Programmes and Investment Committee

Date: **8 March 2017**

Item: **Healthy Streets Programme**

This paper will be considered in public

1 Summary

ID/UIPTBC Healthy Streets Programme			
Existing Financial Authority	Estimated Final Cost	Programme and Project Authority Requested	Total Programme and Project Authority
£1.59bn	£1.59bn	£439m	£439m

1.1 This paper presents the strategic case for the Healthy Streets Programme, its constituent projects and the proposed governance arrangements.

1.2 Approval is sought for overall Programme and Project Authority of £439m for delivery of the priority projects in the Healthy Streets Programme in 2017/18 and subsequent years.

2 Recommendations

2.1 The Committee is asked to note the paper, including the strategic case for the Healthy Streets Programme; the Healthy Streets Programme estimated value and governance arrangements, and:

(a) approve Programme and Project Authority of £439m:

(i) to undertake all Healthy Streets Programme activities during the financial year 2017/18 (totalling £155m[1]);

(ii) to make provision for an allocation of £21m for the first three months of 2018/19 for application in the event that the meeting calendar does not enable the Committee to make further approvals during that period;

(iii) to undertake all Healthy Streets Programme activities for any project stage that is planned to commence in 2017/18 but which may extend into subsequent years to a maximum of £263m; and

[1] The authority request for £155m in 2017/18 comprises £13m third party funding and £142m TfL funding. In 2017/18 TfL will also fund London boroughs £77m to deliver Healthy Streets outcomes via programmes developed and managed by the boroughs in accordance with the Mayor's Transport Strategy. The total TfL-funded Healthy Streets programme budget for 2017/18 is therefore £219m.

(b) further note that Procurement Authority in respect of the various elements of the Healthy Streets Programme will be sought at officer level in accordance with Standing Orders.

3 Background

3.1 In 'A City for All Londoners' (October 2016) the Mayor set out his ambition for *'the city to be green, healthy and more attractive. I will look to reduce traffic and encourage cycling and walking on 'Healthy Streets', and through this to improve Londoners' health'*. As such he has asked TfL to put a 'Healthy Streets approach' at the heart of all its decision-making. This paper sets out the proposed investment approach required to deliver on this commitment.

3.2 The Healthy Streets approach prioritises health and wellbeing, with the overall objective of delivering a transport system where everyone can travel safely by the healthiest and most resource and space-efficient modes, specifically walking, cycling and public transport. The approach is described in 'A City for all Londoners':

> "Transport is one of the most significant and effective ways that I can improve the environment and the health and quality of life of all Londoners. I have already explained how I want to drastically reduce dangerous emissions in London to improve its air quality. This is just one part of my vision to create 'Healthy Streets' – which aims to reduce traffic, pollution and noise, create more attractive, accessible and people-friendly streets where everybody can enjoy spending time and being physically active, and ultimately to improve people's health."

3.3 TfL has a central role in improving Londoners' health because walking, cycling and using public transport to get around are the main ways people stay active throughout life. Over the last five years, TfL has worked with the boroughs and a range of other delivery partners to successfully achieve modal shift from 'non-active' modes of transport to active modes through programmes such as Cycle Superhighways, Quietways, a significant investment in the public transport system and major improvements in the public realm. As public transport in London has improved, Londoners are walking more often and further to access public transport services, with the number of walking trips stages as part of a longer multi-modal journey increasing from 23.7m per annum in 2007 to 26.3m per annum by 2014.

3.4 The Healthy Streets approach will also deliver road safety benefits and more efficient use of road space. Sustainable modes enhance the 'people capacity' of streets, for example buses use 11 per cent of street space but provide 57 per cent of journey kilometres in central London and, two weeks after opening, the East-West and North-South Cycle Superhighways corridors were moving five per cent more people per hour than they could without cycle lanes (a number that will increase as they attract more cyclists).

3.5 The Healthy Streets approach also supports the realisation of wider environmental, economic, and social benefits, including better air quality, improved access to jobs and services and the enhanced attractiveness of London as a place to invest, work and do business. Major international employers, such as those located at the new Kings Cross development, have cited London's emerging walking, cycling and public realm improvements as important factors in persuading them to locate in the

city. Local businesses benefit too, with evidence demonstrating that people accessing a town centre by bus, cycle or on foot spend more money overall than motorists (see Appendix 1 for more details).

3.6 TfL has committed to delivering the Healthy Streets approach through all of its existing activities and investment. In addition, the new TfL Business Plan, approved by the Board at its meeting of 15 December 2016, specifically allocated £2.1bn to Healthy Streets, of which £1.59bn was for this Healthy Streets Programme and the remaining comprised of air quality spend and boroughs' Local Implementation Plan (LIP) discretionary funding that is not subject to this authority request.

3.7 The ambition for TfL's Healthy Streets Programme is described in the TfL policy document *Healthy Streets for London* (February 2017):

> "This portfolio will in part be targeted at delivering on existing commitments, like new cycle routes. The Business Plan includes around double the average annual spend on cycling seen under the last Mayor, taking London's spend per head to the same levels as Denmark and the Netherlands.
>
> Investment in walking will be integral to projects across the portfolio, maximising opportunities to deliver improvements for pedestrians.
>
> It will also see the enhancement of bus networks through increased investment in bus priority, and the delivery of major new projects like the Rotherhithe to Canary Wharf pedestrian and cycle bridge and the transformation of Oxford Street.
>
> But much of the funding will be invested in a fundamentally new way, looking not at single transport modes as we have done in the past, but taking a wider view of how streets function to deliver best for people."

3.8 The Healthy Streets Programme will deliver changes to London's road network, both on the Transport for London Road Network (TLRN) and on the Borough roads, designed to achieve the optimum balance of outcomes in specific locations.

3.9 The Programme will be the substantial part of the Healthy Streets Portfolio which is one of Surface Transport's five new Investment Portfolios (the other four being Air Quality and the Environment, Assets and Renewals, Contracted Services and Business Change).

3.10 The Healthy Streets approach will be further embedded within London's strategic transport planning framework through the next version of the Mayor's Transport Strategy (MTS), to be published later in 2017, and in the next version of the London Plan (both subject to consultation).

3.11 The Mayor has also appointed a Walking and Cycling Commissioner who will work with TfL, boroughs, businesses and stakeholders across London to push forward the successful delivery of the Healthy Streets Programme.

4 Strategic Case

4.1 The overarching Strategic Case for the Healthy Streets Programme investment is set out in Appendix 1. Appendix 1 presents our analysis and evidence that

demonstrates why this Healthy Streets Programme is needed in London to optimise the efficiency of the transport network, improve transport's impact on the environment, support the economy and help people to live more active, healthier lives.

4.2 The Healthy Streets Programme is one of two TfL investment programmes dedicated to delivering the Mayor's Healthy Streets approach. The Air Quality and Environment Programme focuses on delivering the 'cleaner air' element of the Healthy Streets approach and will be presented to this Committee at a later meeting.

4.3 The Healthy Streets Programme comprises a varied and complex portfolio of projects and sub-programmes across London and will evolve further as new projects come forward for prioritisation and investment.

Project Business Cases

4.4 To demonstrate their individual case for investment, projects within the Programme are required to develop their own business case to demonstrate both their contribution to the programme and project outcomes (see figure 4.1) and their stand alone value for money.

