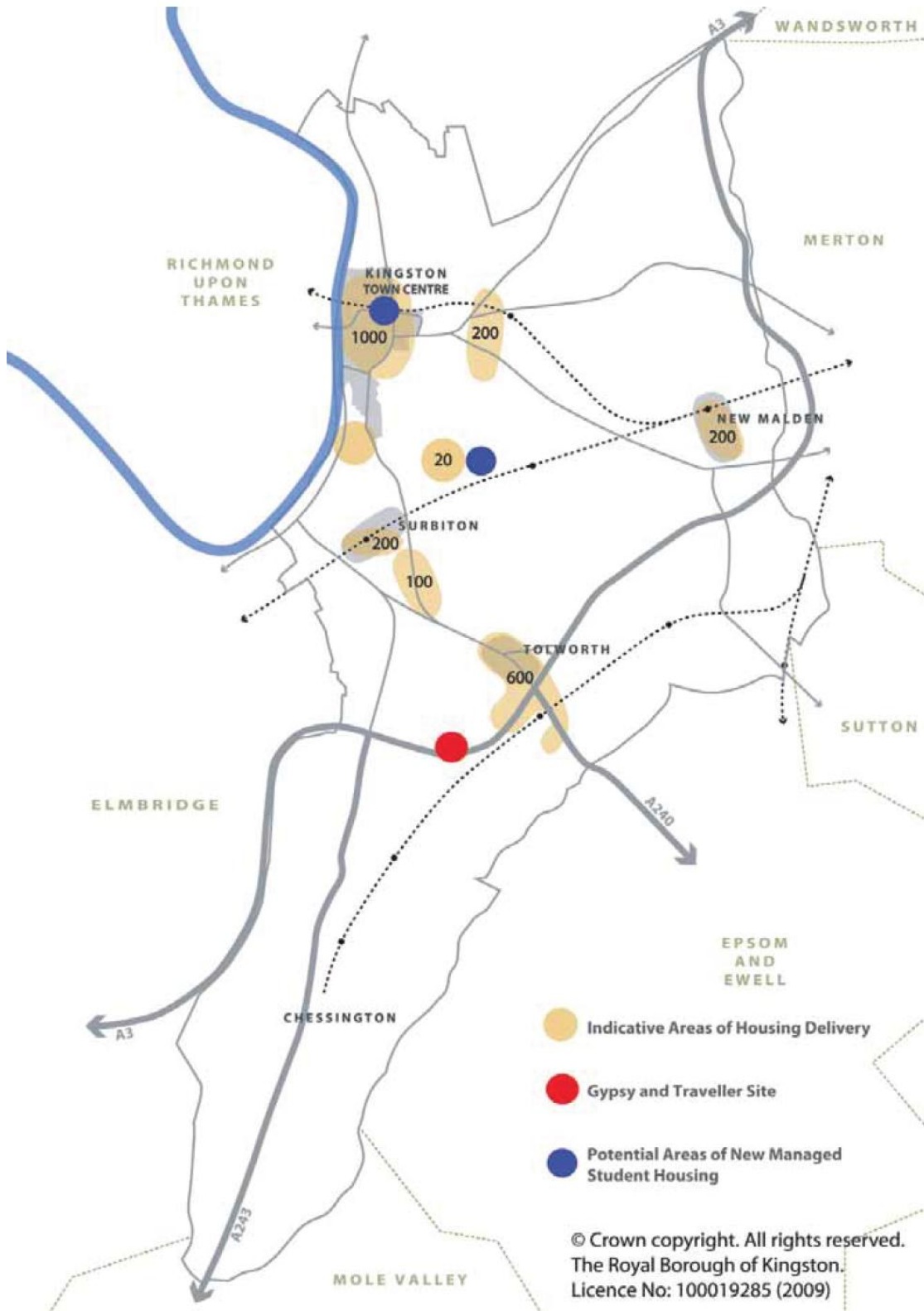


Figure 2.6: Major developments in Kingston

Kingston Futures Major Opportunity Areas



MAJOR OPPORTUNITY AREAS

- Eden Quarter
- North Kingston

PROPOSED PUBLIC REALM SCHEMES

- A Ancient Market Place (phase one completed)
- B Canbury Gardens
- C Fife Road pedestrian improvements
- D A new plaza at Kingston Train Station
- E A cycling superhub for 750 spaces
- F Memorial Gardens upgrade
- G Linear Park in North Kingston development
- H Improved riverside facilities for cyclists and pedestrians
- Major public realm improvements

REFERENCE

- All Saints Church
- Rotunda
- Kingston College
- Kingston Train Station
- Cromwell Road Bus Station
- Eden Walk
- Crown Arcade
- Bentalls Centre
- John Lewis
- Rose Theatre
- Museum and Public Library
- Kingston Crown Court
- Guildhall complex (RB Kingston)
- Cattle Market Bus Station
- Charter Quay

CONSENTED SCHEMES

- 16 Thameside Wharf
- PLANNING PIPELINE**
- Gas Holders
 - Kingsgate
 - Sury Basin
 - Eden Walk Shopping Centre
 - Ashdown Road
 - Eden House
 - Gala Bingo
 - St James Road

DEVELOPER

- Fenwicks
- Berkeley First (Berkeley Group)
- Goldcrest
- Dane Hurst/FIL
- British Land
- St George (Berkeley Group)
- Axiom Land and Threadneedle Investments
- CNM Estates
- Salmon Harvester Opportunity Fund

USE

- Mixed
- Mixed
- Mixed
- Residential
- Mixed
- Residential
- Mixed
- Mixed
- Mixed

UNDER CONSTRUCTION

- 25 Riverside Walk
- 26 Kingston Riverside
- 27 Kingston Heights
- 28 Kingston College
- 29 No.1 Penrhyn Road
- 30 No. 3-5 Penrhyn Road

- Canadian and Portland Estates
- NHP Leisure Developments
- NHP Leisure Developments
- Kingston College
- SRI Penrhyn Road Limited
- Cherwell (3-5 Penrhyn Road Limited)

- Leisure
- Residential
- Mixed
- Education
- Student housing
- Student housing

Air quality and CO₂ emissions

- 2.53 The entire borough has been designated an Air Quality Management Area. Levels of Nitrogen Dioxide and Small Particulate exceed national standards along many sections of the borough's main roads. Air quality in Kingston town centre is notably poor in comparison to other parts of the borough. Per capita CO₂ emissions from ground-based transport in Kingston are among the highest in London, though levels are falling. However, given the high proportion of through-traffic in the borough transport CO₂ levels cannot be entirely attributed to journeys originating or ending within the borough.

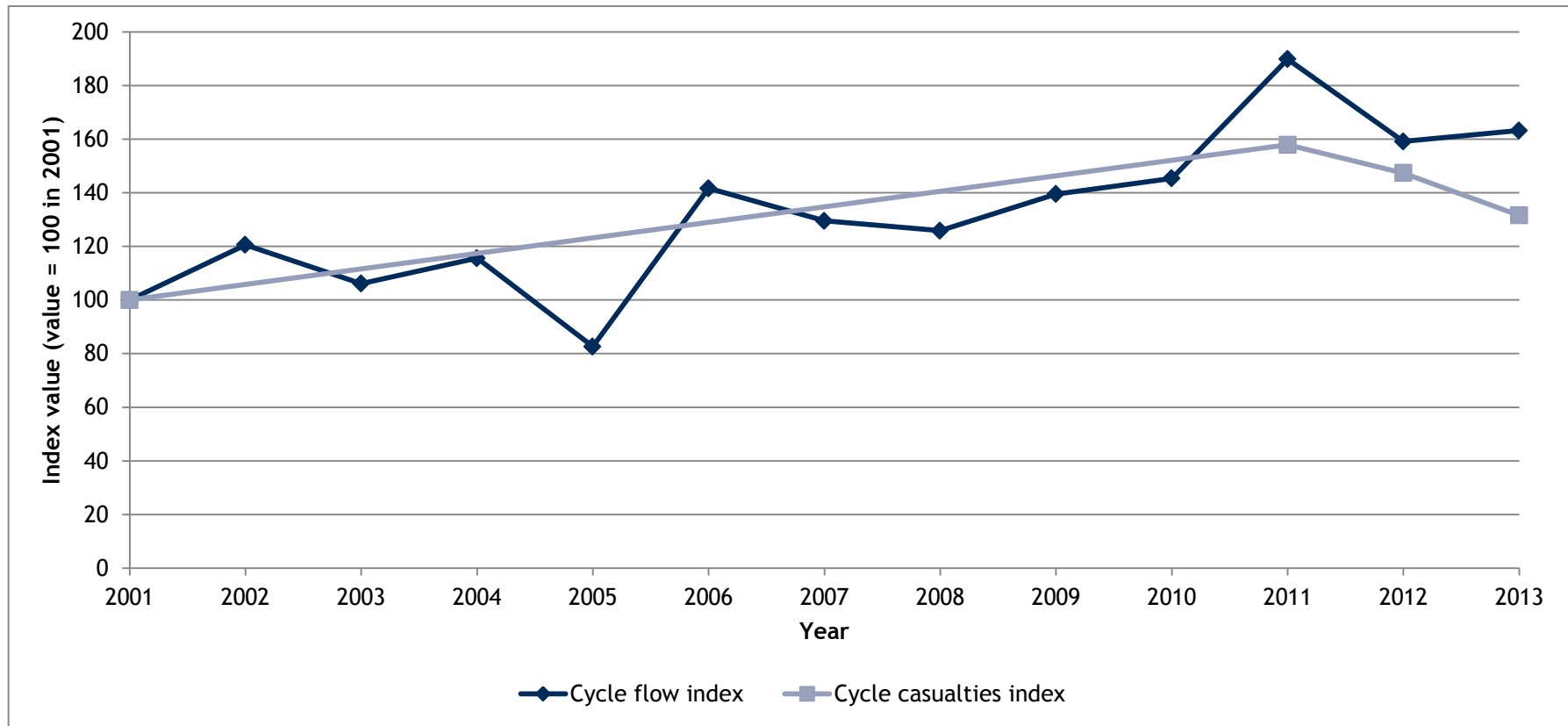
Crime

- 2.54 The latest crime figures show that Kingston is the safest borough in London. However, cycle theft remains relatively high, particularly in town centres and at train stations. There are approximately 600 on-street secure cycle parking spaces in Kingston town centre and on busy weekend summer afternoons these can be full to capacity. There is limited space on the highway to accommodate substantially more parked cycles. The Secure Cycle Parking Strategy calls for town centre and station cycle parking that is supervised and secure; off-street; contains showers and changing facilities; provides lockers for clothing and accessories; offers bicycle hire and services of a retail shop and repair facility. There are also large numbers of high density flats and apartments in the borough without adequate cycle storage and this can create a barrier to cycling.

Cycle safety

- 2.55 While cycle flows in Kingston grew by 63% between 2001 and 2013 (based on an average of ten sites across the borough), the number of cyclist casualties also increased by 32% (from 57 to 75). This is illustrated in Figure 2.7. Although this represents a fall in the casualty rate, more effort is needed to reduce the number of collisions and to ensure growth in cycling is decoupled from a growth in collisions.

Figure 2.7: Cycle flows and casualties in Kingston, 2001–2013



Cycle flows based on annual counts at ten locations across the borough; cycle casualties based on recorded collision data

Cycling infrastructure

- 2.56 The borough has good cycling infrastructure on its quieter roads and at crossing points on the relief road. However, whilst there has been some investment in the provision of cycling infrastructure on main roads, this has been hampered by the limited amount of funding that has been available at any given point in time. The result has often been the provision of facilities that do not fully address the reality or perception of road danger on the borough's streets. As this existing main road infrastructure is largely inconsistent with London Cycling Design Standards (LCDS) advice, there is the scope to gradually improve this situation by taking the opportunity to review existing layouts as and when maintenance projects take place.
- 2.57 People's perception of danger is a key reason why they choose not to cycle. Enabling people to consider cycling as a natural choice will require an increase the amount of full and partial segregation and, more generally, achieve a consistently high quality of infrastructure design – which does not introduce new dangers and conflicts or leave cyclists stranded at scheme, neighbourhood or borough boundaries.
- 2.58 This is consistent with the findings of research undertaken in 2012 by Steer Davies Gleave on behalf of TfL¹, which investigated the decisions that cyclists in London make when deciding which route to take and the relative importance of different route features. Across all cyclists, the key considerations around route choice centred on choosing the safest routes, and avoiding traffic (either by cycling in a cycle lane separate to the traffic, or on roads where traffic volume is lower). In particular the highest score across all groups was for the statement "I would prefer cycling in a cycle lane even if it meant a longer journey". It is certainly not the case that cyclists will always choose the most direct route when making a journey – even among the most frequent cyclists. Those with a lower amount of cycling experience in London (i.e. less than 2 years) are also more safety conscious when cycling, preferring to travel on routes with less traffic and a cycle lane, whilst avoiding the more difficult junctions.

Constraints and Dependencies

Enhancing public realm and town centre vitality Study

- 2.59 In 2013 the Council commissioned a borough-wide retail and town centre study to make recommendations on how retail viability and vitality can be improved. The study made various recommendations, a number of which the mini-Holland investment will help to achieve:
- Investment in the borough's public realm is needed to provide an attractive and welcoming place to spend time, encouraging people to visit town centres rather than shopping online or out of town.
 - Improve pedestrian accessibility and connectivity within Kingston town centre, which currently has weak connections among its character and functional areas including the railway station.
 - Open up key routes through Kingston town centre to encourage movement through the centre, increasing footfall to support retail units.

Quietways

- 2.60 The Quietways programme will deliver a pan-London network of high-quality, well-signed cycle routes on low-traffic back streets and off-street sections designed to overcome the most

¹ Steer Davies Gleave on behalf of TfL, Cycle route choice: Final survey and model report, June 2012

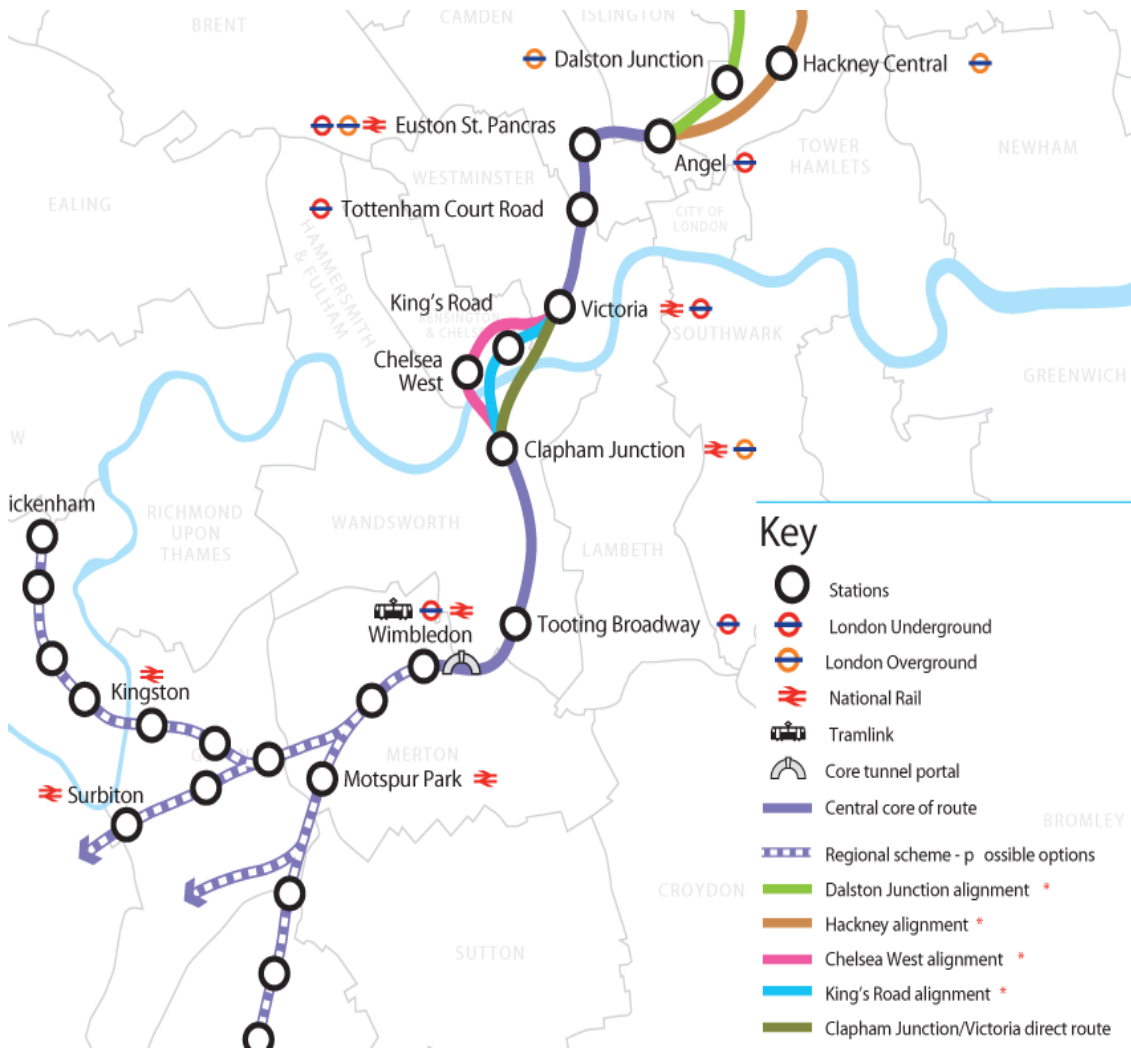
important barriers to cycling and targeted at less confident cyclists and those who prefer a more relaxed journey. The measures can potentially shift many trips currently made by motorised modes (especially short car trips in outer London).