4.5 All business cases for projects within the Programme will be subject to TfL's existing standards and guidance for business case development, benefits management and project management. The Healthy Streets Portfolio Board is responsible for ensuring that project business cases are aligned to achieving the Healthy Streets outcomes, and that the combined Programme investment is appropriately managed and prioritised to optimise the overall delivery of outcomes and benefits.

4.6 Many of the mature projects in the Programme already have a business case and can demonstrate a strong case for investment, often alongside high value for money Benefit Cost Ratios (BCRs). It is not appropriate to produce a single business case or BCR for the entire Healthy Streets Programme over the next five years. TfL's Investment Portfolio approach is based on setting a strategic need (as set out in appendix 1); setting clear outcomes (figure 4.1) to achieve clear benefits (paragraphs 5.14-5.18); and then managing and continuously prioritising a wide portfolio of investment over time to ensure continued and optimal delivery of the Programme outcomes.

Programme Outcomes

4.7 Figure 4.1 shows how the Mayor's Healthy Streets aims will be embedded in the proposed new MTS as 'policy objectives', and sets out the subsequent delivery outcomes for the Healthy Streets Programme.

Figure 4.1: Healthy Streets Programme Outcomes

What are the strategic aims of the Mayor's Healthy Streets Approach?

Healthy Streets For London: Mayor of London / TfL (February 2017)

- Increased active travel with more people walking, cycling and using public transport
- Safer journeys
- More reliable bus journeys
- Improved urban realm
- Cleaner air

Mayor's Transport Strategy

Draft for consultation to be published in 2017

MTS to set out a vision, goals and policies to deliver Healthy Streets across London

Which new MTS **Policy Objectives** will reflect the Healthy Streets Approach?

(Note: proposed Policy Objective wording is subject to further change prior to draft MTS publication for consultation in 2017)

- Making London an even better city for walking and cycling
- Provide more bus priority to improve bus journey times and reliability
- Making our streets safer and more secure for everyone
- Efficient delivery and servicing
- Reducing car use and car ownership
- Greener and more resilient streets, with less noise and vibration and improved public realm
- Provide a reliable and well maintained road network for journeys by foot, cycle and bus and for essential motorcycle, car, coach, van and lorry trips
- Reduce emissions from road transport to improve air quality, health and impacts on climate change

What TfL investment will deliver the MTS policy objectives?

- **The Healthy Streets Programme** *(This PIC request)*
- Other TfL investment, operations and 'business as usual' activities
- **Air Quality and Environment Programme** *(subject to a future PIC request)*

What are the (draft) Healthy Streets **Programme** Outcomes?

- More people walking and cycling more often
- More people using public transport more often
- Safer Streets
- Fewer motorised freight trips in the busiest places and at the busiest times of day
- Provision of attractive alternatives to car use for shorter journeys
- Improved street environments including more seating, shade and permeability
- Reliable journey times for walking, cycling and public transport

What are the specific (draft) Outcomes required from **Projects** in the Healthy Streets Programme?

- A) More people walking and cycling more often
  B) Greater diversity in the range of people walking and cycling
- C) Faster, more reliable bus journey times
  D) Increased bus patronage
- E) Fewer KSIs and reduced injury risk per KM
  F) Improved perception of safety and security for those walking, cycling and using public transport
- G) Fewer motorised HGV freight trips in the busiest places and at the busiest times of day
- H) Fewer vehicle kilometres travelled by car
  I) Reduced levels of car ownership
- J) More on-street biodiversity including more trees
  K) Streets are resilient to extreme weather
  L) More on-street seating and resting places
  M) Lower levels of traffic noise and vibration
  N) Improved urban realm
- O) Improved cycle, walk and bus journey times

How will the Healthy Streets Programme Outcomes be measured?

MTS policy objectives to be published in the draft MTS for consultation in Spring 2017

Healthy Streets Key Performance Indicators to be agreed by Healthy Streets Portfolio Board to reflect MTS Policy Objectives

A monitoring programme and benefits realisation strategy established

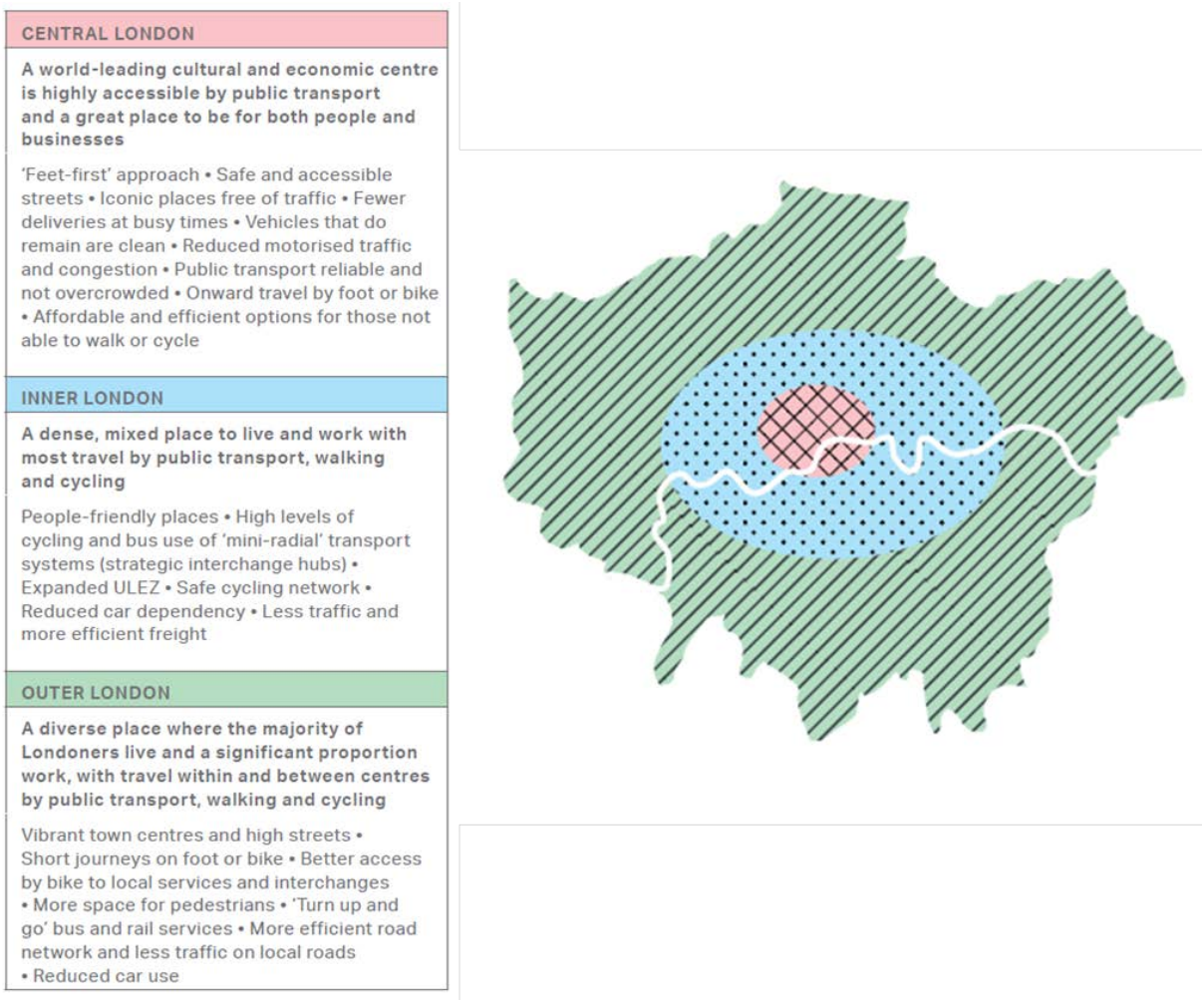
What will London's streets look and feel like as a result?

4.8 Not all of the Healthy Streets Programme outcomes can be delivered on every street, and effective prioritisation and balancing between outcomes will be a critical function of the governance of the Programme. A key part of this is planning the right schemes in the right places at an early stage in the planning process, to optimise the achievement of outcomes according to the character of the location.

4.9 A spatial planning approach has been adopted to establish which outcomes are most important for given locations. This has been informed by strategic analysis to identify the most important areas and corridors in London with regard to range of factors, including: potential cycling demand; potential walking demand; strategic bus priority network; and collision and casualty hotspots.

4.10 Figure 4.2 sets out the Mayor's desired spatial outcomes for Healthy Streets across central, inner and outer London, taken from 'A City for All Londoners', that will be embedded in the new MTS (subject to consultation) and guide the prioritisation and management of the Healthy Streets Programme moving forward. These indicate how the different outcomes from figure 4.1 will be prioritised for different areas within London.

Figure 4.2: Healthy Streets Outcomes in central, inner and outer London



4.11 Even with an evidence-led approach, there will still be locations in which a planned project may impact negatively on some healthy streets outcomes (for example, bus patronage) whilst impacting positively on others (eg more people walking or cycling). The Programme governance will take a multi-modal approach to scheme development. It will develop and embed a strategic approach to balance outcomes early in scheme development, to ensure we deliver the greatest social, economic and environmental value from the Programme. Further details on prioritisation of new schemes within the Programme based on outcomes is set out in paragraphs 5.24 to 5.32.

4.12 In addition to the proposed Healthy Streets MTS policy objectives (figure 4.1), the Programme investment will also contribute to TfL's and the Mayor's wider goals, including improving London's economy, reducing inequality, and making London a more affordable place to live and work.

4.13 To measure achievement of the outcomes, the Healthy Streets Portfolio Board will agree new targets and Key Performance Indictors (KPIs). These KPIs will be based on the outcomes described in figure 4.1 and reflect the policy objectives in the proposed new MTS (to be published in draft in Spring 2017 following approval from the Board). The role of the Healthy Streets Portfolio Board is set out in more detail in paragraphs 5.20 to 5.23.

5 Proposal: Healthy Streets Projects and Delivery Plan

5.1 The full scope of the Healthy Streets Programme is set out in Table 5.1. For each of the Programme's projects and sub-programmes, the table sets out:

(a) **Description** – the name of the major projects and sub-programmes that make up the Healthy Streets Programme, plus a description of the major elements;

(b) **Financial Authority** – the funding that has been set aside for each project in the TfL Business Plan (as approved in December 2016 by the Board); and

(c) **Authority Request** – the Programme and Project authority that is being requested from the Committee in this paper. This comprises three elements:

i **2017/18 investment** – the Programme and Project Authority for all projects in 2017/18 (this is equal to the 2017/18 Budget);

ii **2018/19 contingency** – where a specific allowance has not been made for a project or sub-programme under iii. below, a contingency of 25 per cent of planned 2018/19 expenditure has been added. This is to ensure that any unforeseen delays to the Committee meeting in spring 2018 (at which the 2018/19 annual Programme and Project Authority request will be tabled) does not result in a break in authority;

iii **Incremental cost to end of Stage** – an allowance to ensure in flight projects have sufficient Programme and Project Authority to get to the end of Stage where that Stage extends from 2017/18 into 2018/19 or beyond. This reflects the commitments that may need to be entered into (eg procurement, when a project starts a Stage); and

iv **Total –** the sum of the total Programme and Project Authority being requested in March 2017 for each programme or sub-programme (ie the sum of columns i, ii and iii) to progress them to the next Stage.

5.2 The authority request has been limited to project investment that falls within the categories identified above. It is envisaged that going forward there will be an annual request to the Committee for Programme and Project Authority required for the year ahead, with the next planned request to the meeting of the Committee in March 2018.

5.3 The Committee will be updated on a quarterly basis throughout 2017/18 on progress with the projects and sub-programmes described in Table 5.1. This lists the schemes and their major benefits, however all schemes also aim to deliver safety benefits. Further details of the authorities sought and the financial implications are set out in Section 6.

5.4 The Healthy Streets Programme also includes some initiatives that are not subject to this authority request, including boroughs' LIP discretionary funding.

5.5 All projects in the Programme were included in the approved TfL Business Plan and will deliver improvements to public transport, road safety, the public realm, walking and cycling, as well as improving the health of Londoners, to achieve the Programme outcomes set out in figure 4.1.

5.6 TfL's existing business case analysis provides strong evidence that this approach provides very good value for money. For example, the Cycling Vision Portfolio Business Case (a combined 10-year investment package of Quietways, Cycle Superhighways, Mini-Hollands, and other measures as originally approved by the Board at its meeting on 5 February 2014, and is superseded by this Healthy Streets Programme) demonstrates delivery of a range of important non-monetisable quantitative and qualitative benefits including urban realm improvements, improved health and enhanced quality of life, in addition to a transport case BCR of 2.9:1.

Table 5.1: Healthy Streets Programme – Constituent projects and Programme and Project Authority requested from PIC

(a) Description		(b) Financial Authority (£m)	(c) Authority Request (£m)			
			(i) 2017/18 investment	(ii) 2018/19 contingency	(iii) Incremental cost to end of Stage	**(iv) Total**
Transformational Projects: Major transformational projects on the TLRN and in London boroughs to deliver Healthy Streets outcomes including safety, modal shift and better urban realm.	**TfL-led projects:** The **Oxford Street** project will deliver safety, air quality and pedestrian improvements, positively impacting the health of the thousands of people who use Oxford Street everyday. The **Rotherhithe to Canary Wharf pedestrian and cycle bridge** will provide a new strategic connection across the river in East London. A range of further projects, including **Old Street Roundabout** and **Wandsworth Gyratory** improving conditions for walking and cycling and large **non-infrastructure projects**.	826.1	56.7	0	130.8	187.5
	Borough-led projects: Major LIP projects including **West Norwood Regeneration, Beddington Gateways** and the **West End Project.** **Liveable Neighbourhood** projects to create attractive, safe and accessible walking routes to schools and other destinations. **Crossrail Complementary measures** to provide urban realm improvements and encourage walking, cycling and public transport to the Crossrail stations in outer London.	170.3	36.2	0	44.3	80.5
Multi-Modal Small Scale Schemes: Small-scale schemes (individually under £1m) on the TLRN and Borough networks that support delivery of Healthy Streets Outcomes at a local level, including safety, urban realm and modal shift.		59.8	8.7	2.9	0	11.6