- 2.61 The Quietways network will complement the routes being delivered as part of the Central London Grid, the Cycle Superhighways and mini-Holland programme.
- 2.62 The planning of Quietways investment will be co-ordinated with mini-Holland in order to maximise the effect of cycling-related investment by linking up opportunities for cycling journeys.

Crossrail 2

- 2.63 Currently, rail services to Kingston station are relatively infrequent by London standards due to the fact that it is on a branch line and rail capacity is constrained on the main rail line between Wimbledon and Waterloo.
- 2.64 A Crossrail 2 route is currently being planned by TfL. Figure 2.8 illustrates the potential routes currently under consideration. As shown, potential stations include Kingston, Surbiton, New Malden and others within the borough, so residents in the borough will be able to use a high frequency rail service to access central London directly.
- 2.65 If Crossrail 2 serves these locations, it will act as a catalyst for development, putting additional burden on the existing local roads and public transport system. There will be a significant increase in trips to and from stations, particularly at Kingston where it is hoped that the level of service and regional connectivity will be significantly improved relative to current service levels.
- 2.66 There is therefore a need to develop a culture for sustainable travel to prepare the borough for the potential impacts of Crossrail 2, enhancing the desirability of living, working and visiting the borough. The borough can therefore maximise the economic potential that Crossrail 2 can deliver.

Figure 2.8: Proposed Crossrail 2 Route



3 Scheme Development and Description

Scheme Development

3.1 This chapter outlines the 16 schemes that form part of our mini-Holland programme. These schemes are generally based on the schemes included in the Stage II bid, which in turn came from the schemes in our EOI. Broadly speaking, we have gone through two processes to arrive at the present list of schemes:

- Scheme evolution – the list of schemes has evolved over time as we have thought through and investigated how they fit together a coherent package, as well as gaining a better understanding of the costs and challenges involved in each scheme
- Scheme prioritisation – once the likely level of funding from TfL became known, there was a need to prioritise the schemes from the Stage II bid to fit within this envelope

3.2 The section below discuss these two processes, in order to provide an understanding of how we have arrived at the current set of 16 schemes.

Scheme Evolution

3.3 Significant work was undertaken to identify and develop schemes included in the EOI and Stage II bid. Key factors that led to the inclusion of those schemes include:

- Deliverability – if the scheme could be delivered within the available funding timescales. Whether the scheme would be supported.
- Diversity – a mixture of landmark, network and supporting measures to combine to make a coherent programme of investment.
- Supporting strategic objectives – contribution of the scheme towards the scheme objectives (Chapter 2).
- Connectivity – improvement to the cycling journey and provision of a comprehensive network.

3.4 Subsequent to the Stage II bid, the set of schemes that are included in the programme have further evolved to meet the potential funding available. The aim of the scheme refinement

was to reduce the scheme costs while retaining the majority of the scheme benefits to reach a mini-Holland programme that delivers good value for money.

- 3.5 As such, the schemes that now form part of our programme have evolved since we first began considering them when the mini-Holland programmes was announced in early 2013. A summary of how the schemes have evolved since then up to this point is provided in Table 3.1.

Table 3.1: Evolution of schemes

Purpose	EOI	Stage II bid	Current programme
LANDMARK AND KINGSTON TOWN CENTRE SCHEMES			
Cycle hubs	SC.15 Surbiton Station cycle superhub SC.16 Kingston Station cycle hub SC.17 Kingston town centre cycle hub	CH.1 Kingston Station cycle hub ST.1 Surbiton station plaza CH.2 Surbiton station cycle hub <i>The Kingston town centre cycle hub was not taken forward due to the difficulty of identifying a suitable and available site, and because a nearby hub will be provided at Kingston station</i>	LM.1a Kingston Enterprise Hub / Kingston station access (interim scheme) LM.1 Kingston station cycle hub + Kingston station plaza (full scheme) <i>The Kingston hub has been combined with the Kingston station plaza and split into interim and full schemes</i> <i>The Surbiton schemes have been deprioritised (see next section)</i>
East-west connectivity through the Kingston town centre	LP.A Railway Superskyway LP.C Kingston Station Plaza	MT.2 Kingston station plaza <i>Scope of plaza reduced from EOI to improve value for money (by removing expensive tunnel)</i> <i>Scope of superskyway reduced, with existing routes to provide connectivity</i>	LM.1a Kingston Enterprise Hub / Kingston station access (interim scheme) LM.1 Kingston station cycle hub + Kingston station plaza (full scheme) <i>Combined with the Kingston Station cycle hub and split into interim and full schemes</i>
North-south connectivity along the western edge of Kingston town centre	LP.B Thames Boardway	SV.3 Thames Boardway <i>Generally unchanged from EOI (apart from some further design work)</i>	LM.3 Riverside Boardway <i>Generally unchanged from Stage II bid</i>
North-south connectivity along the eastern edge of Kingston town centre	SC.1 Wheatfield Way Greenway	CR.1 Wheatfield Way Greenway <i>Generally unchanged from EOI (apart from some further design work)</i>	LM.2 Wheatfield Way Greenway <i>Generally unchanged from Stage II bid</i>
Connectivity with Kingston town centre	SC.14 Kingston town centre connectivity improvements	MT.1 Kingston town centre connectivity improvements <i>Generally unchanged from EOI</i>	NW.1a Interim local connectivity to Kingston town centre NW.2 Local connectivity: to Kingston Bridge NW.3a: Local connectivity: to Portsmouth Road NW.5a: Local connectivity: Kingston Hill / London Road <i>Split across a number of more specific schemes</i>

Purpose	EOI	Stage II bid	Current programme
Link across the River Thames	LP.A Railway Superskyway <i>A new bridge at Raven's Ait was also examined, but was not included in the final EOI due to very high construction costs</i>	SV.2 Railside bridge <i>Some further design work completed on the bridge and its approaches</i>	<i>Deprioritised route for potential future implementation (see next section)</i>
RADIAL ROUTE AND NETWORK SCHEMES			
Direct link from Kingston town centre towards Richmond (A307)	SC.10 Richmond Road (A307)	CR.8 Richmond Road (A307) <i>Generally unchanged from EOI (apart from some further design work)</i>	<i>Deprioritised route for potential future implementation (see next section)</i>
Direct link from Kingston town centre towards Wandsworth (A308)	SC.7 Kingston Hill / Kingston Vale (A308)	CM.2 Kingston Hill / Kingston Vale (A308) <i>Generally unchanged from EOI (apart from some further design work)</i>	NW.1 Kingston Hill / Kingston Vale (A308) NW.1a Interim local connectivity to Kingston town centre <i>Scheme NW.1 Generally unchanged from CM.2 in the Stage II bid</i> <i>Scheme NW.1a provides an interim link between NW.1 and Kingston town centre</i>
Direct link from Kingston town centre towards Merton (A238)	SC.6 Coombe Road / Coombe Lane West (A238)	CM.1 Coombe Road / Coombe Lane West (A238) <i>Generally unchanged from EOI (apart from some further design work)</i>	<i>Deprioritised route for potential future implementation (see next section)</i>
Direct link from Kingston to New Malden (A2043)	SC.5 Cambridge Road / Kingston Road (A2043) SC.13 Dutch style roundabout	CR.5 Cambridge Road / Kingston Road (A2043) SV.1 Dutch style roundabout at Fountain Roundabout <i>Generally unchanged from EOI (apart from some further design work)</i>	NW.5 Cambridge Road / Kingston Road (A2043) NW.5a Local connectivity: Kingston Hill / London Road <i>Scheme NW.5 combines schemes CR.5 and SV.1 from the Stage II bid</i> <i>Scheme NW.5a provides a link between NW.5 and Kingston town centre</i>
Direct link from New Malden to Raynes Park	-	SV.4 New Malden to Raynes Park link <i>New scheme identified that takes advantage of the existing Thames Water pipe trackway to provide a new off-road link</i>	LM.4 New Malden to Raynes Park link <i>Generally unchanged from Stage II bid, except that it now encompasses an upgrade to the existing path between Kingston Road (A2043) and Coombe Road (B283)</i>

Purpose	EOI	Stage II bid	Current programme
Direct link from New Malden to Worcester Park (A2043)	SC.12 Malden Road (A2043) / High Street (B283)	CR.10 Malden Road (A2043) / High Street (B283) <i>Generally unchanged from EOI (apart from some further design work)</i>	<i>Deprioritised route for potential future implementation (see next section)</i>
Direct link from Kingston town centre to Surbiton	SC.3 Kingston to Surbiton	CR.3 Kingston to Surbiton <i>Generally unchanged from EOI (apart from some further design work)</i>	NW.4 Kingston to Surbiton <i>Generally unchanged from Stage II bid</i>
Direct link from Surbiton to Tolworth	SC.8 Avenue Elmers SC.9 Ewell Road (A240)	CR.6 Avenue Elmers CR.7 Ewell Road (A240) <i>Generally unchanged from EOI (apart from some further design work)</i>	NW.6 Ewell Road (A240) NW.6a Local connectivity: St Mark's Hill (B3370) <i>Scheme NW.6 combines schemes CR.6 and CR.7 from the Stage II bid</i> <i>Scheme NW.6a is a new addition, to provide a more direct link to the centre of Surbiton</i>
Direct link from Kingston town centre towards Thames Ditton	SC.2 Portsmouth Road (A307) north SC.4 Portsmouth Road (A307) south	CR.2 Portsmouth Road (A307) north CR.4 Portsmouth Road (A307) south <i>Generally unchanged from EOI (apart from some further design work)</i>	NW.3 Portsmouth Road north + south (A307) NW.3a Local connectivity: to Portsmouth Road <i>Scheme NW.3 combines schemes CR.2 and CR.4 from the Stage II bid</i> <i>Scheme NW.3a provides a link between NW.3 and Kingston town centre</i>
Direct link towards Hook (A243)	SC.11 Hook Road / Upper Brighton Road (A243)	CR.9 Hook Road / Upper Brighton Road (A243) <i>Generally unchanged from EOI (apart from some further design work)</i>	<i>Deprioritised route for potential future implementation (see next section)</i>
Supporting measures	SC.18 Complementary measures	SM.1 Complementary measures <i>Generally unchanged from EOI</i>	SM.1 Complementary measures <i>Generally unchanged from Stage II bid</i>

Scheme prioritisation

3.6 In addition to this process of evolution, we have prioritised the schemes included in our Stage II bid to fit within the likely level of funding that will be available.

3.7 The Stage II bid schemes were reviewed through the following process:

- Focus on routes joining main town centres and CS routes
- Deletion of high cost schemes where an adequate parallel route exists or could be built instead
- Deletion of routes where a good, direct parallel Quietway exists

3.8 The process of going through this review is summarised in Table 3.2.

3.9 This initial review was then followed by:

- Deletion of routes where space and physical conditions limited the scope of interventions.
- Addition of short mini-Holland connections to ensure that following reductions a complete network is maintained.
- Inclusion of separately-funded sections of priority Quietway to provide the complete mini-Holland network, for example South Lane which is parallel with Malden Road.

3.10 Finally, the schemes ultimately in our programmed have been prioritised for implementation, with this feeding into the delivery programme as described in Chapter 8. The factors taken into account include:

- Community priorities
- The need to prioritise the network elements
- Timescale for, and complexity of, delivery (early wins versus longer term projects)

Table 3.2: Summary of Stage II bid scheme prioritisation

Stage II bid scheme	Stage II cost estimate (£k)	Deliverability challenges	Connectivity	Alternatives for deprioritised schemes	Overall comments	Result
MT.1 Kingston town centre connectivity improvements	5 589	Medium	✓✓✓✓	-	Key function in providing connectivity to and between various network schemes	Included as NW.1a, NW.2, NW.3a, NW.5a
MT.2 Kingston station plaza	1 656	High	✓✓✓✓	-	Whilst challenging to deliver, this scheme is at a key point of the cycle network and will also significantly enhance a key gateway to Kingston	Included as LM.1 / LM.1a
ST.1 Surbiton station plaza	2 898	Medium	✓✓	-	Network Rail and South West Trains have already invested in cycle parking expansion at Surbiton	Deprioritised
SV.1 Dutch style roundabout at Fountain Roundabout	679	Medium	✓✓	-	Significantly enhances safety at a key junction for cyclists	Combined with CR.5 and included as NW.5 / NW.5a
SV.2 Railside bridge	5 244	Medium	✓✓✓	Kingston Bridge	The existing cycle route across Kingston Bridge means that a new crossing of the River Thames is a low priority	Deprioritised Improved link to Kingston Bridge included as NW.2
SV.3 Thames Boardway	5 727	Medium	✓✓✓	-	Significantly enhances direct north-south connectivity	Included as LM.3
SV.4 New Malden to Raynes Park link	1 932	Low	✓✓	-	Significantly enhanced connectivity to Raynes Park	Included as LM.4
CR.1 Wheatfield Way Greenway	2 490	High	✓✓✓✓	Route through town centre along Eden Street	Significantly enhances north-south connectivity and joins up many other schemes	Included as LM.2
CR.2 Portsmouth Road (A307) north	541	Low	✓✓	-	This route enables connectivity to be enhanced with relatively few deliverability challenges	Combined with CR.4 and included as NW.3
CR.3 Kingston to Surbiton	1 533	Medium	✓✓✓✓	-	Important link between two key town centres and transport hubs	Included as NW.4

Stage II bid scheme	Stage II cost estimate (£k)	Deliverability challenges	Connectivity	Alternatives for deprioritised schemes	Overall comments	Result
CR.4 Portsmouth Road (A307) south	767	Low	✓✓	-	This route enables connectivity to be enhanced with relatively few deliverability challenges	Combined with CR.2 and included as NW.3
CR.5 Cambridge Road/Kingston Road (A2043)	2 526	Medium	✓✓✓	-	This route improves connectivity to New Malden, which is a key secondary town centre	Combined with SV.1 and included as NW.5 / NW.5a
CR.6 Avenue Elmers	451	Low	✓✓	-	This route improves connectivity to Tolworth, which is a key secondary town centre	Combined with CR.7 and included as NW.6 / NW.6a
CR.7 Ewell Road (A2040)	1 805	Medium	✓✓	-	This route improves connectivity to Tolworth, which is a secondary key town centre	Combined with CR.6 and included as NW.6 / NW.6a
CR.8 Richmond Road (A307)	1 622	High	✓✓✓	Parallel quietway route available	Whilst this route is important for connectivity, the availability of alternatives means that it is a lower priority; there will be light improvements to the existing cycle lane along Richmond Road through scheduled maintenance	Deprioritised
CR.9 Hook Road/Upper Brighton Road (A243)	1 805	Medium	✓✓	CR.7 serves a nearby part of the borough	This link serves a similar part of the borough to CR.7, which is a higher priority as it serves Tolworth	Deprioritised
CR.10 Malden Road (A2043)/High Street (B283)	2 795	Medium	✓✓	Parallel quietway route available	As an alternative quietway route is available, this scheme has been deprioritised	Deprioritised
CM.1 Coombe Road/Coombe Lane West (A238)	2 069	Medium	✓✓	New Malden to Raynes Park link	As an alternative link to Merton will be available, this scheme has been deprioritised	Deprioritised
CM.2 Kingston Hill/Kingston Vale (A308)	3 144	Low	✓✓	-	Scheme is relatively straightforward to implement and provides connectivity towards central London	Included as NW.1 / NW.1a

Stage II bid scheme	Stage II cost estimate (£k)	Deliverability challenges	Connectivity	Alternatives for deprioritised schemes	Overall comments	Result
CH.1 Kingston station cycle hub	2 277	Medium	✓✓✓✓	-	A cycle hub at this location would lie where several schemes converge, serving both the station and town centre	Included as LM.1 / LM.1a
CH.2 Surbiton station cycle hub	1 380	Medium	✓✓	-	Whilst a cycle hub at this location would be desirable, it is a lower priority than one at Kingston	Deprioritised
SM.1 Complementary measures	1 135	Low	N/A	-	Key part of programme to ensure that benefits from infrastructure improvements are realised	Included as SM.1

Scheme Description

- 3.11 These mini-Holland schemes are listed in Table 3.3, and shown in Figure 3.1. The schemes have been categorised into three main groups:
- **Landmark schemes:** Major schemes that will significantly improve connectivity by tackling existing severance issues.
 - **Network schemes:** A network of high-quality cycle routes providing links between key parts of the borough.
 - **Supporting measures:** A comprehensive range of complementary measures to support the infrastructure schemes.
- 3.12 In addition, a number of schemes within each group have been identified as early start schemes, as the aim is to begin implementation of these within the 2014/15 financial year. Where appropriate, changes to the Stage II bid have been identified.