(a) Description	(b) Financial Authority (£m)	(c) This Authority Request (£m)			
		(i) 2017/18 investment	(ii) 2018/19 contingency	(iii) Incremental cost to end of Stage	**(iv) Total**
Bus Priority Reliability and Growth Programmes: A series of improvements to increase the reliability of the bus network improving customer experience, encouraging more public transport use and related active travel.	125.3	21.3	7.4	0	28.7
Cycle Superhighways: Continuation of the successful Cycle Superhighway (CS) programme to significantly improve pedestrians' and cyclists' safety and journey experience, and create new public spaces, **including phase 2 of North-South Cycle Superhighway**, and **Cycle Superhighway 11** (CS11) between Swiss Cottage and Portland Place**, plus East-West Phase 2**	150.3	32.3	0	27.4	59.7
Quietways: Delivery of low-trafficked cycle routes, away from main roads, providing benefits for cyclists, pedestrians and the urban realm.	77.8	13.2	3.6	0	16.8
Central London Grid: Provision of a network of well connected, safe cycle routes across central London, predominately on quieter, low-trafficked roads.	59.4	9.4	3.0	0	12.4
Mini-Hollands: Completion of the schemes in **Enfield, Waltham Forest** and **Kingston** to overcome specific barriers to cycling and increase cycling in those boroughs, aiming to move significant numbers of suburban car journeys on to the bike.	73.7	14.1	4.2	0	18.3
New Technology Projects: Projects to boost the efficiency of the road network, reduce congestion and prioritisation of different modes including **Traffic Information Management System** and **Surface Intelligence Technology**	105.4	9.4	0	60.6	70.0
Value Engineering & Over-programming: Targeted efficiency savings and over-programming allowances to reflect delivery risk assessments.	-56.0	-46.8			-46.8
Total	**1,592**	**155**	**21**	**263**	**439**

Delivery Plan

5.7 TfL will produce a Healthy Streets Delivery Plan (HSDP) covering the period 2017/18 to 2021/22, to be completed in 2017, outlining delivery milestones and expected project outcomes. The HSDP will also serve as a guide for project promoters (including TfL sponsorship teams, boroughs and other delivery partners), setting out the Healthy Streets Programme and policies, and how Healthy Streets schemes are governed, assessed and prioritised against outcomes.

5.8 The Healthy Streets Programme will both have an impact on, and be dependent upon, delivery of other TfL investment programmes. These include the Air Quality and Environment Programme, and TfL's 'business as usual' activity such as behaviour change and freight management programmes that enable mode shift to walking, cycling and public transport.

Network Operations and Managing the Wider Road Network Impacts

5.9 The TfL-funded Healthy Streets investments are part of a much wider programme of change on London's transport network over the next five years, which also includes High Speed 2, the Thames Tideway Tunnel, utility upgrades and borough and developer schemes.

5.10 Our day to day road and bus network operations will play an important role in:

(a) **ensuring that the Healthy Streets Programme achieves the Healthy Streets outcomes and benefits** – For example, the investment programme includes the infrastructure elements of schemes that deliver benefits through network operations, for example pedestrian countdowns at signalised crossings that will help us achieve the walking and road safety outcomes; and

(b) **managing the wider road network impacts of Healthy Streets Programme delivery** – Our network operations will help to mitigate the construction impacts of Healthy Streets projects, and further support the continued reallocation of space and time away from general traffic.

5.11 Network operations will be managed outside of the Programme governance but in accordance with the Healthy Streets approach. The activities will include:

(a) in the short-term, traffic management and street works coordination activities as set out in our Roads Reliability Plan to help to manage the impacts of construction. This includes improved asset performance, roadworks management, incident management, traffic control, and communicating with road users;

(b) development of freight management measures to reduce the volume of freight and servicing traffic on the roads in the peak, particularly in central London; and

(c) a longer-term strategic approach to address future demand for road space, with specific policies to be published for consultation as part of the new MTS later this year.

Equalities Impact Assessment

5.12 The Programme will be delivered in accordance with the Equality Act 2010. Equality Impact Assessments are considered on all strategies, policies, business plans, change programmes or projects, having regard to our obligations under the public sector equality duty in section 149 throughout the delivery of the Programme.

5.13 As projects progress through feasibility and design, consideration will be given to the need for an Equality Impact Assessment for each one. Possible effects on people with protected characteristics under the Equality Act 2010 (such as age, race, sex, and, often of particular relevance, disability), and mitigations of and countervailing considerations in respect of any adverse effects, will be considered and recorded.

Benefits Management and Expected Benefits (and Value)

5.14 The Healthy Streets Programme will use the Healthy Street outcomes (see Figure 4.1) to derive a series of clear benefits and associated measures to assess progress of projects and sub-programmes. This assessment will be mandatory, and some projects may also measure additional benefits not included in the Programme outcomes.

5.15 We already have a monitoring and project benefits evaluation programme used to measure the impacts of road network enhancement projects, including:

(a) annual city-wide cycling and walking surveys;

(b) project-specific measures such as cycle flows, data on collisions, bus journey times and general traffic journey time reliability;

(c) methodologies to assess and mitigate negative impacts on bus journey times from current Healthy Streets projects; and

(d) research and evaluation tools, such as the Healthy Streets Survey (an annual survey to gauge Londoners' opinion on their street environment) and the Healthy Streets Evaluation Tool (a tool for scheme designers to evaluate how a street performs against the healthy streets indicators before and after intervention).

5.16 We will build on these existing tools to develop a comprehensive benefits evaluation programme for Healthy Streets.

5.17 Projects and sub-programmes will also be required to provide a plan, aligned to the Healthy Streets Delivery Plan, of benefits expected over time and set indicators to demonstrate success. This will enable the Healthy Streets Programme to assess the success of the projects in delivering against expectations, and to assess the action necessary to ensure the achievement of the strategic outcomes.

5.18 The Healthy Streets Programme Benefits Management approach is based on the learning from the Cycling Vision and Road Safety Portfolio benefits management and consists of:

(a) a consistent benefits management process, which includes mandatory post-project benefit reviews;

(b) a benefit measures dictionary to ensure consistent use of benefit measures across the Programme, enabling effective benefit aggregation and validation;

(c) development of a Programme level benefits map which will show dependencies between benefits and dis-benefits;

(d) development of a Healthy Streets Benefits Management Strategy;

(e) analysis of the relative benefit contribution of the individual projects within the Programme; and

(f) regular benefit reporting at project and Programme level; and reviews of benefit delivery against the plan.

Healthy Streets Programme Governance

5.19 The governance structure of the Healthy Streets Programme is designed to achieve the following objectives:

(a) joined up planning and delivery of optimal outcomes in geographic locations (rather than delivery of single mode solutions);

(b) effective setting of outcome priorities and effective decisions about trade-offs between the outcomes in geographic locations;

(c) integrating funding for Transport for London Road Network and borough road enhancements;

(d) clear line of sight between the MTS and the enhancements on the road network;

(e) effective and efficient project delivery;

(f) joined up stakeholder management;

(g) joined up resource management; and

(h) effective management of interdependencies and cross-cutting issues.

5.20 The Programme governance structure will provide clear lines of accountability, through a simple and effective governance structure consisting of project boards, sub-portfolio boards, and a senior level Healthy Streets Portfolio Board.