Table 3.3: List of schemes

Scheme name	Bid ref	Scheme purpose	Scheme description	Scheme key impacts / issues	Scheme type	Length (for linear schemes)	Changes from Stage II bid	
Landmark schemes [LM]								
<i>Early start schemes</i>								
LM.1a	Kingston Enterprise Hub / Kingston station access (interim scheme)	MT.1 (part) CH.1 (interim)	<ul style="list-style-type: none"> - Provide an enhanced east-west link between the river and Kingston station - Provide an interim cycle hub at this key gateway. 	<ul style="list-style-type: none"> - Cycle link west to the river, with a new cycle track along the railway line (3-4m wide) and widening the existing footbridge. - Relocate existing taxi rank. - Interim cycle hub using a currently vacant retail unit in the station building. 	<ul style="list-style-type: none"> - Negotiations with South West Trains to secure the retail unit. 	Off-road	N/A	Interim stage of schemes included in bid. Assumed to require 20% of total cost.
<i>Other schemes</i>								
LM.1	Kingston station cycle hub + Kingston station plaza (full scheme)	MT.1 CH.1	<ul style="list-style-type: none"> - Enhance the arrival experience to the town centre from Kingston station, which is currently poor and vehicle-dominated. - Provide secure cycle parking at a key gateway to the town centre. 	<ul style="list-style-type: none"> - Reallocate road space on Wood Street and Clarence Street in front of Kingston station to create more space for cycle links and pedestrian circulation (remove one of the traffic lanes). - Provision of 4m wide two-way cycle tracks to provide both north-south and east-west links. - New cycle hub immediately west of the station building (in the area currently occupied by the taxi rank), which will include secure cycle parking, cycling information and advice, a cycle shop and repairs, and lockers - this will incorporate the interim cycle hub 	<ul style="list-style-type: none"> - Impact on traffic capacity. - Negotiations with South West Trains and Network Rail. - May be affected by town centre proposals currently under development. 	Off-road scheme	N/A	Generally as per bid (subject to design refinement) Assumed to require remaining 80% of total cost.
LM.2	Wheatfield Way Greenway	CR.1	<ul style="list-style-type: none"> - Addresses need for strategic north-south connections, complementing the proposed Riverside Broadway. - Connects with many of the other schemes. - Enables cyclists to avoid travelling through pedestrianised section of town centre, enabling faster journeys and reducing conflicts with pedestrians. 	<ul style="list-style-type: none"> - Scheme consists of a segregated, off-road cycle route along the Wheatfield Way corridor between College Roundabout and Kingston station. - The existing design generally provides a two-way fully segregated cycle track at least 3.0m wide, except for a short 150m section where it will run on a shared-use footway; the track is proposed to run both along the eastern side of the road and in the central median. - The existing design is subject to further refinement. 	<ul style="list-style-type: none"> - Impact on motorised traffic due to removal of the third traffic lane at some locations. - May be affected by town centre proposals currently under development. 	Segregated facility	0.8km	Generally as per bid (subject to design refinement).
LM.3	Riverside Boardway	SV.3	<ul style="list-style-type: none"> - Existing quality of riverside walk is variable, and cycling is restricted upstream of Kingston Bridge. 	<ul style="list-style-type: none"> - New fixed boardway between Thames Side (north of John Lewis) to Queens Promenade. - Boardway is cyclist only, except for pedestrian 	<ul style="list-style-type: none"> - River users: the scheme has been modified to ensure that sufficient width remains 	Off-road	0.8km	Generally as per bid (subject to design

Scheme name	Bid ref	Scheme purpose	Scheme description	Scheme key impacts / issues	Scheme type	Length (for linear schemes)	Changes from Stage II bid	
		- Provide a direct and legible north-south cycle link in the Kingston town centre.	access only to moorings. - Boardway will be 4m wide and set slightly away from the riverbank, with a number of access points. - Scheme also includes connections to cycle routes at either end, plus the cycle route at Kingston Bridge.	available for the regatta; and will also maintain access to moorings. - Addressing any concerns raised by the Environment Agency.			refinement).	
LM.4	New Malden to Raynes Park link	SV.4	- Relatively few transport links between RB Kingston and LB Merton. - Coombe Lane (A238) and Burlington Road (B282) provide direct links, but are heavily trafficked and A3 interchanges can be intimidating to cyclists. - Purpose of this new route is to overcome severance, providing a direct and high quality link towards Raynes Park, Wimbledon and CS7 in Colliers Wood.	Core section (Coombe Road east to Merton): - Use existing Thames Water pipe trackway north of the railway line, east from New Malden. - 3m wide two-way cycle path, adjacent to 2m wide footway - Lighting and seating. Additional section (Kingston Road to Coombe Road): - Potential upgrade of existing path running along the northern side of the railway line.	- Negotiations with Thames Water. - Liaison with LB Merton, to ensure scheme links to path in Merton. - Potential impacts on fauna.	Off-road	Core section: 1.1km Additional section: 0.8km	Core section generally as per bid (subject to design refinement) Upgrade to the existing section of path is additional to what was in the bid.
Network schemes [NW]								
<i>Early start schemes</i>								
NW.1	Kingston Hill / Kingston Vale (A308)	CM.2	- Provide a link to the neighbouring boroughs of Wandsworth and Merton - Provide a link towards inner and central London, including CS7 and CS8.	- Semi-segregated cycle lanes, between Gordon Road and the A3. - Include a connection to the existing cycling facilities along the A3. - Interim connection to Kingston town centre (see next scheme).	- Robin Hood junction (signalised) between the A3 and Kingston Vale (A308). - Galsworthy Road / Kingston Hill (A308) signalised junction. - Queens Road (B351) / Kingston Hospital / Kingston Hill (A308) signalised junction. - Clifton Road / Park Road / Manorgate Road / Kingston Hill (A308) roundabout.	On-road, semi-segregated	3.6km long	Generally as per bid, except slightly shorter in length (subject to design refinement).
NW.1a	Interim local connectivity to Kingston town centre	N/A	- Provide an interim connection to the Kingston town centre to the Kingston Hill / Kingston Vale (A308) scheme.	- Light touch improvements to create a quietway link along Gordon Road, Queen Elizabeth Road and Canbury Park Road, between London Road and Richmond Road	- Interface with town centre proposals currently being developed.	On-road, quietway	0.9km long	New scheme

Scheme name		Bid ref	Scheme purpose	Scheme description	Scheme key impacts / issues	Scheme type	Length (for linear schemes)	Changes from Stage II bid
NW.2	Local connectivity: to Kingston Bridge	N/A	- Provide link between existing cycle track on Kingston Bridge and route along the railway line.	- Most likely route is along Clarence Street and Wood Street - Focus will be on moderating vehicle speeds and creating a 'shared space' type street environment where cyclists and motor vehicle can co-exist without the need for segregation	- Interface with town centre proposals currently being developed. - Managing potential conflicts with buses.	On-road, quietway	0.3km long	New scheme
NW.3	Portsmouth Road north + south (A307)	CR.2 CR.4	- Provide a key link between Kingston, Surbiton and Thames Ditton, along a route that is already popular with cyclists.	- Segregated two-way cycle track on the western side of Portsmouth Road between the proposed Riverside Boardway and Palace Road. - Semi-segregated cycle lanes south of Palace Road to the borough boundary.	- Maintaining access to bus stops. - Impacts on junction capacity expected to be minimal. - May be minor reductions in pavement widths.	Segregated / semi-segregated facility	1.6km	Generally as per bid (subject to design refinement)
NW.3a	Local connectivity: to Portsmouth Road	N/A	- Provide link between Portsmouth Road and the Kingston town centre.	- Scheme includes High Street and Eden Street, between Kingston Hall Road and St James's Road. - Focus will be on moderating vehicle speeds and creating a 'shared space' type street environment where cyclists and motor vehicle can co-exist without the need for segregation.	- Interface with town centre proposals currently being developed.	On-road, quietway	0.3km long	New scheme
Other schemes								
NW.4	Kingston to Surbiton	CR.3	- Provide a link between Kingston (which is the borough's primary town centre), and Surbiton (which is also an important town centre and has fast train services). - Also serves key destinations en-route, including Kingston University, Kingston College, Surrey County Hall and Surbiton High School.	- Semi-segregated cycle lanes along Penrhyn Road and Surbiton Road (A240) between College Roundabout and Surbiton Crescent. - Quietway along Surbiton Crescent between Surbiton Road (A240) and Claremont Road. - Quietway link along Palace Road between Portsmouth Road (A307) and Surbiton Crescent. - Semi-segregated cycle lanes along Claremont Road between Surbiton Crescent and St Mark's Hill (B3370).	- Existing parking and loading along some sections of the route - Managing potential conflicts with buses	On road, semi-segregated facility / quietway	1.7km	Generally as per bid (subject to design refinement)
NW.5	Cambridge Road / Kingston Road (A2043)	CR.5 SV.1	- Direct, high quality link between Kingston and New Malden, which are two key town centres in the borough. - Significantly enhanced conditions for cyclists at Fountain Roundabout.	- Generally semi-segregated cycle lanes, mostly with a width of 1.6m or 2.0m. - Corridor runs along Cambridge Road / Kingston Road (A2043), between London Road (A308) and Fountain Roundabout. - Dutch-style treatment of Fountain Roundabout at the eastern end of the corridor.	- Existing parking and loading along some sections of the route. - Managing potential conflicts with buses. - Impacts on junction operation. - Fountain Roundabout is a key	On road, semi-segregated	2.8km	Generally as per bid (subject to design refinement)

Scheme name		Bid ref	Scheme purpose	Scheme description	Scheme key impacts / issues	Scheme type	Length (for linear schemes)	Changes from Stage II bid
					point of severance, however standard Dutch roundabout would .significantly affect capacity.			
NW.5a	Local connectivity: Kingston Hill / London Road	N/A	- Provide link between new routes on Cambridge Road (A2043) and Kingston Hill (A308), and the Kingston town centre.	- Scheme includes a link along London Road (A308), between Queen Elizabeth Road and Gordon Road - the exact form of this link is to be confirmed. - This will link to the existing quietway route along Old London Road, which may be improved.	- Impacts on traffic along London Road (A308), including buses. - Interface with town centre proposals currently being developed.	On-road, semi-segregated / quietway	0.9km	New scheme
NW.6	Ewell Road (A240)	CR.6 CR.7	- Provide link between Surbiton and Tolworth.	- Quietway along Avenue Elmers. - Generally semi-segregated cycle lanes for corridor along Ewell Road (A240), between St Mark's Hill (B3370) and Tolworth Broadway.	- Existing parking and loading along some sections of the route. - Managing potential conflicts with buses. - Impacts on junction operation.	On-road, semi-segregated	2.5km	Generally as per bid (subject to design refinement)
NW.6a	Local connectivity: St Mark's Hill (B3370)	N/A	- Provide link between the Kingston to Surbiton and Ewell Road (A240) schemes.	- Route runs along St Mark's Hill (B3370), between Claremont Road and Ewell Road (A240). - Focus will be on moderating vehicle speeds and creating a 'shared space' type street environment where cyclists and motor vehicle can co-exist without the need for segregation, together with junction treatments at either end.	- Operation of junctions at either end of route.	On-road, quietway	0.4km	New scheme
Supporting measures [SM]								
<i>Early start and ongoing schemes</i>								
SM.1	Complementary measures	SM.1	- Overcome cultural barriers to making cycling an everyday occurrence - Change perceptions and behaviours through targeted engagement with businesses, schools and community groups.	- Develop and deliver a comprehensive range of complementary measures. - These measures (especially behaviour change) will be vital in ensuring that the benefits from the infrastructure schemes are fully realised.	- Ensuring that 'hard to reach' groups are engaged with.	Supporting measures	N/A	As per bid

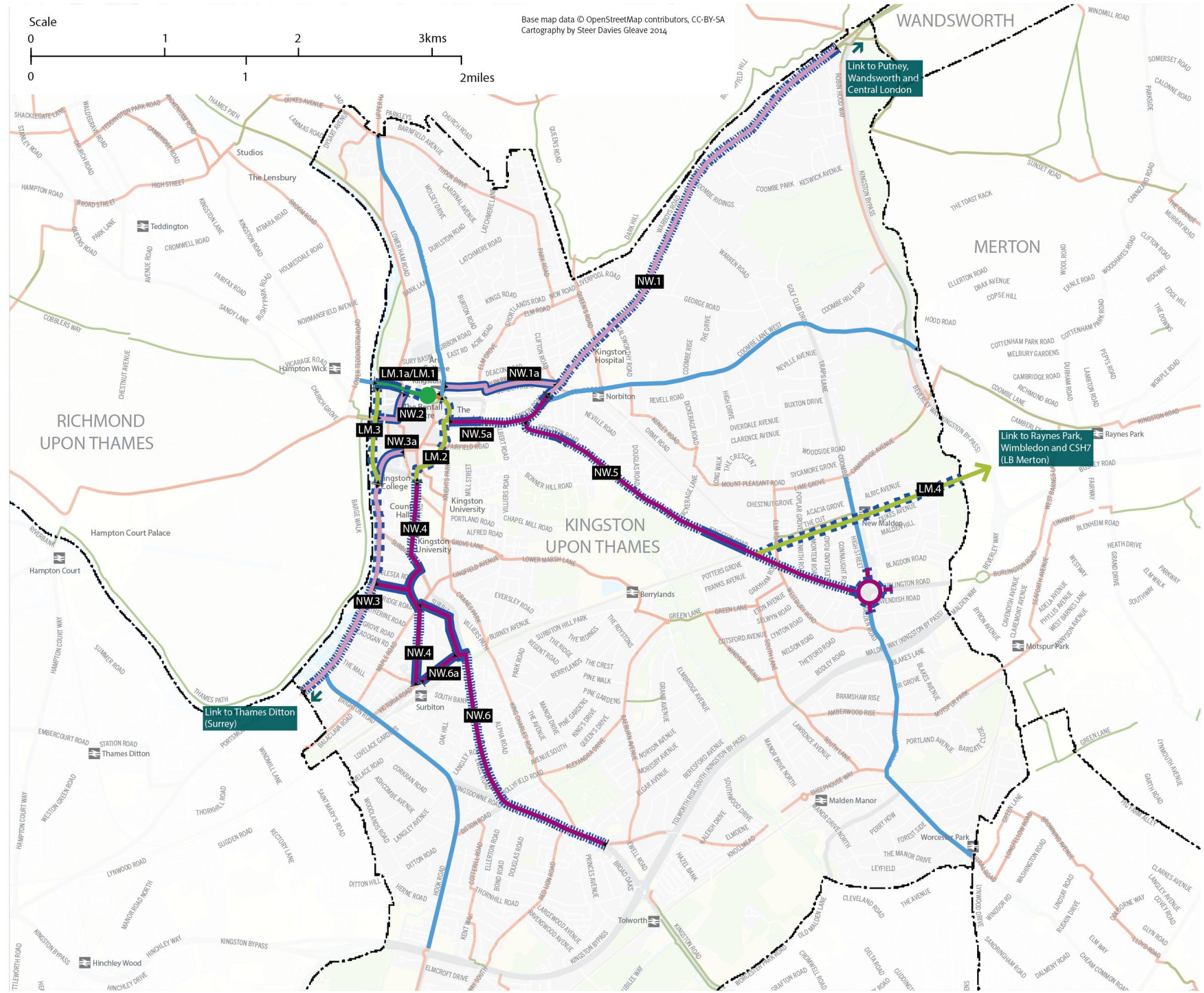
Figure 3.1: Scheme map

Proposed Cycle Facility Type	
	A Off-road cycle track
	B Segregated cycle lane / track
	C Semi-segregated cycle lane
	D Mandatory cycle lane
	E Advisory cycle lane
	F Shared with other vehicles

Mini-Holland programme schemes	
Landmark Schemes	
	LM.1a Kingston Enterprise Hub/ Kingston Station access
	LM.1 Kingston station cycle hub + Kingston station plaza
	LM.2 Wheatfield Way Greenway
	LM.3 Riverside Boardway
	LM.4 New Malden to Raynes Park link
Network Schemes	
	NW.1 Kingston Hill/Kingston Vale (A308)
	NW.1a Interim local connectivity to Kingston town centre
	NW.2 Local connectivity: to Kingston Bridge
	NW.3 Portsmouth Road north + south (A307)
	NW.3a Local connectivity: to Portsmouth Road
	NW.4 Kingston to Surbiton
	NW.5 Cambridge Road / Kingston Road (A2043)
	NW.5a Local connectivity: Kingston Hill / London Road
	NW.6 Ewell Road (A240)
	NW.6a Local connectivity: St Mark's Hill (B3370)

Future mini-Holland schemes	
	Future mini-Holland schemes

Existing cycle routes	
	On-road
	Off-road



Scheme Illustrations

- 3.13 A selection of scheme illustrations are provided in Figures 3.2 to 3.8. These have been extracted from the Stage II bid document. As such, they are illustrative only and the final form of each scheme may evolve as further design and development work is undertaken in due course.

Figure 3.2: LM.1 Kingston Enterprise Hub and Kinston station plaza



Figure 3.3: LM.3 Riverside Boardway



Figure 3.4: LM.4 New Malden to Raynes Park link



Figure 3.5: NW.3 Portsmouth Road



Figure 3.6: NW.4 Kingston to Surbiton - Claremont Road



Figure 3.7: NW.5 Cambridge Road / Kingston Road – Kingston Road



Figure 3.8: NW.5 Cambridge Road / Kingston Road - Fountain Roundabout



Needs and Issues Addressed

3.14 Table 3.4 sets out the programme schemes against planned contribution to the needs and issues set out in Chapter 2.

Table 3.4: Programme Schemes and relationship with Needs and Issues

Scheme name		Traffic Congestion	PT Overcrowding	Orbital Routes	High Proportion of cyclable trips by car	Severance	Population Growth	Air Quality and CO ₂	Crime	Cycle Safety	Cycling Infrastructure
Landmark schemes [LM]											
<i>Early start schemes</i>											
LM.1a	Kingston Enterprise Hub / Kingston station access (interim scheme)	✓	✓	✓	✓✓	-	✓✓	✓✓	✓✓✓	✓	✓✓✓
<i>Other schemes</i>											
LM.1	Kingston station cycle hub + Kingston station plaza (full scheme)	-	✓✓	✓	✓✓	✓✓	✓✓	✓✓	✓✓✓	-	✓✓✓
LM.2	Wheatfield Way Greenway	-	✓✓	✓	✓✓✓	✓✓✓	✓✓	✓✓✓	✓	✓✓	✓✓✓
LM.3	Riverside Boardway	✓	✓✓	-	✓✓✓	✓✓✓	✓✓	✓✓	✓	✓✓	✓✓✓
LM.4	New Malden to Raynes Park link	✓✓	✓✓	✓✓✓	✓✓	✓✓✓	✓	✓✓	-	✓✓	✓✓✓
Network schemes [NW]											
<i>Early start schemes</i>											
NW.1	Kingston Hill / Kingston Vale (A308)	-	✓✓	-	✓✓	✓	✓	✓	-	✓✓	✓✓
NW.1a	Interim local connectivity to Kingston town centre	✓	✓	-	✓✓	✓	✓	✓	-	✓	✓
NW.2	Local connectivity: to Kingston Bridge	-	✓	-	✓✓	✓✓✓	✓	✓✓	-	✓	✓
NW.3	Portsmouth Road north + south (A307)	✓	✓✓	-	✓✓✓	✓	✓	✓✓	-	✓✓	✓
NW.3a	Local connectivity: to Portsmouth Road	-	✓	-	✓✓	✓✓✓	✓	✓✓	-	✓	✓✓
<i>Other schemes</i>											
NW.4	Kingston to Surbiton	✓	✓✓	-	✓✓✓	✓	✓	✓	-	✓✓	✓✓
NW.5	Cambridge Road / Kingston Road (A2043)	-	✓✓	✓✓✓	✓✓✓	✓	✓	✓	-	✓✓✓	✓✓
NW.5a	Local connectivity: Kingston Hill / London Road	-	✓	✓✓✓	✓✓✓	✓	✓	✓	-	✓	✓✓
NW.6	Ewell Road (A240)	-	✓✓	✓	✓✓✓	✓	✓	✓	-	✓✓	✓✓
NW.6a	Local connectivity: St Mark's Hill (B3370)	-	✓	✓	✓✓✓	✓	✓	✓	-	✓	✓✓
Supporting measures [SM]											
<i>Early start and ongoing schemes</i>											
SM.1	Complementary measures	✓✓	✓✓✓	✓	✓✓	-	✓✓	✓✓	✓✓	-	-

4 Scheme Costs

Introduction

- 4.1 The scheme costs discussed in this chapter should be seen as an update (rather than a refinement) of the costs outlined in the Stage II bid. The bid costs have been updated to take into account the changed scope of some schemes (such as the shortening and lengthening of some schemes) but they have not been refined given that no significant further design work or investigations have yet been undertaken at this point.
- 4.2 The approach used to estimate scheme costs is described below. The key point to note is that they are high level estimates only, at the $\pm 30\%$ level. Therefore, as each scheme is taken forward, a key task will be to refine its cost estimate as it is defined and developed further.

Approach to Costing

- 4.3 The overall process used to estimate the components of the development and delivery cost for each scheme in the Stage II bid is summarised in Figure 4.1 and Table 4.1. The exception being supporting measures, where a different methodology was employed. All of the cost estimates in the Stage II bid were done at the $\pm 30\%$ level.

Figure 4.1: Process for estimating components of development & delivery costs in the Stage II bid

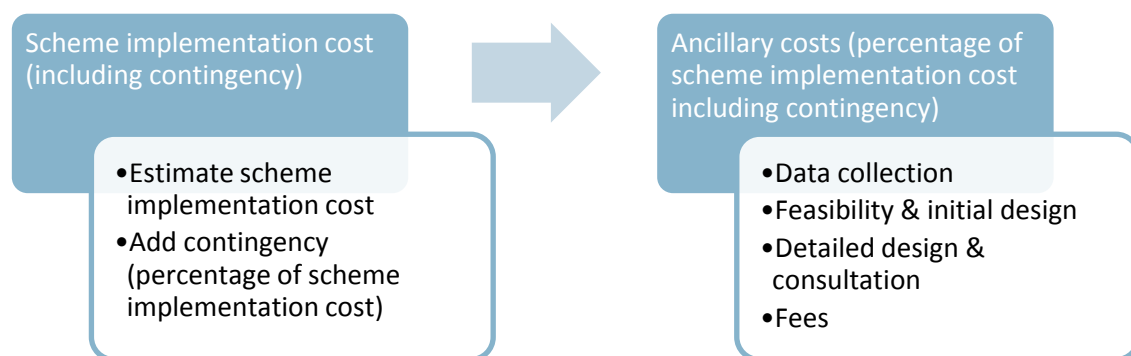


Table 4.1: Percentages applied to estimate cost components

Item	Landmark schemes (except Wheatfield Way Greenway)	Network schemes (plus Wheatfield Way Greenway)
<i>Components calculated as percentage of scheme implementation cost</i>		
Scheme implementation contingency	15.0%	16.0%
<i>Components calculated as percentage of scheme implantation cost (including contingency)</i>		
Data collection	2.0%	0.4%
Feasibility & initial design	5.0%	3.0%
Detailed design & consultation	5.0%	7.4%
Fees	8.0%	10.0%

4.4 These individual cost components were then combined into two main cost components for each scheme:

- Design & development:
 - Data collection
 - Feasibility & initial design
 - Detailed design & consultation
- Build cost:
 - Scheme implementation cost (including contingency)
 - Fees

4.5 The overall development & delivery cost for each scheme was then calculated as the sum of these two main components.

4.6 The process used to estimate the scheme implementation cost for each type is outlined in the sections below.

Landmark schemes (except Wheatfield Way Greenway)

4.7 Implementation costs were estimated for each of these schemes based on initial concepts only. These estimates were largely based on costs for comparable past projects with input from a quantity surveyor for some of the more substantial schemes.

Network schemes (plus Wheatfield Way Greenway)

- 4.8 These schemes are linear in nature, and as such their scheme implementation costs were estimated based on a linear rate. This linear rate was developed by working out a scheme implementation cost for the Cambridge Road / Kingston Road (A2043) scheme, as more design work had been completed for this scheme (relative to the other network schemes) at the bid stage. This cost was then divided by the length of the scheme, in order to obtain a linear unit rate.
- 4.9 This linear rate has then been applied to the other network schemes, in proportion to their length. In addition, the costs for certain schemes have been adjusted upwards or downwards, based on engineering judgement regarding their complexity relative to the Cambridge Road / Kingston Road (A2043) scheme.

Supporting measures

- 4.10 The following cost components were estimated based on previous experience:
- Research, development and monitoring
 - Delivery:
 - Events and materials
 - Staff fees
 - Cyclist training

Updated Scheme Costs

Assumptions

- 4.11 The updated scheme costs presented in this section follow the same methodology outlined above, but have been updated based on the following assumptions:
- *Landmark schemes:* The costs for these are mostly unchanged. The exception is for the Kingston station cycle hub and the Kingston station plaza, which have been combined into an integrated scheme, with this combined scheme then split into an interim scheme and a full scheme. It has been assumed that 20% of the total cost will be incurred for the interim scheme, and the remaining 80% for the full scheme.
 - *Network schemes:* These costs have been updated by applying the same linear unit rate used for the Stage II bid, but updating the cost of each scheme taking into account its length and anticipated complexity.
 - *Supporting measures:* Unchanged from the Stage II bid.

Scheme cost estimate by scheme

- 4.12 The estimated scheme cost by scheme in 2013 prices is set out in Table 4.2. The scheme costs listed here are based on the total development and delivery cost for each scheme, and as such include both design & development, and build costs. Including planning and bid preparation costs spent to date, the total cost of the programme is £34.7m in 2013 prices.
- 4.13 As a contingency has been applied to each scheme implementation cost, this contingency is also implicitly included in the other cost components (as these are calculated as a percentage of the scheme implementation cost including contingency).

Table 4.2: Scheme cost by scheme (£'000 in 2013 prices)

Scheme name	Scheme type	Length (for linear schemes)	Cost (£'000)	
Landmark schemes [LM]				
<i>Early start schemes</i>				
LM.1a	Kingston Enterprise Hub / Kingston station access (interim scheme)	Off-road	N/A	£1,574
<i>Other schemes</i>				
LM.1	Kingston station cycle hub + Kingston station plaza (full scheme)	Off-road scheme	N/A	£6,293
LM.2	Wheatfield Way Greenway	Segregated facility	0.8km	£2,490
LM.3	Riverside Boardway	Off-road	0.8km	£5,728
LM.4	New Malden to Raynes Park link	Off-road	Core section: 1.1km Additional section: 0.8km	£1,933
Network schemes [NW]				
<i>Early start schemes</i>				
NW.1	Kingston Hill / Kingston Vale (A308)	On-road, semi-segregated	3.6km	£3,085
NW.1a	Interim local connectivity to Kingston town centre	On-road, quietway	0.9km	£488
NW.2	Local connectivity: to Kingston Bridge	On-road, quietway	0.3km	£163
NW.3	Portsmouth Road north + south (A307)	Segregated / semi-segregated facility	1.6km	£1,373
NW.3a	Local connectivity: to Portsmouth Road	On-road, quietway	0.3km	£163
<i>Other schemes</i>				
NW.4	Kingston to Surbiton	On road, semi-segregated facility / quietway	1.7km	£1,533
NW.5	Cambridge Road / Kingston Road (A2043)	On road, semi-segregated	2.8km	£3,205
NW.5a	Local connectivity: Kingston Hill / London Road	On-road, semi-segregated / quietway	0.9km	£812
NW.6	Ewell Road (A240)	On-road, semi-segregated	2.5km	£2,255
NW.6a	Local connectivity: St Mark's Hill (B3370)	On-road, quietway	0.4km	£217
Supporting measures [SM]				
<i>Early start and ongoing schemes</i>				
SM.1	Complementary measures	Supporting measures	N/A	£1,135
Mini-Holland Programme				
Programme preparation costs to date			£300	
TOTAL COST			£32,747	

Revenue and capital costs

- 4.14 The vast majority of the scheme costs that will be incurred as part of the programme will be capital costs, given that they involve the implementation of infrastructure. The main exception to this is for the complementary measures scheme (SM.1). Whilst the specific items that expenditure will be incurred on are yet to be confirmed, it is anticipated that the bulk of the complementary measures scheme cost will comprise revenue costs.
- 4.15 In addition, out of TfL's initial allocation of £700k, it is estimated that approximately £300k will be spent on start-up revenue costs for the programme as a whole, which are not directly attributable to particular schemes. The remaining £400k will be capital spend toward the programme.

Risk and optimism bias

- 4.16 At this stage of the project, the schemes have not been fully defined and a quantified risk assessment (QRA) has not been completed. The QRA would normally capture the cost impacts of identified risks that are generally external to the project. The base costs include a contingency allowance of 15–16% on build costs, but this is not expected to cover unexpected additional expenditures.
- 4.17 For appraisal purposes, TfL's guidance requires that an optimism bias of 44% should be applied to cycling schemes that have yet to undergo a QRA. Once a QRA is undertaken, the optimism bias value can then be reduced, and it will be applicable to the scheme cost plus QRA. Optimism bias is not conventionally used for setting out funding requirements.
- 4.18 In order to avoid cost escalation subsequent to a QRA being undertaken, a risk allowance equivalent to half the value of the optimism bias, i.e. 22%, has been included for budgetary purposes. As scheme definitions are developed further, scheme costs will be refined.

Cost savings

- 4.19 The mini-Holland programme is expected to deliver cycling investment over and above what the Borough would otherwise spend in the baseline. The increase in cycling trips may result in bus capacity enhancements to no longer be required. However this business case prudently assumes that there would not be any material direct cost savings due to the mini-Holland programme.

Total base cost

- 4.20 Table 4.3 sets out how the total programme scheme cost is broken down by cost category, including risk. These costs are in 2013 prices.

Table 4.3: Scheme cost breakdown by category including risk (£m in 2013 prices)

Spend in 2013 prices	2013 Prices
Data collection	0.34
Feasibility & initial design	1.42
Detailed design & consultation	1.74
Scheme implementation	23.23
Contingency	3.60

Spend in 2013 prices	2013 Prices
Fees	2.42
Sub-Total	32.75
Risk (22%)	7.14
Total	39.89

Scheme cost inflation

- 4.21 The base scheme cost for the mini-Holland schemes is assumed to increase at 3.5% per annum in nominal terms, or 1.0% per annum in real terms assuming a background inflation of 2.5% per annum.

Scheme cost spend profile

- 4.22 An indicative scheme cost spend profile has been developed based on the implementation readiness of schemes. Table 4.4 sets out the capital spend profile. Including inflation and risk, the outturn scheme cost for funding the mini-Holland programme is £44.2m. (In line with TfL appraisal guidance, a different total is used for appraisal purposes; Appendix C summarises why this is the case.)

Table 4.4: Scheme cost spend profile (£m in Outturn prices)

Financial Year	Spend to Date	2014/15	2015/16	2016/17	2017/18	2018/19	Total
Data collection	0.00	0.12	0.13	0.11	0.00	0.00	0.36
Feasibility & initial design	0.30	0.44	0.46	0.30	0.00	0.00	1.50
Detailed design & consultation	0.00	0.76	0.72	0.37	0.00	0.00	1.85
Scheme implementation	0.00	0.07	7.32	6.97	11.47	0.06	25.88
Contingency	0.00	0.01	1.15	1.10	1.74	0.01	4.01
Fees	0.00	0.01	0.80	0.76	1.11	0.01	2.69
Sub-Total	0.30	1.41	10.59	9.61	14.32	0.07	36.29
Risk	0.00	0.31	2.33	2.11	3.15	0.02	7.92
Total	0.30	1.71	12.92	11.72	17.47	0.09	44.21

Note: This profile is based on the implementation programme in Appendix B, the achievement of which is subject to a number of risks as outlined in paragraph 8.7.

Operating, Maintenance and Renewal Costs

- 4.23 This business case considers not just the initial scheme costs but the overall costs over the project appraisal period. Once the mini-Holland programme has been implemented, there will be some day-to-day operating and maintenance costs required for some schemes such as the cycle hub. Other schemes will require renewal costs – for example refreshing the road markings.
- 4.24 The business case assumes an annual allowance of £440,000 per annum in 2013 prices, based on the following assumptions:
- The Landmark schemes have a design life of 30 years and requires a maintenance and renewal expenditure worth of 2% of the scheme cost per annum. This means that over the

30 year design life, the maintenance and renewal costs would be worth 60% of the initial capital outlay.