5.21 The Healthy Streets Portfolio Board was established to oversee the following:

(a) providing strategic direction for the Healthy Streets Programme;

(b) ensuring optimum balance of projects to achieve the Healthy Streets outcomes;

(c) making business decisions about modal priorities and acceptable outcome trade-offs;

(d) reviewing the benefits individual projects are delivering, as well as cumulative benefits; reviewing relative contribution individual projects are making to achieving the overall Programme outcomes;

(e) agreeing release of funding for individual projects within the Programme;

(f) reviewing project progress by exception (based on agreed parameters);

(g) reviewing escalated delivery risks;

(h) approving escalated change requests (based on agreed thresholds and decision rules); and

(i) approving appropriate risk drawdown.

5.22 Members of the Healthy Streets Portfolio Board include the Walking and Cycling Commissioner; Director of City Planning; and the relevant Surface Directors.

5.23 The Portfolio Board will provide a high level report on Programme delivery progress to the Committee at each quarterly meeting that will include:

(a) Project Assurance and commentary from the Independent Investment Programme Advisory Group (IIPAG);

(b) any significant changes (for example in scope, milestones or cost) and associated authority requests relating to the sub-programmes; and

(c) when individual projects are due to make decisions on procurement e.g. contract award.

Programme Prioritisation and Management

5.24 Projects prioritised for delivery in 2017/18 have been prioritised based on a structured method involving review of the benefits planned and delivered; delivery considerations; value for money; and scoring of the relative contribution projects will make to a set of weighted priorities (including the need to protect bus services in specific locations on the road network).

5.25 The Portfolio Board is responsible for ongoing prioritisation of the Programme's current and emerging projects to ensure they contribute to (and consider their impacts on) a wide range of Healthy Streets and other transport outcomes. This represents an evolution from the previous arrangements, in which some programmes and projects were more narrowly focused on achieving one outcome (e.g. cycling), with less opportunity to consider how they might contribute to others.

5.26 To complement this shorter term delivery, and as part of finalising the 2017/18 programme, a Healthy Streets appraisal was undertaken to optimise outcomes of the 2017/18 projects to further ensure the projects are strategically aligned (specifically in terms of mitigating negative impacts on bus patronage). These findings will be incorporated into future design work to help mitigate and avoid any negative impacts (e.g. impacts on bus revenue).

5.27 In the medium term, the Portfolio Board is developing an approach to ensure that TfL optimises the spatial outcomes and benefits in geographic locations while ensuring we are delivering the Healthy Streets outcomes overall.

5.28 As the Programme matures over the longer term, we are embedding a process which will ensure that outcomes are defined early; operational network impact assessed; and projects designed through collaborative work between appropriate planning, sponsorship and delivery functions. The process will clarify who needs to be involved in the project development process; the extent of the involvement at different stages of a project lifecycle; and what the multi-modal outputs are.

5.29 This approach will ensure that:

(a) outcomes are optimised in each geographic area;

(b) projects are designed in line with the projects agreed multi-modal outcomes;

(c) the Programme is prioritised based on value for money, deliverability and alignment to outcomes agreed to be delivered in each geographic area;

(d) any changes to project outcomes are controlled through an appropriate change control process; and

(e) appropriate planning representatives are involved in assessing the impact on the outcomes of any changes through the project lifecycle.

5.30 Outcomes will be optimised based on clearly defined criteria, which are being developed. The Healthy Streets Portfolio Board will be asked to approve a paper during early 2017/18 setting out this approach to optimising and prioritising healthy streets investments.

5.31 It should be noted that important parts of the Programme will be delivered by boroughs and some other third parties (e.g. Royal Parks, Canals and River Trust), who have their own governance and financial duties. The purpose of TfL governance in this case is to ensure that projects are worthwhile, and that delivery reflects value for money for London. This will be covered by the new LIP guidance that will help boroughs to implement the new MTS when approved, and the associated Annual Spending Submission guidance. Both are being developed with engagement with boroughs.

5.32 TfL provides financial assistance to the Delivery Partners (including boroughs) under Section 159 of the GLA Act 1999. The funding can only be used for the purposes for which it was provided and any other use can result in TfL requiring repayment and/or withholding provision of further funding. TfL also has the right to carry out random or specific audits in respect of the financial assistance provided. The funding will be managed through the Borough Portal, which is a web based tool developed by TfL to manage allocation of funds, reporting, forecasting and subsequently claiming of financial assistance by third parties. Payments through the Portal are made in arrears, as soon as the Delivery Partner provides information to show that the work has been completed to TfL's satisfaction.

5.33 The future inclusion of any new projects within the Healthy Streets Programme will be subject to available funding and demonstrated contribution to the Healthy Streets outcomes. Any decision to introduce a new project would be made by the Healthy Streets Portfolio Board.

Merging of Existing Portfolios

5.34 The Healthy Streets Programme will supersede all previous investment portfolios in which its constituent projects were formally governed.

5.35 The Healthy Streets Programme contains all the capital investment for cycling infrastructure that was previously contained within the Cycling Vision Portfolio (as reviewed by the Board at its meeting on 5 February 2014). The 2014 Board paper included a commitment to report annually on progress on the Cycling Vision. Progress reports were subsequently presented to TfL Board in both 2015 and

2016. Going forward, this commitment will be superseded by an update on cycling projects as part of both the quarterly progress report to the Committee on Healthy Streets, in addition to the major annual update and authority request to the Committee every spring.

6 Authorities Sought

6.1 A significant number of projects within the Healthy Streets Programme are in flight and as such have existing Project Authority for 2017/18 and in some cases extending beyond. Programme and Project Authority provided by the Committee will extend that Authority to all projects within the Programme as per Recommendation section 2.1 (a).

6.2 The rationale behind the Authority requested in this paper is to ensure that projects within the Programme have sufficient Authority for the current year and for any stages of the project that commence in the current year but which may extend into the following year.

6.3 The Healthy Streets Integrated Assurance Plan 2017/18 sets out a programme of assurance reviews of Healthy Streets projects. Assurance review recommendations will be used to support requests for Programme and Project Authority endorsements by the Healthy Streets Portfolio Board.

6.4 The Committee is requested to approve budgeted Programme and Project Authority of **£439m** comprising:

(a) **£155m** to undertake all Healthy Streets Programme activities during the financial year 2017/18;

(b) an allocation of **£21m** to make provision for the first three months of 2018/19 for application in the event that the meeting calendar does not enable the Committee to make further approvals during that period; and

(c) (a maximum of) **£263m** to undertake all Healthy Streets Programme activities for any project stage that is planned to commence in 2017/18 but which may extend into subsequent years.

Financial Authority

6.5 TfL's Business Plan sets out our plans for the transport network over the five years 2017/18 to 2021/22 and provides the Financial Authority needed to deliver the scope of work set out in this paper. The Budget for 2017/18 (a development of year 1 of the Business Plan) is due to be considered by the Board on 29 March 2017. It will include financial provision for that year's scope of work for which Programme and Project Authority is now being sought.

6.6 Further detail on the activities making up the Healthy Streets Programme is included in table 5.1 (summary) and Appendix 2 (detailed) to this paper.