- Renewal costs of other schemes are assumed to be incorporated in the baseline/business as usual works undertaken by the Borough.
- Maintenance and renewal costs are assumed to increase by 1.0% per annum in real terms.

4.25 As the schemes are progressed through further design and development, we will engage with relevant officers in order to refine these initial assumptions that we have made at this point.

5 Strategic Benefits

Key Strategic Benefits

5.1 This chapter sets out the main benefits of the mini-Holland programme.

More people cycling

5.2 The main outcome to be delivered by the investment is that more of residents and visitors to the borough choose to travel by bicycle. This will include more cycling among members of traditionally 'hard to reach' groups. The mini-Holland programme will focus on delivering improvements that are inclusive and enable all people to start cycling. The schemes will help to create new cyclists who are representative of the people who live, work and study in Kingston.

5.3 More children and young people cycling to and from school, college and university will help to relieve congestion at 'school run' times. Given that one in five cars on the road during peak travel times are taking children to and from school, the benefit could be significant. To reduce car based school journeys, parents need confidence to allow their children to cycle safely to school. The mini-Holland programme, combined with other projects including Quietways and Cycle to School Partnerships, will seek to address the school journey by making cycling actually and perceptually safer.

5.4 The aspirational targets of the programme are to increase the level of cycling across the borough as a whole by 80% in the first three years of the programme and by 400% within 10 years of the programme delivery commencing².

² This business case acknowledges that these targets are aspirational and has taken a more conservative view on how the mini-Holland programme can change cycling behaviour. This is set out further in section **Error! Reference source not found.**

Impact of cycling schemes - case studies

London

- 5.5 Over the past decade, cycling in London has experienced a significant boost. Considerable efforts by the Mayor, TfL and local authorities have delivered a wide range of cycling enhancements such as the Cycle Superhighways, the Barclays Bike hire scheme, cycle priority schemes and significant improvements to road design.
- 5.6 These enhancements have led to a shift in culture and attitude towards cycling. Based on TfL's 60 automatic cycle counters across the TfL Road Network (TLRN) over the 10-year period from 2003/04 to 2013/14, the number of cyclists has increased by 150%³. This demonstrates that with the appropriate investment and political support, a step change in cycling trips can be achieved.
- 5.7 Not all the circumstances in other parts of London are directly relevant to Kingston – for example, in central London the Congestion Charge was implemented, and significant public transport improvements (such as the London Overground) have occurred in other boroughs. Nevertheless, as a whole the mini-Holland schemes will work together as a package in order to influence a material change in cycling culture.

Darlington

- 5.8 Darlington invested in a range of cycling schemes including (workplace, school, personal) travel planning, as well as cycling and walking promotion schemes. Over a three year period, the number of cyclists passing through automatic cycle counts increased by 57%⁴.
- 5.9 This observed increase equates to an annual compound growth rate of approximately 16%, which would equate to a 440% increase in cycling if sustained over ten years. This is higher than the aspirational target of 400% for the Kingston mini-Holland programme, and demonstrates that the potential for additional cyclists is significant when encouraged through appropriate means. The publicity attracted as a direct result of the mini-Holland programme and through its complementary measures will help deliver a real shift towards cycling.

Less congestion on the transport network

- 5.10 New cycle journeys will be drawn from our pool of potentially cyclable trips – these are journeys that are currently made by car and public transport that could instead be made by bicycle. Giving cyclists a segregated route will help to smooth the flow of traffic by removing the need for drivers overtake cyclists in the main carriageway except when cyclists need to enter the carriageway to avoid obstructions, overtake other cyclists and turn right. This will make the road network more efficient and driving easier.
- 5.11 In the context of new development and the borough's growing population, we expect that cycling will contribute to increasing the overall capacity of our transport network. This will enable Kingston to accommodate growth sustainably and in a way that puts less pressure on

³ <http://data.london.gov.uk/datastore/package/cycle-flows-tfl-road-network>

⁴ Cycling in the city regions Annex 1: Modelling the Impact of Step Changes in the Delivery of Measures to Support Cycling in PTE Areas: Technical Report

the existing public transport and road networks. For instance, in the next decade, major development is due to take place to the north of Kingston town centre. The mini-Holland programme will help to unlock this development potential and accommodate newly generated trips sustainably.

Road danger reduction

- 5.12 The mini-Holland programme will result in more people cycling more often in the borough. It is crucial that new and existing cyclists are also able to make journeys more safely. The high quality, high capacity cycle infrastructure will provide protection for vulnerable road users, delivering real and perceived improvements to safety. The Borough already has an outstanding reputation for cyclist training. The in-house cycle training team provides Bikeability Level 1 and 2 training to approximately 1,500 children each year and, with Biking Borough funding, we also provide free Bikeability Level 3 training to 200 secondary school children and adults. Work will continue to increase awareness of vulnerable road users among drivers and encourage all road users to share the space. The mini-Holland infrastructure schemes combined with an extensive programme of travel information, training, marketing and promotion will continue the collision rate reduction achieved in recent years.

Better inter-borough connectivity

- 5.13 Infrastructure improvements will be delivered across the borough and, importantly, on the boundaries with neighbouring areas. People do not just travel within the confines of their home borough and the programme will facilitate cycling into Kingston from neighbouring boroughs as well as enable our residents to have better access to the services and opportunities on offer in the wider area. High quality links towards the Cycle Superhighways will facilitate cycle journeys into central and inner London.

Improved town centre vitality and viability

- 5.14 More people cycling to town centres rather than driving will reduce town centre congestion, release car parking spaces for those who need them and reduce pressure on public transport leading into our town centres. Providing sufficient and convenient cycle parking in our town centres will encourage more people to shop locally rather than going further afield, helping local businesses to survive and expand, sustaining and increasing the variety of shops and services that people want to use. Safe and attractive cycle routes will be provided into the main town centres which will facilitate cycle trips by those living, studying and working there.

Better public realm

- 5.15 The mini-Holland programme will transform the quality of roads and public spaces. Pavements adjacent to the new cycle lanes and tracks will be improved while the lanes and tracks will put a distance between pedestrians and motor vehicles, making walking more comfortable. Pavements will be levelled to make access by wheelchairs and those with sensory impairments easier. In places, zebra crossings will be required to address the loss of informal refuges and this will give pedestrians greater safety and priority when crossing the road.
- 5.16 The programme enhances the public space outside Kingston railway station, better incorporating the station within the town centre. New public realm will be created through the construction of the Riverside Boardway, which will not only provide improved connectivity but also open up the river bank, bringing more people to the waterfront.

Summary of Strategic Benefits against Objectives

5.17 Table 5.1 summarises qualitatively how each of the schemes in the mini-Holland programme are expected to contribute towards the overall programme objectives. The assessment scale used is as previously set out in Table 2.1.

Table 5.1: Programme schemes and their contribution to strategic benefits

Scheme name		More people cycling	Less congestion on the transport network	Road danger reduction	Better inter-borough connectivity	Improved town centre vitality and viability	Better public realm
Landmark schemes [LM]							
<i>Early start schemes</i>							
LM.1a	Kingston Enterprise Hub / Kingston station access (interim scheme)	✓	✓	✓	-	✓	-
<i>Other schemes</i>							
LM.1	Kingston station cycle hub + Kingston station plaza (full scheme)	✓✓	-	-	-	✓✓	✓✓✓
LM.2	Wheatfield Way Greenway	✓✓	-	✓✓	✓✓	✓	-
LM.3	Riverside Boardway	✓✓✓	✓	✓✓	✓✓✓	✓✓	✓✓
LM.4	New Malden to Raynes Park link	✓✓✓	✓✓	✓✓	✓✓✓	✓	✓✓✓
Network schemes [NW]							
<i>Early start schemes</i>							
NW.1	Kingston Hill / Kingston Vale (A308)	✓✓	-	✓✓	✓✓	✓	-
NW.1a	Interim local connectivity to Kingston town centre	✓	✓	✓	✓	✓	-
NW.2	Local connectivity: to Kingston Bridge	✓	-	✓	✓✓	✓	-
NW.3	Portsmouth Road north + south (A307)	✓✓	✓	✓✓	✓✓	✓	-
NW.3a	Local connectivity: to Portsmouth Road	✓	-	✓	✓	✓	-
<i>Other schemes</i>							
NW.4	Kingston to Surbiton	✓✓	✓	✓✓	✓✓✓	✓	-
NW.5	Cambridge Road / Kingston Road (A2043)	✓✓	-	✓✓✓	✓✓	✓	-
NW.5a	Local connectivity: Kingston Hill / London Road	✓	-	✓	✓	✓	-
NW.6	Ewell Road (A240)	✓✓	-	✓✓	✓✓	✓	-
NW.6a	Local connectivity: St Mark's Hill (B3370)	✓	-	✓	✓	✓	-
Supporting measures [SM]							
<i>Early start and ongoing schemes</i>							
SM.1	Complementary measures	✓✓✓	✓✓	-	-	✓	-

Summary of Strategic Benefits by User Group

5.18 Table 5.2 summarises how the mini-Holland programme will impact the various user groups. The assessment scale used is as previously set out in Table 2.1.

Table 5.2: Summary of strategic benefits by user group

User Group	Strategic Benefit	Assessment
Cyclists	<ul style="list-style-type: none"> Cyclists will greatly benefit from a range of infrastructure improvements including segregated tracks, semi-segregated routes, junctions and cycle parking. In some cases new routes will be provided and journey times will be reduced for some journeys. The segregation and junction improvements other schemes will reduce potential conflicts between cyclists and other road users such as cars and pedestrians, thereby improving their safety. As people cycle more, they will benefit from improved health and wellbeing. 	✓✓✓
Pedestrians	<ul style="list-style-type: none"> LM1, LM3 and LM4 create new walking routes and pedestrian spaces that significantly improve the urban realm. The walking experience will be considerably enhanced in those areas. Schemes such as LM2 reduces the conflict between cyclists and pedestrians. Traffic calming in the town centre will reduce severance, improve safety, air quality and noise for pedestrians. 	✓✓✓
Public transport passengers	<ul style="list-style-type: none"> Some schemes will reduce conflict between buses and cyclists. This means that there will be fewer delays when buses pull in and out of bus stops as cyclists negotiate their way around buses. Buses are also less likely to be delayed by following cyclists in the bus lane. If more short journeys are made by bicycle, there will be additional capacity on local bus routes, particularly at busy sections close to Kingston town centre. On some on-road schemes such as NW4 and NW5, conflicts between cyclists and buses will need to be managed. 	✓
Car drivers and passengers	<ul style="list-style-type: none"> As the borough grows, traffic congestion is likely to worsen. The mini-Holland programme is expected to reduce the number of journeys made by car, thereby reducing congestion and time spent looking for vacant parking spaces for remaining car users on the road. Schemes such as LM2, NW5a, NW6 and NW6a will require reallocation of road space away from cars. There is a potential for reduced traffic speeds and increased congestion, but these impacts will be mitigated in the detailed design phase. By reducing conflicts between cyclists and general traffic, there will be a traffic calming effect. In addition to smoother traffic speeds, this can reduce the level of stress and anxiety experienced by drivers. 	-

User Group	Strategic Benefit	Assessment
Local businesses	<ul style="list-style-type: none"> • The Landmark schemes, particularly LM2 and LM3, will “put Kingston on the map” and make Kingston town centre a much more attractive destination for people who don’t normally shop in Kingston. • If short-distance trips are made by bicycle, the road and parking capacity will be freed up for other visitors travelling a longer distance by car with the intent of spending more money. • Improved inter-borough connectivity offered by the strategic cycle routes will also support growth with other local businesses. • The removal of on-street parking with NW4, NW5 and NW6 has the potential to affect local businesses. However, alternative parking arrangements can be considered. More cyclists will go past these businesses and they are more likely to stop and visit compared to car drivers. 	✓✓
Local residents	<ul style="list-style-type: none"> • LM1, LM3 and LM4 create new space for local residents to socialise, enhancing the community feel. LM4 also creates a new leisure trail for their enjoyment. • Improved cycling connections mean that residents will have more choice in which mode they wish to travel and where they travel to. • Local residents will benefit from improved air quality and amenity through reduced traffic and congestion. 	✓✓

6 Economic Case

Overview and Assessment Methodology

Overview

- 6.1 This section sets out the estimated transport benefits that make up the conventional economic case for transport projects. The approach follows the principles of DfT's Transport Appraisal Guidance (TAG) and TfL Business Case Development Manual (BCDM) guidance.
- 6.2 The programme contains 16 different schemes and supporting complementary measures, that function as a network of cycle routes working together to deliver a step-change in the quality of provision and user perception of cycling. As such, it is appropriate to consider the benefits of the programme as a package of schemes. This is also a more pragmatic approach at this stage given that a number of schemes have not yet been fully developed and further technical work will be required to assess specific impacts.
- 6.3 The overall assessment process is as follows:
- Identify current cycling trip volume and characteristics using London Travel Demand Survey (LTDS) data;
 - Identifying future baseline demand levels using Greater London Authority (GLA) Economics growth projections;
 - Assume two future mode share scenarios reflecting the potential of the mini-Holland programme; and
 - Estimate the key benefits of the mini-Holland programme following the principles of TAG and TfL guidance.

Cycling Demand and Characteristics

Current demand and characteristics

- 6.4 The Borough has the second highest cycling mode share of all outer London boroughs. Analysis has been undertaken of data from LTDS, a continuous household survey of the London area

within the M25 undertaken by TfL. Table 6.1 sets out the trip characteristics for the Kingston mini-Holland core catchment area, broadly defined as trips within a 3km radius of the town centre.

Table 6.1: LTDS cycling statistics for journey stages in the mini-Holland core catchment area (Average of 2010 to and 2012)

Measure	Value
Total trips – all modes (per day)	325,500
Number of cycle trips (per day)	23,200
Cycling mode share	4.7%
Average cycle trip length (km)	1.36
Average cycle trip duration (mins)	11.9
Average cycle speed (km/hr)	6.8

Table 6.2: LTDS cycling journey purpose splits for journey stages in the mini-Holland core catchment area (Average of 2010 to 2012)

Measure	Value
Workplace (commuting)	17.4%
Work related (business)	1.1%
Education	7.7%
Shopping and personal	33.2%
Leisure	26.8%
Other	13.8%
Total	100%

- 6.5 It should be noted that LTDS does not include trips between the Borough and neighbouring Surrey. This would represent an upside to the business case.

Future baseline

Planning assumptions

- 6.6 Significant development is anticipated to take place in the Borough. Table 6.3 sets out the GLA Economics 2013 trend-based population and employment projections for the Borough between 2011 and 2026, the future horizon year adopted in this Business Case. This will lead to an increase in trip volumes around 15% over that period.

Table 6.3: Population and employment growth in Royal Borough of Kingston (GLA Economics, 2013)

	2011	2026	% Growth
Population	160,000	186,000	15.6%
Employment	78,000	86,000	9.9%

Exogenous demand growth

- 6.7 In the absence of the mini-Holland programme, the growth in trips will likely occur across all main modes of transport – car, bus, rail, walk and cycle. Given the current congestion conditions and the expectation that there will be limited increases in parking supply in the

town centre, the ability for the town centre economic activity to grow will be significantly constrained. This will mean that the trend-based growth projections may not fully materialise. There is some potential for public transport, walking and cycling to absorb additional share of trips, but based on committed investment, this will be limited.

- 6.8 The 2026 Baseline (do-minimum) in this Business Case conservatively assumes that the growth in trips can largely be accommodated by the existing highway and public transport provision, and that the cycle mode share will peak at 7.0% (based on LIP growth targets). This is set out in Table 6.4.

Table 6.4: Future baseline trip statistics within 3km of Kingston town centre

Measure	2011 Daily Trips	2011 Mode Share	2026 Daily Trips	2026 Mode Share	Change in Trips 2011 to 2026	Growth in Trips 2011 to 2026
Cycling	23,200	4.7%	39,700	7.0%	16,500	71%
Walk	325,500	66.0%	374,300	66.0%	48,800	15%
Bus	42,800	8.7%	45,300	8.0%	2,500	6%
Rail	1,200	0.2%	1,300	0.2%	200	15%
Car driver	75,200	15.2%	79,700	14.0%	4,500	6%
Car passenger	25,600	5.2%	27,100	4.8%	1,500	6%
Total	493,400	100.0%	567,400	100.0%	74,000	15%

Scenarios Assessed

- 6.9 In the mini-Holland proposal in December 2013, key cycling mode share targets were developed. At present, limited technical work has been undertaken to assess the demand impacts of the programme. For consistency, the target mode share scenarios will be used to underpin the Business Case of the Kingston mini-Holland package of schemes.
- 6.10 Two cycling mode share scenarios will be considered against a future baseline with a cycling mode share of 7.0% by 2026:
- **Low impact scenario** – cycling mode share in the core catchment area will reach 10% by 2026.
 - **High impact scenario** – cycling mode share in the core catchment area will reach 15% by 2026.
- 6.11 These mode shares suggest that the number of cycle trips are expected to double over the next decade. As discussed in paragraph 5.5, this is comparable with the growth in cycling observed in London as a whole and therefore considered a realistic basis for appraisal purposes.
- 6.12 It will be important undertake further work on these mode share targets early in the programme, in order to confirm their validity. Baseline information will be obtained through surveys undertaken as part of the monitoring programme, whilst the potential for future increases could be assessed against a more detailed analysis of available data sources, such as on potential cycle trips and propensity to cycle.

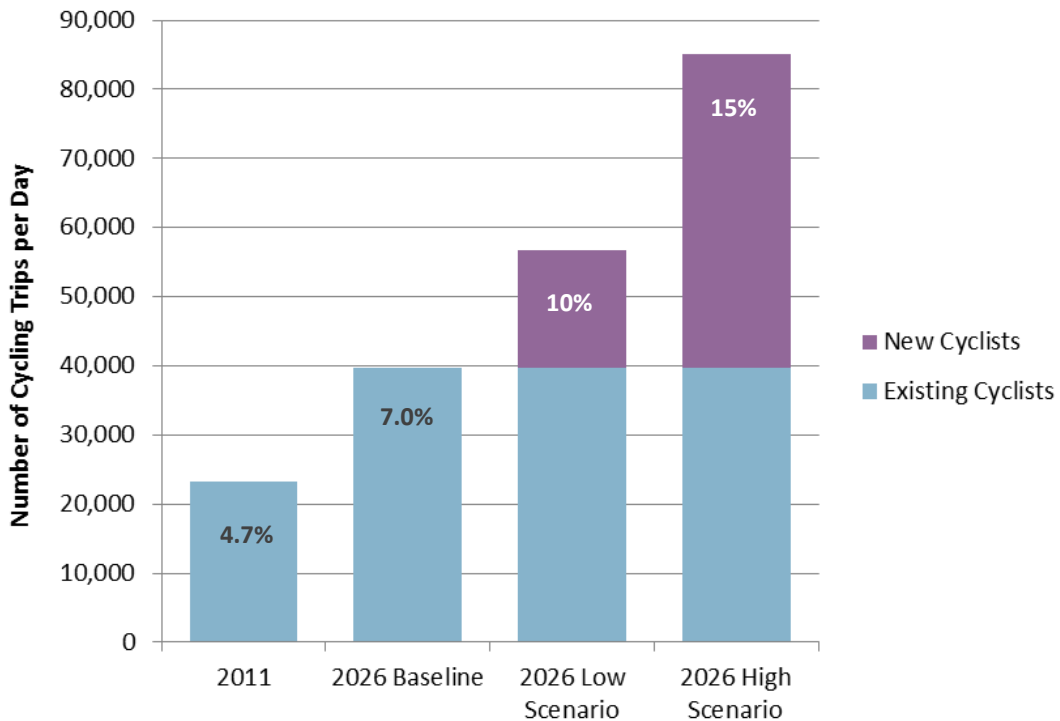
Target Demand Impacts

6.13 Based on the growth and scenario assumption discussed earlier, Table 6.5 sets out the key daily cycling demand related targets that underpinned the mini-Holland programme. In estimating these demand impacts, the average car occupancy has been assumed to be 1.34 (based on LTDS data) and the average number of daily trips per cyclist is 2.2. These impacts represent key inputs to the economic case. Figure 6.1 illustrates how the cycle demand is expected to increase in the future and how the mini-Holland programme contributes towards the increase.

Table 6.5: Target demand impacts within 3km of Kingston town centre in 2026

Metric	Future Baseline	Low Impact Scenario	High Impact Scenario
Cycling mode share	7.0%	10%	15%
Number of cycle trips per day	39,700	56,700	85,100
Number of additional cycle trips per day		17,000	45,400
Increase in cycle time travelled per day (mins)		202,500	540,100
Increase in cycle distance travelled per day (km)		23,100	61,700
Reduction in car journeys per day		7,700	20,600
Reduction in car distance travelled per day(km)		12,700	33,900

Figure 6.1: Current, future baseline and with programme cycling demand (cycle trips per day) and mode share within 3km of Kingston town centre



Conventional Benefits

6.14 The mini-Holland programme will deliver a range of benefits to users. This section sets out the assumptions underpinning the project benefits. The approach undertaken is in line with DfT's Transport Appraisal Guidance (TAG). In summary, these include the following:

- **User benefits** – benefits perceived by existing cyclists and those who change mode from car to non-car modes of transport. These include:
 - Journey time benefits
 - Cycle infrastructure benefits
 - Urban realm benefits
- **Externality benefits** – benefits that affect other road users who remain on the road as a result of reduced car use. These include:
 - Decongestion
 - Infrastructure savings
 - Collision savings
 - Local air quality
 - Noise
 - Greenhouse gas
 - Indirect taxation
- **Health and absenteeism benefits** – benefits as a result of improved physical fitness from increased cycling.
- **Cycling Safety benefits** – benefits as a result of safer cycle routes.

User benefits

Journey time benefits

6.15 A number of the mini-Holland Programme schemes provide a new links that deliver substantial journey time savings by bicycle. For example:

- LM3 Riverside Boardway reduces the north-south journey times by approximately 1.5 minutes
- LM4 New Malden to Raynes Park link reduces the Kingston-Raynes Park journey times by 3.5 minutes

6.16 In addition, cycling will allow many cyclists to choose more direct routes because they are more confident in using them following the cycle infrastructure improvements.

6.17 We have assumed that 25% of all cyclists will experience a notable journey time benefit worth 25 pence per trip as a result of the new routes. This is approximately equivalent to a 2 minute journey time saving per cyclist.

Cycle infrastructure benefits

6.18 The mini-Holland schemes will deliver a step change in cycling infrastructure and the perceived convenience of cycling to both existing and new users. When passengers change mode and start cycling, they often do so because they are more informed of the benefits of the journey. For example, the journey may become quicker, more enjoyable or cheaper. This is what is described as user benefits.

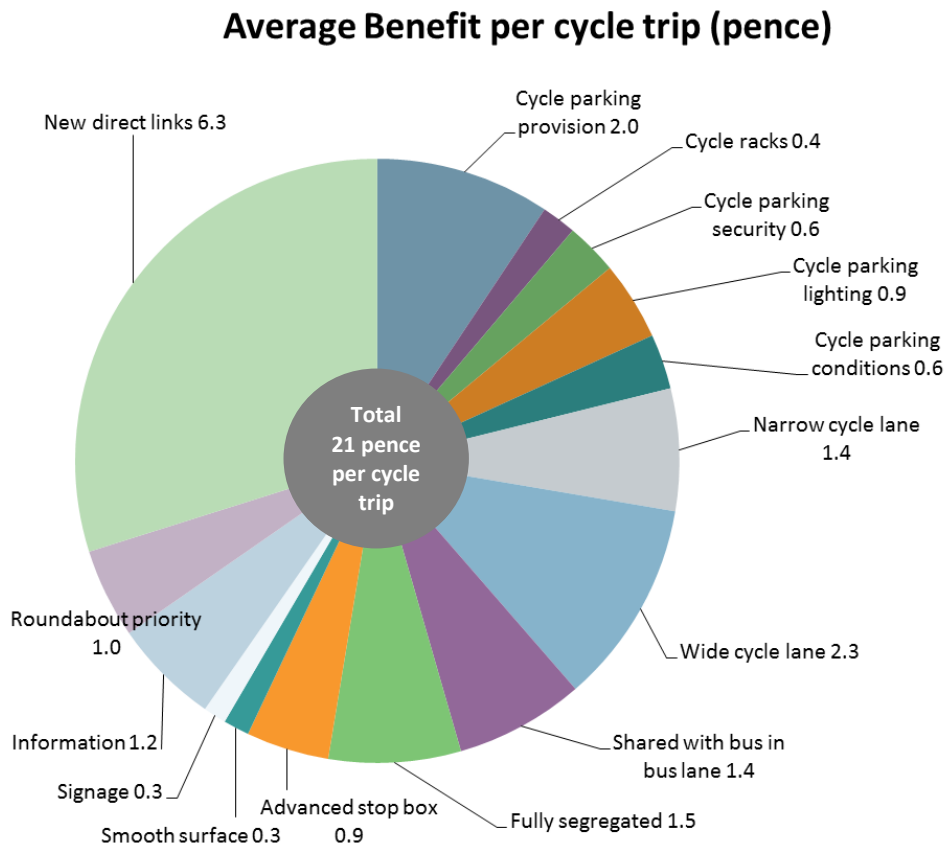
- 6.19 Some of these benefits are actual journey time savings – for example they do not get held up in traffic – and others are more about the inherent attributes of the journey, such as enjoyment.
- 6.20 TfL’s Business Case Development Manual sets out monetary values for a range of cycling attributes in 2010 prices. Not all cyclists will benefit from every single cycling measure introduced; a proportion of cyclists have therefore been assumed to benefit from each attribute – typically a quarter. The user benefits are estimated based on the following assumptions set out in Table 6.6.

Table 6.6: User benefit assumptions by attribute

Cycling Theme	BCDM Attribute	Proportion of Cyclists Benefiting	Value per trip (pence or pence per minute*)
Parking	Cycle parking provision	10%	19.55
	Cycle racks	10%	3.88
	Cycle parking security	10%	5.83
	Cycle parking lighting	10%	8.82
	Cycle parking conditions	10%	6.16
Route	Narrow cycle lane	25%	0.46*
	Wide cycle lane	25%	0.77*
Segregation	Shared with bus in bus lane	25%	5.79
	Fully segregated	25%	5.92
	Advanced stop box	25%	3.72
Surface quality	Smooth surface (cf bumpy surface)	25%	1.16
	Signage	25%	1.03
	Information	25%	4.76
Provision	Roundabout priority	10%	10.04
Total			14.68

- 6.21 Figure 6.2 sets out the average benefit per cycle trip. Where benefits are based on cycling time, the average trip time of 11.9 minutes (from existing LTDS data for cycling trips within 3km of Kingston) was assumed.

Figure 6.2: Average benefit per cycle trip assumed in the business case



Urban realm benefits

6.22 Kingston rail station caters for approximately 6 million passengers every year. These passengers will benefit from urban realm enhancements from the Kingston station plaza scheme. Reduced severance will mean that pedestrians can access the town centre more easily. TfL’s BCDM does not explicitly provide a benefit value for such improvements, and as such the benefit to each rail user is assumed to be 10 pence⁵.

Summary of user benefits

6.23 The average benefit per cycling trip is then applied to existing cycle users. In line with standard transport appraisal guidance, new users are assumed to benefit by half the amount of existing users (known as “rule of a half”).

6.24 Table 6.7 sets out the annual demand and benefits for existing and new cyclists in 2026.

⁵ This is comparable to BCDM’s benefit value for having a clean ticket hall or train, or having maps and information boards to provide direction and information about public transport and attractions.

Table 6.7: Summary of demand and user benefits

	Low Impact Scenario	High Impact Scenario
Demand (Annual Trips in 2026)		
Existing users	39,700	39,700
New users	17,000	45,400
Total	56,700	85,100
User benefits (Annual £ in 2026)		
Existing users	1,545,000	1,545,000
New users	257,000	685,000
Total	1,802,000	2,230,000

Externality benefits

- 6.25 Externality benefits arise due to reduced traffic on the roads. Decongestion is the single largest component of externality benefits, but other benefits include reduction in vehicular collisions and improvements to the environment.
- 6.26 The mini-Holland programme could result in externality benefits in the following ways:
- Improved cycling infrastructure can encourage mode shift from car to cycling. Fewer cars on the road results in lower levels of congestion, collisions and environmental benefits such as emissions and noise. These externality benefits are estimated using DfT's TAG unit rates per vehicle kilometre removed from the highway.
 - Some schemes may result in a reduction in highway capacity for general traffic, leading to slightly slower journey times⁶. However, semi- or fully-segregated cycling infrastructure will reduce the potential conflict between cyclists and other modes. This can smooth traffic flow and reduce the risk of collisions. These externality benefits are expected to be overall neutral in the business case.
- 6.27 The externality benefit unit rate linked to reduced traffic varies according to the type of roads. The range of recommended values are set out in DfT's TAG. For the purpose of this appraisal, we have assumed the traffic conditions in Kingston are best represented by the "Inner and Outer Conurbations" A Roads category with regard to selecting appropriate externality benefit unit rates from TAG.
- 6.28 As people are encouraged to shift mode from car to bicycle, there would normally be decongestion benefits. However, some schemes in the mini-Holland programme are expected to reduce road capacity for general traffic at certain points on the road network, offsetting the decongestion benefits from mode shift. The exact traffic impacts will depend on further detailed traffic modelling and design work, so this business has prudently assumed that there will be no net impact on congestion.

⁶ As the schemes are developed in more detail, traffic modelling work will be undertaken to assess the impacts on other traffic. Where possible these impacts will be minimised through appropriate mitigation measures.

6.29 Table 6.8 sets out the externality unit rates employed in the economic appraisal. The unit rates increase in real terms reflecting changes in traffic and vehicular characteristics in the future.

Table 6.8: Externality benefit unit rates (Pence per vehicle km removed in real 2010 market prices)

Externality Benefit	2015	2025	2035
Infrastructure	0.1	0.1	0.2
Vehicular collision	3.2	3.8	4.6
Local Air Quality	0.1	0.0	0.0
Noise	0.2	0.3	0.3
Greenhouse Gases	0.8	0.7	1.0
Total	4.40	4.90	6.10

Summary of externality benefits

6.30 The externality benefits are then calculated by multiplying these unit rates by the change in car kilometres removed from the road network (set out in Table 6.5). The estimated externality benefits are set out in Table 6.9.

Table 6.9: Externality benefits from mode shift (£ per annum in real 2010 Prices)

Externality Benefit	Low Scenario 2026	High Scenario 2026
Infrastructure	5,000	12,000
Vehicular collision	167,000	446,000
Local Air Quality	0	0
Noise	13,000	35,000
Greenhouse Gases	31,000	83,000
Total	216,000	576,000

Health and absenteeism

Health benefits

6.31 The appraisal of health benefits arising from taking up cycling on a regular basis was developed by The Copenhagen Centre for Prospective Population Studies, who found that individuals who cycle for three hours per week reduce their relative risk of all-cause mortality to 72% compared to those who do not commute by cycle⁷.

6.32 Based on TfL's Improving the Health of Londoners - Transport Action Plan (2014), for those new cyclists who would meet the minimum standard of 150 minutes of physical activity per week due to cycling uptake, they can expect the following health benefits:

- 12% reduction in people diagnosed with coronary heart disease;
- 23% reduction in people diagnosed with breast cancer; and
- 22% reduction in people diagnosed with colorectal cancer.

⁷ Andersen et al, 2000

- 6.33 The World Health Organisation has developed the Health Economic Assessment Tool (HEAT)⁸ that can be used to monetise health benefits for walking and cycling due to decreased mortality. The HEAT model inputs used in the economic appraisal is set out in Table 6.10.

Table 6.10: HEAT model inputs

HEAT Inputs	Parameter
Duration of cycle journey	11.9 minutes
Number of new cyclists	Low scenario 7,700; High scenario 20,600
Annualisation factor	250 days per year
Time needed to reach update	10 years
Mortality rate	4.31/100,000
Value of life	1,800,000 (Source: BCDM)
Appraisal period	30 years

- 6.34 The value £1.8m assumed value of life represents the casualty related costs, which includes lost output, human costs and medical and ambulance costs.

Absenteeism Benefits

- 6.35 Improved health will also result in reduced absenteeism that benefits UK businesses. WHO has previously analysed the linkage between physical activity and short-term sick leave. In line with BCDM guidance, for each employee who takes up physical exercise for 30 minutes a day for 5 days a week as a result of a cycling intervention, the annual benefit to employers on average 0.4 days gross salary costs.

- 6.36 Based on the LTDS data, commuting accounts for 17.4% of trips. The mini-Holland programme is likely to result in between 1,300 and 3,600 new workers whom are expected to deliver absenteeism benefits. Assuming an annual gross salary of £25,000, the reduction in 0.4 sick days per year for these workers results in between £54,000 and £144,000 per annum in absenteeism benefits.

Summary of health and absenteeism benefits

- 6.37 Table 6.11 summarises the annual health and absenteeism benefits. The health benefits due to increased cycling will significantly reduce human mortality, reduce health costs to the National Health Service and taxpayer, and improve business productivity due to reduced absenteeism.