Financial Implications

6.7 A summary of the draft Budget for 2017/18 and Business Plan costs to 2021/22 is show in table 6.1

Table 6.1: Costs & Funding Breakdown

Healthy Streets Portfolio £m		**Draft Budget**	**Business Plan**			
		2017/18	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Portfolio Total (rounded to £m)		193	296	380	413	305
Over-programming (para 6.11)		(38)	38	-	-	-
Budget or Plan	TfL element [2]	142	320	348	386	272
	Third Party Funding	13	14	32	27	33
Surplus / (Shortfall)		0	0	0	0	0
(i)	2017/18	155				
(ii)	2018/19 'Contingency'		21			
(iii)	Incremental cost to end of stage		186	46	25	6
(iv)	**This Authority Request (Total)**	**155**	**207**	**46**	**25**	**6**
Future Authority Requests			127	334	388	299

Compulsory Purchase Orders

6.8 Two projects within the 'Transformational Projects' category, namely 'Wandsworth Gyratory Removal' and 'A23/A232 Fiveways Croydon', will require Compulsory Purchase Orders (CPO) to acquire the land essential to deliver the projects and that approval to the principle of making such Orders is a matter reserved for determination by the Board.

6.9 It is anticipated that such submissions to the Board (in accordance with Standing Orders) will be made in summer 2017 for Wandsworth and spring 2018 for Fiveways. These Board papers will be included in the preceding quarterly programme update to the Committee.

[2] In addition to the £142m TfL element, in 2017/18 TfL will also fund London boroughs £77m to deliver Healthy Streets outcomes via programmes developed and managed by the boroughs in accordance with the Mayor's Transport Strategy. The total Healthy Streets Programme 17/18 budget is therefore £219m.

6.10 For all those projects in the Programme that require land acquisition, the value of land, including land acquired under CPO, is included in the sums for which Programme and Project Authority is sought.

Over-Programming

6.11 The Healthy Streets Programme includes £38m of over-programming in 2017/18, to recognise that slippage may occur. Identifying over-programming has involved assessing each discrete project for inherent scoping and delivery risk and applying an appropriate adjustment to the delivery estimate. Consideration of where the project is (which Gate) is taken into account as more established projects are less likely to slip as they are better scoped.

6.12 While the overall over-programming sum is derived from this project level assessment, it is also informed by a more strategic Healthy Streets Programme level review. Over-programming will be managed by the Healthy Streets Portfolio Board.

Cost Estimation and Risk

6.13 The approach to cost estimation and the level of cost certainty varies between projects. Influencing factors include the relative maturity of each project (reflected by the Stage Gate) and the relative risk associated with estimating errors (which is likely to reflect the cost used for planning purposes and also risk ownership).

6.14 Each project is required to actively manage risks by identifying and as far as possible mitigating them. Part of active risk management involves ensuring that adequate financial provision is made to either fund mitigating activity, for example to keep delivery on track or to cover any additional costs that may be incurred in the event that mitigation is not achievable.

6.15 For immature projects, risk may simply be calculated as a percentage of base cost. As projects develop, scope is firmed up and designs mature and a detailed risk register will be developed and a Quantified Risk Assessment produced. Most projects will hold risk at P50. Risk provision can be made at a higher level in exceptional circumstances but the decision will be made and the risk held centrally under the authority of the Chief Financial Officer.

6.16 While there will be a risk register for the Healthy Streets Programme, there will not be any strategic risk budget. All risk will be held at the project or sub-programme level and, in accordance with agreed governance arrangements, will be approved for drawdown at Project Board or Portfolio Board level depending on value.

Value Engineering/Benchmarking

6.17 The Healthy Streets Programme includes £8.6m of additional value engineering that needs to be achieved in 2017/18, that the Healthy Streets Portfolio Board is accountable for delivering. The objective is to spend less while maintaining scope and benefits. There are a number of ongoing initiatives concerned with driving out lower costs from existing contracts, value engineering in projects, reduced consumption and lower unit costs. The intention is to crystallise the impact of these initiatives within budgets, converting them into real cost reductions next year.

7 Legal Implications

7.1 There may be elements of the Programme for which a delegation of the Mayor's general powers under the Greater London Authority Act 1999 are required, in order that TfL can progress those elements that are not strictly transport matters.

8 Assurance

8.1 TfL Project Assurance conducted an Integrated Assurance Review (IAR) on the Healthy Streets Programme in January 2017.

8.2 The objective of the IAR was to provide the Committee with a report on the Programme's readiness to deliver its outcomes. The IAR followed nine lines of inquiry to answer the challenge of *"Is the Programme sufficiently well managed for the Programme and Investment Committee to award authority (and delegated authority where appropriate) over the next 12 months?"*

8.3 There were no critical issues identified through the IAR. An Integrated Assurance Plan (IAP) for the Programme over the following 12 months, agreed by the relevant Directors and Head of Assurance is a required product of the Programme Review. The IAP sets out those projects within the Programme that are expected to come forward for an Assurance Review over period 2017/18.

List of appendices to this paper:

Appendix 1: Healthy Streets Programme – Strategic Need for Healthy Streets Investment
Appendix 2: Healthy Streets Programme – Schedule of constituent projects and details

List of background papers:

A City for All Londoners, Greater London Authority, November 2016
Healthy Streets for Londoners, Greater London Authority / TfL, February 2017

Contact Officer: Leon Daniels, Managing Director Surface Transport
Number: 020 3054 0180
Email: LeonDaniels@tfl.gov.uk

Appendix 1: Healthy Streets Programme – Strategic Need for Healthy Streets Investment

A1.1 The strategic challenges that the Healthy Streets Programme will address can be broadly categorised into four areas: **to support people to live more active, healthier lives**; **the need to optimise the efficiency of the transport network**; **to reduce transport impacts on the environment**; and, **to support the economy and 'good growth'**.

A1.2 This appendix also considers the potential for mode shift, the role of the Programme in addressing spatial challenges and development of future projects.

To support people to live more active, healthier lives

A1.3 Lack of physical activity is one of the biggest threats to the health of Londoners. If all Londoners were to undertake two ten-minute periods of brisk walking or cycling a day they could avoid the greatest health risks, including reducing the incidence of major long term conditions such as type 2 diabetes and heart disease and reducing all-cause mortality by up to 20 per cent (Transport for London, 2017).

A1.4 At present, only a third of adults (34 per cent) in London are reporting this level of activity. It is our ambition for all Londoners to walk and cycle for at least twenty minutes every day (Transport for London, 2017).

A1.5 This is not a small challenge but over 90 per cent of Londoners already do some walking each week (Transport for London, 2017) so we are building on a strong foundation. This shift in activity will deliver noticeable improvements in the health of Londoners through improved mental wellbeing and reductions in chronic illnesses. Table A1.1 sets out the health benefits to Londoners.

Table A1.1: health benefits of 20 minutes activity a day (Transport for London, 2014)

Health Condition	Reduced risk from being physically active
Death	20-35%
Coronary heart disease and strokes	20-35%
Type 2 diabetes	35-50%
Colon cancer	30-50%
Breast cancer	20%
Hip fracture	36-68%
Depression	20-30%
Alzheimer's disease	40-45%

A1.6 The health challenge is particularly acute for children who need more physical activity to stay healthy. London has the highest levels of childhood obesity in England with four in ten children in London already overweight or obese (Transport for London, 2014) and eight in ten children in London not getting the one hour a day of physical activity that is the minimum they need to contribute to good health (Transport for London, 2017). Streets and places provide important opportunities for children to get the activity they need through travel and play, it has been shown that children burn most energy informally playing outdoors, walking and cycling (Transport for London, 2017).

A1.7 Older children can build their independence by being able to travel unaccompanied, but unsafe street environments often prevent this from happening. Children who walk and cycle are more likely to become adults who walk and cycle. London children who live in households without a car are:

a) 2.3 times more likely to walk to school;

b) 1.4 times more likely to walk outside of school on school days; and

c) 1.8 times more likely to walk during the summer or weekends (Transport for London, 2017).

A1.8 Lack of physical activity is not the only strategic public health challenge that the Healthy Streets Programme will help to address. Table A1.2 summarises the scale of further public health challenges in London, and the role of targeted transport investment in addressing these.

Table A1.2: Healthy Streets – additional public health challenges

Public Health Issue	Scale of the challenge	Role of 'Healthy Streets' transport investment
Road danger	• Vulnerable road users (pedestrians, cyclists and motorcyclists) account for a disproportionate number (79 per cent in 2015) of all KSI casualties. (Transport for London, 2015) • Safety concerns are the primary reason people give for not cycling more and for being unwilling to let their children walk unaccompanied (Transport for London, 2014).	• Adopting a Vision Zero approach – which recognises that road danger is caused by the dominance of motor vehicles on our street – will serve to put the needs of vulnerable road users first.
Traffic noise	• Noise pollution influences sleep, stress, anxiety, blood pressure and mental health. In children it can impact on school performance, memory and concentration (British Medical Association, 2014). • Traffic noise disproportionately affects people on lower incomes in their	• Road traffic noise levels in London are often in excess of recommended healthy limits, and can most effectively be addressed through reductions in the volume and speeds of motorised road transport (Transport for London,

	homes and workplaces as well as making walking, cycling and public transport use less pleasant (World Health Organisation, 2012).	2014).
Poor air quality	• Poor air quality has significant negative impacts on the cardiovascular and pulmonary health of Londoners (Mindell JS, 2011). • It is estimated that pollutants cause the equivalent of around 9,400 premature deaths a year in London (Greater London Authority, 2017).	• Reduction of congestion and modal shift to more sustainable modes of travel, alongside measures to improve air quality (in TfL's Air Quality and Environment Portfolio) will reduce the negative impacts on health of Londoners (Transport for London, 2014).
Supporting Londoners with health problems	• There are growing numbers of Londoners living with disability and long term health conditions such as type 2 diabetes, dementia and cancers as a result of London's ageing population and increasing burden of ill health (Department of Health, 2010). • In London, a quarter of men and a third of women aged over 65 do not leave their house at all on a given day which can be socially isolating for them. (Transport for London, 2012/13). • Social isolation and lack of community support puts pressure on health and care services.	• London requires a responsive transport system that accommodates the needs of these people and enables them to remain independent, connected and able to travel. • Currently 65 per cent of disabled Londoners consider the condition of pavements to be a barrier to walking, and 43 per cent report that obstacles on pavements are a barrier to walking more (Transport for London, 2014). • London's streets need to be welcoming places for everyone to ensure the social, economic and environmental health of the city's diverse communities.

The need to optimise the efficiency of the transport network

A1.9 Healthy Streets investment is needed to support a modal shift away from the private car to help reduce the economic and environmental costs of congestion and increase the efficiency of road use.

A1.10 London has made real progress in achieving modal shift towards public transport and increasing the number of journeys that are walked or cycled. Since TfL was created in 2000, the mode share of journey stages made by public transport has increased from 34 to 45 per cent and the mode share of

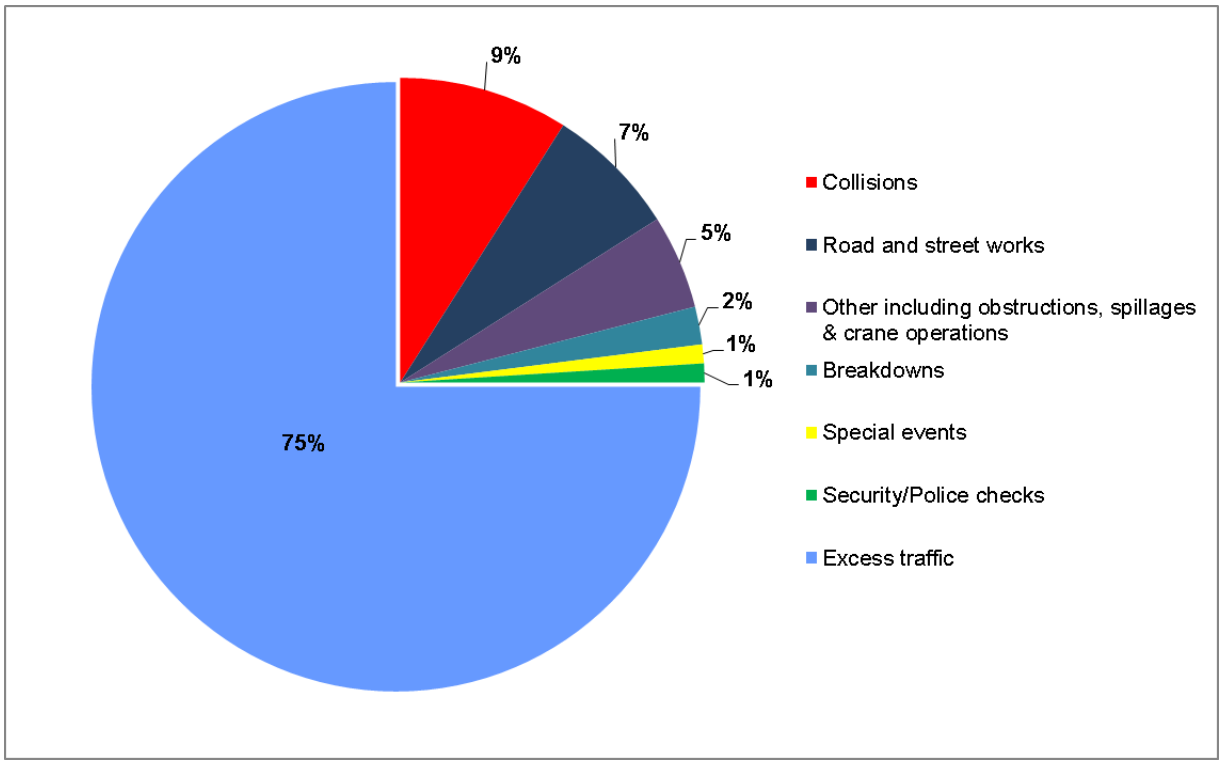
the private vehicle has decreased from 43 to 32 percent. During this same period, the number of walk all the way journeys has increased by one million per day to 6.5 million and the number of daily cycle journey stages has more than doubled to 670,000. Despite this, the reality is that London's street environment still suffers because of high levels of car use (Transport for London, 2016).

A1.11 The GLA population forecasts project that London's population will reach 9.2m by 2021 (Greater London Authority, 2015). This is a six per cent increase from 2015, with employment also set to grow by five per cent over the same time period. TfL's modelling predicts that this will result in demand for an extra 1.8 million trips per day (from 26.7m in 2015 to 28.5m in 2021) (Transport for London, 2015). In view of these future challenges, and the costs they will impose, street space needs to be used more efficiently by increasing the share of trips made by public transport, walking and cycling.