Table 6.11: Health and absenteeism benefits (£ per annum in real 2010 Prices)

Benefit	Low Scenario 2026	High Scenario 2026
Health	3,700,000	9,900,000
Absenteeism	54,000	144,000

⁸ <http://www.heatwalkingcycling.org/>

Cycling safety

- 6.38 The mini-Holland programme is expected to deliver significant safety benefits to existing cyclists through segregated cycle ways, semi-segregated cycle routes and junction improvements designed to reduce conflicts between cyclists, other road users and pedestrians.
- 6.39 The programme will encourage existing through traffic to find alternative routes and this can have the effect of reducing collisions between cyclists and heavy goods vehicles in particular, which are known to be a major contributor towards cycling fatalities.
- 6.40 These safety improvements to existing cyclists will reduce the risk of cycle collisions. This will be offset by an increase in cycle collisions as more people start cycling. In absence of robust information regarding the reduction in collisions achievable through the mini-Holland programme, the business case has assumed that the overall number of cycling related collisions will remain unchanged.
- 6.41 Furthermore, as stated in TfL's Improving the Health of Londoners - Transport Action Plan (2014), *"The health benefits of active travel far outweigh the risks from hazards such as poor air quality and road traffic collisions. For example the increase in walking and cycling suggested above would deliver an estimated 60,000 years of health benefits from physical activity, 2,000 years of health benefit from reduced exposure to poor air quality and less than 1,000 years of health harms from road traffic collisions. The benefits outweigh the harms by 62:1."*

Value for Money Assessment

Economic appraisal assumptions

- 6.42 In order to undertake an economic appraisal over the lifecycle of the mini-Holland programme, the following economic appraisal assumptions have been made:
- The appraisal period is assumed to be 30 years. There is no definitive guidance on this, however, it represents a reasonable timeframe over which the programme can influence the majority of people and the design life of the majority of the infrastructure.
 - The opening year is assumed to be 2016;
 - Cycling demand is conservatively assumed to remain constant beyond 2026;
 - The price base and discount year is 2010, in line with Treasury and DfT appraisal guidance;
 - Since the costs and user benefits are in resource prices (as per TfL guidance) and the externality benefits are in market prices (as per DfT guidance), the externality benefits have been factored by the market price adjustment factor⁹ so that both costs and benefits are in a common unit of account (resource prices), as per to TfL practice;
 - The discount rate applied is 3.5% per annum, in line with Treasury and DfT and TfL appraisal guidance;
 - The optimism bias is assumed to be 44%. This uplift, which is applied to the pre-risk adjusted scheme costs, is a common industry practice guided by the BCDM for projects at the pre-QRA stage and reflects the relative certainty in the outturn scheme costs.

⁹ This is an appraisal adjustment to take into account the fact that the benefits are in market prices (in simple terms, include perceived taxation) and the scheme costs are in resource prices (i.e. no VAT).

6.43 Given the above assumptions, the total scheme costs used for appraisal purposes differs from those outlined in Chapter 4. Appendix C summarises why this is the case.

Indicative economic appraisal results

6.44 Based on the cost and benefit assumptions set out in the previous sections, the indicative economic appraisal for the mini-Holland programme over a 30-year appraisal period is set out in Table 6.12. Figure 6.3 sets out the breakdown of benefits which shows that health benefits and user benefits are the greatest contributors to benefits.

Value for money assessment

6.45 The results show that over the appraisal period the mini-Holland programme can expect to generate total benefits between £108m and £222m in 2010 discounted present values. Compared to the costs of £42.8m in 2010 discounted present values, the Benefit:Cost Ratio (BCR) is between 2.5:1 and 5.2:1.

6.46 This means that for every £1 invested there is more than £2.50 returned in benefits. In accordance to DfT’s value for money assessment criteria, the programme is considered **between high and very high value for money**.

6.47 It should be noted that there are wider benefits not currently captured in the economic appraisal. These are discussed in the next chapter.

Figure 6.3: Breakdown of benefits over the 30-year appraisal period

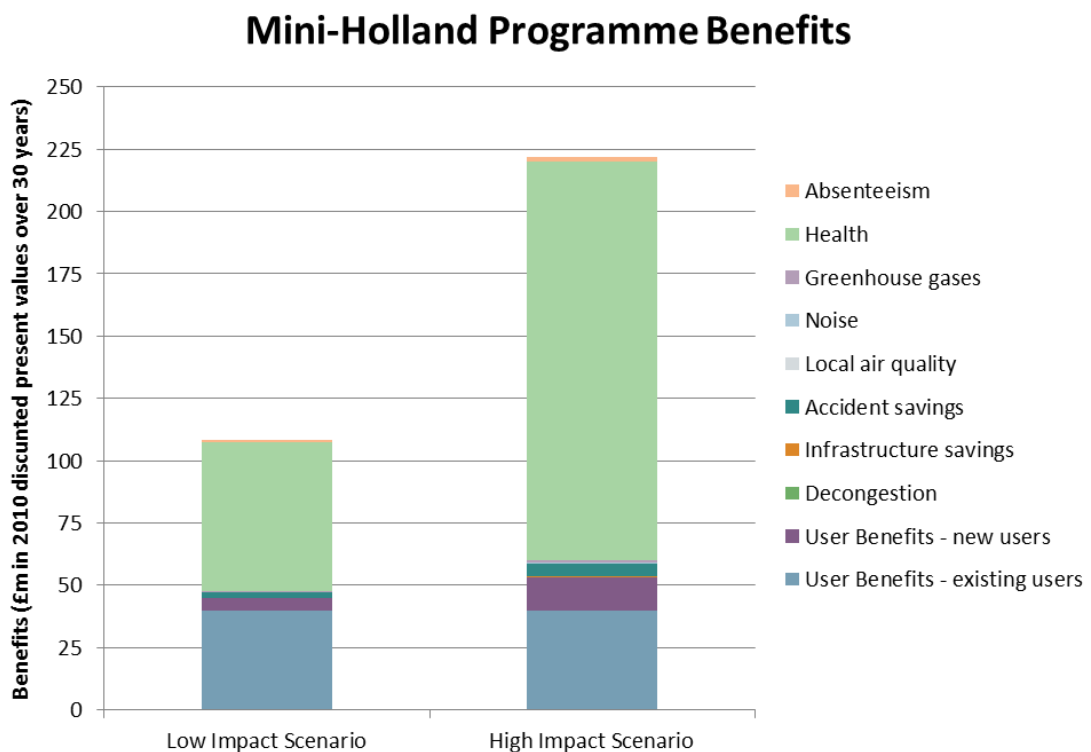


Table 6.12: Economic appraisal results (£m in 2010 discounted present values over 30 years)

Impact	Low impact scenario	High impact scenario
Costs		
Scheme costs	36.6	36.6
On-going costs	6.2	6.2
Total Costs	42.8	42.8
Benefits		
User Benefits – existing users	39.7	39.7
User Benefits – new users	5.2	13.7
Decongestion	0.0	0.0
Infrastructure savings	0.1	0.2
Vehicular collision savings	2.0	5.0
Local air quality	0.0	0.0
Noise	0.1	0.3
Greenhouse gases	0.4	1.0
Health	60.1	160.2
Absenteeism	0.6	1.6
Total Benefits	108.2	221.7
Net Present Value (NPV)	65.4	178.9
Benefit Cost Ratio (BCR)	2.5 :1	5.2 :1

Sensitivity Testing

- 6.48 The economic appraisal results set out above assumes a 30-year appraisal period on the basis that some schemes (Landmark schemes in particular) will have a longer design life. A sensitivity test has been undertaken to assess the programme assuming a 20-year appraisal period. Table 6.13 shows that the BCR remains robust between 1.9:1 and 3.8:1.

Table 6.13: Sensitivity test assuming a 20-year appraisal period

	Low impact scenario	High impact scenario
30- year appraisal period BCR	2.5:1	5.2:1
20- year appraisal period BCR	1.9:1	3.8:1

7 Wider Benefits

7.1 The previous sections described the conventional economic case for the mini-Holland programme. There are wider benefits that are not currently captured in the economic case and should be considered alongside it as additional benefits. The two main groups of wider benefits are:

- Wider economic benefits – supporting the economic growth, regeneration and job creation in Kingston town centre; and
- Urban realm benefits – improving the liveability and quality of life for those who live in or visit Kingston.

Wider Economic Benefits

7.2 As described in section 6.6, employment in the Borough is expected to grow by approximately 8,000 between 2011 and 2026. Against the backdrop competition from other emerging retail hubs such as the Westfield & Hammerson's development in Croydon, the economic prosperity of Kingston town centre will be dependent on improving the attractiveness of Kingston and enable this growth to materialise. Improving the accessibility of Kingston through transport investment including cycling will increase footfall and contribute towards the town centre's expansion and continued success.

7.3 The mini-Holland programme can help deliver an increase in footfall and hence economic activity in the following ways:

- Through the landmark schemes in particular, the programme can put Kingston on the map and increase the attractiveness and competitiveness of Kingston as a retail and leisure destination;
- Through enhancing urban realm and increasing the permeability of the different areas of the town centre, the programme can improve visitors' experiences and encourage visitors to spend more time exploring the town centre;
- Through improved cycling facilities, more visitors are able to access Kingston town centre, including during busiest times despite the road capacity and parking constraints;

- Through smoother flow traffic for cars and buses, the programme can improve the perceived accessibility of Kingston town centre as a destination of choice and visit more often.

- 7.4 The previous section (in Table 6.5) described how the mini-Holland programme can increase the number of cycle trips – some of which would have taken place by car. However, in reality, because of congestion in the future baseline scenario, some of those trips may would otherwise be different (e.g. choosing an alternative destination away from Kingston town centre for retail and leisure trips) or not have taken place at all.
- 7.5 In order to illustrate the potential range of economic benefits associated with additional visitors, the value to the local economy has been estimated at a high level. If between 5% and 10% of the new cycling trips to and from Kingston town centre would not have otherwise taken place and that the average expenditure was between £20 and £40 per visit, the economic value for the additional trips would be between £4m and £45m per year to local businesses.
- 7.6 At the national average GDP per capita of £25,000 per annum, the additional spend would be equivalent to 80 to 800 full time jobs a year.

Table 7.1: Potential wider economic benefits from additional visitors

	Low Scenario - 2026	High Scenario - 2026
Additional cyclists due to mini-Holland (per day)	7,700	20,600
Proportion of new visitors due to cycling	5%	10%
Additional visitors per year (millions)	0.10	0.52
Average spend per cyclist (£ per trip)	£20	£40
Increase in local economy (£m per annum)	£2	£21
Potential increase in employment	80	800

Urban Realm

- 7.7 The mini-Holland programme is expected to deliver urban realm improvements, particularly through the landmark schemes such as Kingston station plaza, Riverside Boardway and the New Malden to Raynes Park link.
- 7.8 The streetscape will be significantly enhanced, attracting more pedestrians and cyclists to the area and creating a social and leisure destination for local residents and visitors. This will also underpin local economic vibrancy.
- 7.9 Such urban realm benefits are currently not included in the economic appraisal. Techniques such as the Pedestrian Environment Review System (PERS) developed by TRL and TfL can be used to audit the urban realm and value such benefits. As the individual schemes are developed in further detail, PERS could be used to estimate the economic value of these improvements.

8 Delivery

Funding

- 8.1 Transport for London confirmed an unspecified amount of funding (likely to be in the region of £30m) in March 2014. For the financial year 2014-2015, TfL has awarded the borough a total of £700,000 to establish the early stages of the programme.
- 8.2 Aside from this funding from TfL, we have also identified other sources of funding that could potentially be drawn upon:
- LIP funding will be used to deliver the linking quietways and deprioritised links via minor projects to enable a complete mini-Holland network to be established
 - The council has established a mechanism to extract value from routine maintenance programmes to contribute to the delivery of full or interim mini-Holland schemes on affected principal roads
 - Opportunities for Section 106 funding will be identified and sought where possible

Programme

- 8.3 A detailed programme is provided in Appendix B. The programme covers the period from June 2014 to June 2018, which is a period of 49 months.
- 8.4 The key milestones and durations for the schemes are set out in Table 8.1.

Table 8.1: Programme summary

Scheme	Approximate timings		
	Start	Finish	Duration
LM.1a Kingston Enterprise Hub / Kingston station access (interim scheme)	August 2014	August 2015	1 year 1 month
LM.1 Kingston station cycle hub + Kingston station plaza (full scheme)	July 2015	September 2017	2 years 3 months
LM.2 Wheatfield Way Greenway	July 2015	September 2017	2 years 3 months
LM.3 Riverside Boardway #	August 2014	January 2018	3 years 6 months
LM.4 New Malden to Raynes Park link #	August 2014	August 2016	2 years 1 month
NW.1 Kingston Hill / Kingston Vale (A308)	August 2014	August 2015	1 year 1 month
NW.1a Interim local connectivity to Kingston town centre	August 2014	August 2015	1 year 1 month
NW.2 Local connectivity: to Kingston Bridge	August 2014	August 2015	1 year 1 month
NW.3 Portsmouth Road north + south (A307)	August 2014	December 2015	1 year 5 months
NW.3a Local connectivity: to Portsmouth Road	August 2014	August 2015	1 year 1 month
NW.4 Kingston to Surbiton	August 2014	May 2016	1 year 10 months
NW.5 Cambridge Road / Kingston Road (A2043)	September 2014	August 2016	2 years
NW.5a Local connectivity: Kingston Hill / London Road	September 2014	August 2016	2 years
NW.6 Ewell Road (A240)	December 2014	November 2016	2 years
NW.6a Local connectivity: St Mark's Hill (B3370)	December 2014	November 2016	2 years
SM.1 Complementary measures	August 2014	June 2018	3 years 11 months

Schemes that may be subject to planning applications and/or environmental impact assessment

Risk Management

- 8.5 The project team is developing a risk management strategy which sets out the processes for identifying and managing project risks. The strategy includes risk workshops to develop and review the risk register for management and to take through to a Quantified Risk Assessment.
- 8.6 Regular updating and reporting of the risk register will be undertaken through the process of reporting to the Project Board. This continual review is important to ensure that the most appropriate risk managers are allocated to specific risks, that new risks are identified and that existing risks are monitored or actioned as appropriate.
- 8.7 The key risks identified at this stage are:
- Erosion of political support. Need to secure comprehensive and renewed political support for the programme in order to maintain the funding that has been achieved.
 - Lack of support for the Riverside Boardway – loss of river space, ecology, hydrology.
 - Potential opposition to key facets of schemes, relating particularly to:
 - Capacity for motor traffic, parking.
 - Loss of privacy – third party impacts.

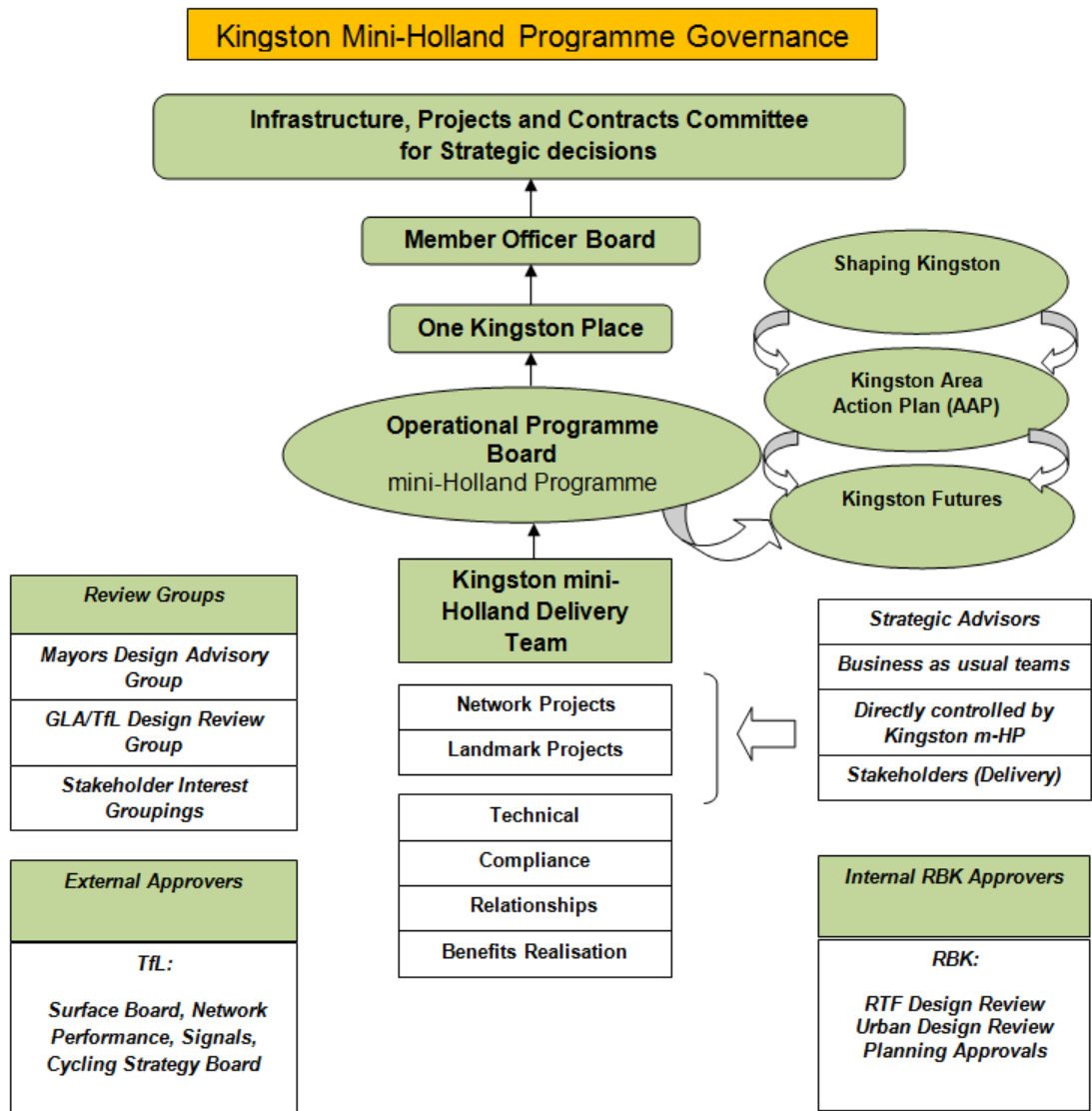
- Failure of cycling enterprise—this relates to the need for an income stream to cover the revenue cost of the cycling hub at Kingston Station.
- Loss of support from key stakeholders, particularly South West Trains (low probability), Environment Agency (moderate probability), Thames Water (moderate probability, for technical reasons only).
- It is anticipated that the delivery of on-carriageway schemes will be principally delivered by the LOHAC contract (EM). The volume of schemes and timescales included in the programme could be challenging to achieve under the current contract.
- Potential slippage due to the tight programme:
 - Delays to scheme development and design, for example due to resource constraints.
 - Difficulties in implementing schemes due to congestion impacts during construction.

8.8 At this stage the above risks have been judged to be avoidable or manageable. Risk has been include in the assessment process as set out in paragraphs 4.16 to 4.17.

Project Governance

8.9 A provisional project governance structure has been established and agreed by the One Kingston Place Programme Board. This is shown in Figure 8.1

Figure 8.1: Kingston mini-Holland programme governance



Benefits Realisation

- 8.10 The Borough is committed to harnessing the benefits that can be derived from improved cycling provision. For every pound that is invested in cycling, more than £2.50 is generated in net benefits through journey time savings, improved health and local economic vitality.
- 8.11 However, realisation of these benefits will not fully accrue simply by building the infrastructure schemes. The complementary measures (SM.1), particularly those related to behaviour change, also form a core part of the programme, and are vital in ensuring that the full benefits of investment in new infrastructure are realised.
- 8.12 The purpose of the Benefit Strategy will be to provide a framework for assessing the performance of the mini-Holland programme in achieving its objectives.

Aims of the benefit strategy

- 8.13 The Benefit Strategy presents the key stages and timescales covering a range of evaluation processes. The strategy seeks to ensure that:
- Scheme objectives can be expressed as outputs and outcomes;
 - Performance indicators reflect the programme objectives and wider objectives;
 - Baseline outcome and output data are available or a timescale for their collection is identified;
 - Ongoing data collection and analysis is undertaken efficiently, in a timely way and in sufficient detail to inform the implementation programme;
 - Analysis includes consideration of how and why activities were carried out or if they could be done differently;
 - Evaluation includes assessment of policy effectiveness and considers the likely conditions had the scheme not been implemented; and
 - Stakeholder and public opinion is understood, in terms of the process and the programme itself, and informs ongoing implementation.

Core evaluation objectives

- 8.14 The core evaluation objectives will be to measure:
- the change in the proportion of people cycling across the borough;
 - the change in congestion on roads radiating from Kingston town centre;
 - the number of people cycling to/from stations in the borough;
 - change in the level of cycling by key demographic groups that cycle less than average;
 - improvements in cycle safety; and
 - negative impacts.

Management and reporting

- 8.15 The management and reporting for the Benefit Strategy will be co-ordinated by Kingston mini-Holland project team. The timescales for this will be set out upon progression to the next stage of scheme development.

Monitoring Programme

Programme monitoring

- 8.16 The main monitoring of the Kingston mini-Holland schemes will focus on the achievement of the specific objectives identified for the programme. This will involve identification of indicators to measure performance of the programme in terms of achieving these objectives.
- 8.17 The six objectives identified by Kingston for the overall mini-Holland programme are as follows:
1. To transform the environment for cycling in the borough
 2. To improve the level of satisfaction with cycling infrastructure
 3. To improve the quality of public realm through cycling-related investment
 4. To improve the safety of all road users
 5. To support the vitality and viability of our town, district and local centres
 6. To reduce congestion and improve the flow of traffic.
- 8.18 Monitoring of the overall programme will be carried out using a combination of volumetric, intercept and attitudinal surveys, with responsibility shared between Kingston and TfL.
- 8.19 Much of the attitudinal data collected for the programme will be done through mini-Holland specific modules of existing TfL data collection programmes, including the Attitudes to Cycling and Town Centre surveys. This would be supplemented by other TfL data sources already used by the borough as part of the LIP monitoring process, as well as additional research carried out by Kingston of local businesses and trip attractors.
- 8.20 The intercept and volumetric surveys for the programme would be carried out directly by Kingston. These would include traffic/cordon counts, as well cycle parking utilisation surveys, and monitoring of borough-wide travel plans.
- 8.21 Table 8.2 provides a breakdown of the monitoring metrics (and responsibilities) for each of the six programme objectives.

Scheme specific monitoring

- 8.22 In addition to the six overall objectives, there will be a number of objectives related to each of the specific schemes.
- 8.23 The vast majority of the scheme-specific monitoring proposals will consist of the following metrics:
- Two-way cycle flows at certain points along each route
 - The number of recorded KSI incidents on each route
 - The cycling mode share across each route (intercept surveys)
- 8.24 For proposals relating to cycle hubs, the monitoring proposals will consist of both the number of cycle parking spaces available, and the utilisation of those parking spaces.

Table 8.2: Programme monitoring proposals

Scheme Objective		Monitoring Metric	Data collection type	Baseline	Expected benefit	Actual benefit	Monitoring Responsibility
1,2 and 3	1. To transform the environment for cycling in the borough 2. To improve the level of satisfaction with cycling infrastructure 3. To improve the quality of public realm through cycling-related investment	Question: "How close are you to deciding to cycle?"	Attitudinal	x%	y% (+%)		TfL (Attitudes to Cycling)
		Satisfaction levels for infrastructure and public realm quality	Attitudinal	x out of 5	Y out of 5		TfL (Attitudes to Cycling)
		Liveability	Attitudinal				TfL (Attitudes to Cycling)
		Willingness to walk/cycle for exercise	Attitudinal	x%	y% (+%)		TfL (Attitudes to Cycling)
		Walking mode share	Intercept/attitudinal	x%	y% (+%)		TfL (Town centre surveys / LTDS)
		Cycling mode share	Intercept/attitudinal	x%	y% (+%)		TfL (Town centre surveys / LTDS)
		Number of town centre cycle trips	Volumetric	X	Y		Kingston (cordon counts)
4	To improve the safety of all road users	Number of KSI incidents recorded	Volumetric	X	Y		TfL (Borough wide KSIs)
		Question: "How safe do you think it is for you/your children to cycle?"	Attitudinal	x%	y% (+%)		TfL (Attitudes to Cycling)
		Uptake in cycle training	Volumetric	X per year	Y per year		Kingston (Borough records)
		Child obesity rates (% of school-age children classed as overweight/obese)	Volumetric	x%	y% (-%)		Kingston (Borough records)
5	To support the vitality and viability of our town, district and local centres	Business/trader perceptions of trade/prosperity	Attitudinal				Kingston (Borough wide business engagement)
		Business/Trip attractor walk/cycle mode shares	Attitudinal				Kingston (business engagement and travel plan monitoring)
		Number of cycle parking spaces	Volumetric				Kingston (Borough records)

Scheme Objective		Monitoring Metric	Data collection type	Baseline	Expected benefit	Actual benefit	Monitoring Responsibility
		Utilisation of cycle parking spaces	Volumetric				Kingston (Borough records)
		Number of cycling-based businesses in the borough	Volumetric				Kingston (Borough records)
		Average spend per town centre visit	Attitudinal				TfL (Town centre surveys)
		Mode share of town centre shopping visitors	Attitudinal				TfL (Town centre surveys)
6	To reduce congestion and improve the flow of traffic.	Nitrogen oxides (NOx) and particulate matter (PM) levels	Volumetric				TfL (Air quality statistics)
		All vehicle cordon counts	Volumetric				Kingston (cordon surveys)
		Traffic speeds	Volumetric				Kingston (traffic speed surveys)

A Borough Input to TfL's Mini-Hollands Programme Level Business Case: Document Map

Borough Input to TfL's Mini-Hollands Programme Level Business Case: Document Map

A.1 The following table sets out the content reference between TfL's programme level business case and this business case report.

Appendix Table A.1: Document Map

TfL Requirement		Location
	How many potentially cyclable (but not cycled) trips are estimated in the Borough?	Chapter 2
1 Current State (Do-Nothing)	Key problems specific to the Borough that are preventing an increase in cycling mode share i.e. problems/issues that have directly influenced the development of the interventions.	Chapter 2
	Impacts of the current state on cyclists- quantify where possible	Chapter 2
2.1 Identification of interventions	How were the schemes identified?	Chapter 3
	What was the long list of schemes?	Chapter 3
	Describe process of prioritisation/shortlisting	Chapter 3
	Describe selection criteria and methodology. Include why criteria were chosen and link to the problems identified in "Do-Nothing"	Chapter 3
2.2 Prioritisation of interventions	Results of scoring/process	Chapter 3
	Briefly explain key elements in schemes that have influenced their score relative to other schemes	Chapter 3
	Explain why these schemes are the best value interventions for the borough given the needs/problems affecting lack of cycle trips in the borough	Chapter 3
	What was the short list of schemes? Provide a high level scope	Chapter 3
3 Programme Scope/Schemes	What is the problem to be addressed/opportunity to be realised by each scheme?	Chapter 2
	What is the benefit/disbenefit of each scheme? Package together schemes if more practical. Where practical, adopt the approach set out in the TfL Business Case Development Manual e.g. in terms of impacts on safety, journey times etc	Chapters 4, 6 and 7
4 What does the completed programme look like?	Describe the changed environment at the end of your Mini-Holland programme. Include Map	Chapter 3
5 Monitoring of Benefits	Explain how scheme impact will be measured.	Chapter 8
6 Phasing of delivery	Delivery tranches proposed	Chapter 3
7 Milestones		Chapter 8
8.1 Mini-Holland Costs		
8.2 Scheme costs	Costs of Feasibility, Preliminary/Detailed Design fees, Advanced Works/Utilities, Main Works, Consultants. Total base cost per financial year, plus risk, total. Figures should show how outturn costs relate to the discounted present value costs	Chapter 5
8.3 Operating/Maintenance Costs		
8.4 Funding arrangements	Funding split between TfL and Borough and any sources of third party funding	Chapter 8
	Technical risks, procedural barriers, dependence on other projects, resources etc.	Chapter 8
9 Risk	Extent of risk quantification of programme; brief overview of risk provision including main or notable risks. How the risk estimate links to financial provision.	Chapter 8

B Programme

Programme

See attached file.

C Scheme cost components

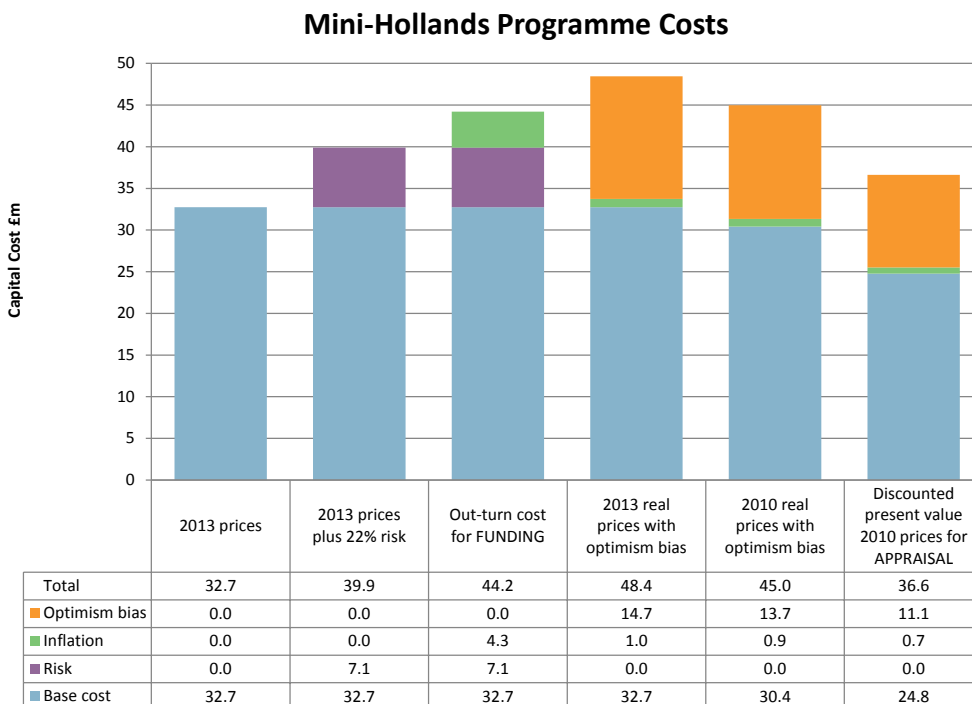
Cost components

C.1 Throughout this report, there are a number of different figures quoted for the total scheme cost for the programme. This appendix aims to provide clarity as to the components that the different figures include and exclude. The relevant cost components are:

- **Base costs** – These have been estimated in 2013 prices, and the estimation process is described in Chapter 4. For appraisal purposes, these have been deflated to 2010 prices.
- **Risk** – At this stage of the project, the schemes have not been fully defined and a quantified risk assessment (QRA) has not been completed. The QRA would normally capture the cost impacts of identified risks that are generally external to the project. In order to avoid cost escalation subsequent to a QRA being undertaken, a risk allowance of 22%, has been included for budgetary purposes, which is equivalent to half the value of the optimism bias.
- **Inflation** – The base scheme cost for the mini-Holland schemes is assumed to increase at 3.5% per annum in nominal terms, or 1.0% per annum in real terms assuming a background inflation of 2.5% per annum. Inflation is overlaid on the base cost plus risk.
- **Optimism bias** - For appraisal purposes, TfL's guidance requires that an optimism bias of 44% should be applied to cycling schemes that have yet to undergo a QRA. Optimism bias is not conventionally used for setting out funding requirements. Optimism bias is overlaid on the base cost and inflation.

C.2 How these components fit together is shown in Appendix Figure C.1.

Appendix Figure C.1: Mini-Holland programme scheme costs



Control Sheet

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Originator

Sharon Daly

Other Contributors

David Sutanto, Jonathan Tong

Reviewed by

Tom Higbee

Distribution

Client

Steer Davies Gleave

Peter Treadgold, Richard Lewis

Project File



Our offices

Bogotá, Colombia

+57 1 322 1470

colombiainfo@sdgworld.net

Bologna, Italy

+39 051 656 9381

italyinfo@sdgworld.net

Boston, USA

+1 (617) 391 2300

usainfo@sdgworld.net

Denver, USA

+1 (303) 416 7226

usainfo@sdgworld.net

Leeds, England

+44 113 389 6400

leedsinfo@sdgworld.net

London, England

+44 20 7910 5000

sdginfo@sdgworld.net

Madrid, Spain

+34 91 541 8696

spaininfo@sdgworld.net

Mexico City, Mexico

+52 (55) 5615 0041

mexicoinfo@sdgworld.net

New York, USA

+1 (617) 391 2300

usainfo@sdgworld.net

Rome, Italy

+39 06 4201 6169

italyinfo@sdgworld.net

San Juan, Puerto Rico

+1 (787) 721 2002

puertoricoinfo@sdgworld.net

Santiago, Chile

+56 2 2757 2600

chileinfo@sdgworld.net

São Paulo, Brazil

+55 (11) 3151 3630

brasilinfo@sdgworld.net

Toronto, Canada

+1 (647) 260 4860

canadainfo@sdgworld.net

Vancouver, Canada

+1 (604) 629 2610

canadainfo@sdgworld.net