A1.12 The direct economic costs of congestion are significant. *Travel in London 9* (Transport for London, 2016) estimates that in 2015, the total cost of congestion on the Transport for London Road Network 07:00-19:00 working weekdays was £1,3bn per year, up eight per cent from 2014.

A1.13 The vast majority of traffic congestion in London (75 per cent) is primarily caused by excess demand over available supply. Whilst TfL's network management operations can tackle the 25 per cent of congestion that is caused by collisions, road works and other events (Transport for London, 2016), it is only through modal shift to more efficient modes (walking, cycling and bus) that TfL can start to address the main source of congestion which is attributable to excess demand over supply.

Figure A1.1: estimated contribution of various factors to road traffic congestion (Greater London Authority, 2015)



A1.14 Although the private car is an important form of travel for some people and some trips, particularly in outer London, private motorised vehicles are an inefficient means of moving people in London. The proportion of street space that cars take up in central London is almost double the proportion of kilometres travelled by people in cars (Transport for London, 2017). Sustainable modes are more efficient, for example buses use 11 per cent of street space but provide 57 per cent of journey kilometres in central London (Transport for London, 2017). Post-opening monitoring of the two new Cycle Superhighway corridors (East-West and North-South) by TfL demonstrated their enhanced 'people capacity' potential. The analysis suggests that the new cycling infrastructure moves an average of 46 per cent of the people travelling along the routes, despite occupying only 30 percent of the road space. Two weeks after opening, the East-West and North-South Cycle Superhighway corridors were moving five percent more people per hour than they could without cycle lanes, a number that will increase as they attract more cyclists (Transport for London, 2016).

A1.15 This evidence suggests a clear strategic need to convert more trips to non-car modes through the projects in the Healthy Streets Programme, both to address existing congestion and cater for the additional trips created by future population growth over the Programme's lifetime.

To reduce transport impacts on the environment

A1.16 London faces challenging carbon targets. Transport CO_2 emissions in London are projected to fall by more than two million tonnes by 2025 from 1990 levels. However this would still be 2.35 million tonnes above the target previously set for 2025, the equivalent of 40 per cent of current road traffic emissions (Greater London Authority, 2010).

A1.17 New air quality measures do not address CO_2 directly. While some of the carbon emission and air quality targets can be achieved through shift to cleaner vehicles, it will be difficult to achieve our environmental goals through this shift alone. In the longer term, a significant reduction in vehicle kilometres will be needed to address CO_2 as well as emissions of oxides of nitrogen (NOx) and Particulate Matter (PM).

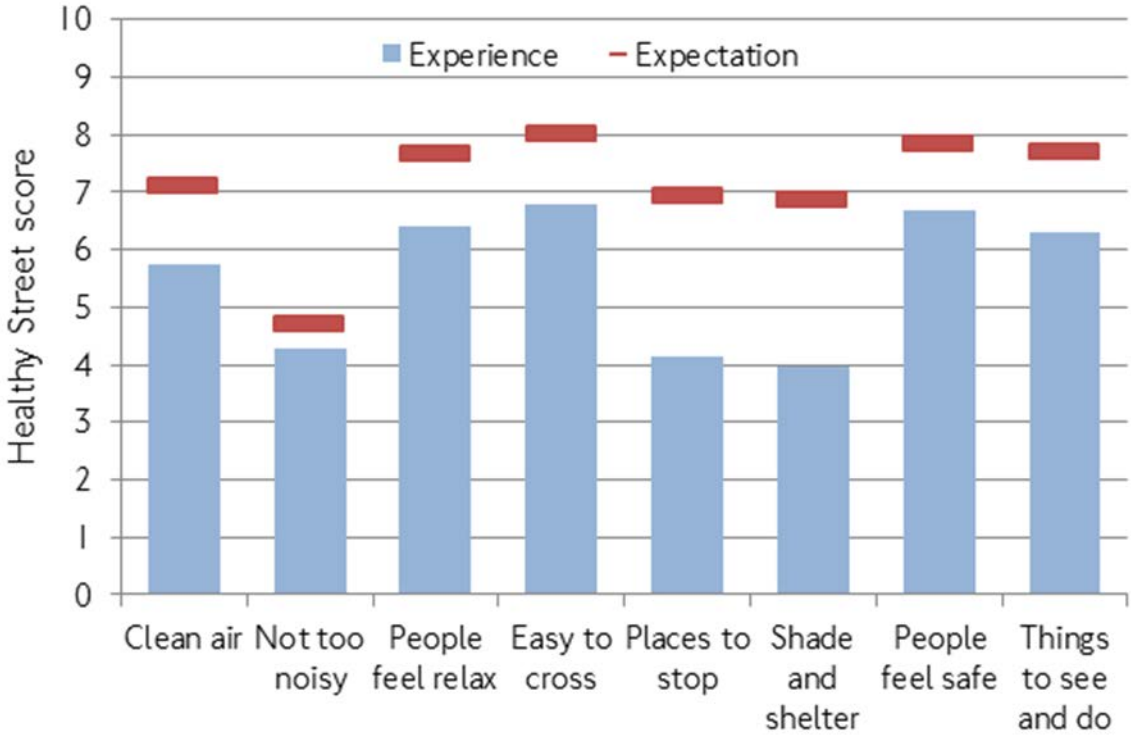
To support the economy and 'good growth'

A1.18 The transport system has a huge influence on the character of our city, and the experience of those living, working and spending time here.

A1.19 London's streets account for 80 per cent of the city's public space (Transport for London, 2015), yet too often these are designed for and dominated by traffic. The nature of these places – public places that belong to us all – defines what London is like as a city.

A1.20 TfL's evidence shows that Londoners want us to do more to improve our streets as 'places'. We asked thousands of people on the streets of London how they felt the street they were standing on fared against the Healthy Streets indicators. On all different kinds of streets people told us that they felt the experience was not as good as it should be (see figure A1.2). This was particularly true on streets that were dominated by traffic.

Figure A1.2: results of the Healthy Streets surveys (Transport for London, 2016)



A1.21 These results show that Londoners expect more of their streets, particularly the need for them to be cleaner, safer and more people-focussed. This is vital for London's economy, as its continued economic vitality and 'good growth' relies on both attracting global investment and supporting local businesses.

A1.22 London specialises in high value internationally traded services, and benefits from an agglomeration driven growth process. This process is self-sustaining, provided the conditions for its success are maintained, most notably access to a large and diverse labour market, and attracting international investment and talented employees. London's employment has already grown from 4.6 million jobs in 2000 to 5.6 million in 2015, and is projected to grow to 6.8 million jobs by 2041 (GLA Economics, 2016).

A1.23 Following the European Union Membership Referendum in June 2016, the Mayor has launched a '*London is Open for Business'* campaign, which seeks to reaffirm London's position as a global city for business. The GLA's publication *London's Economy Today* (GLA Economics, 2016) cites congestion and overcrowding, and increased pressure on the environment as key risks to the economy. A failure to tackle these issues could result in London losing its attractiveness to both business and people which could in turn erode its existing agglomeration benefits. Ultimately this would result in London losing its international competitiveness, with businesses choosing to move their premises not to elsewhere in the UK, but to another country. If this were to happen, the UK would lose the employment, exports, spur to productivity and significant fiscal surpluses that are currently generated by

London businesses. This would be a loss to the UK as a whole, not just to London.

A1.24 This conclusion is illustrated through TfL's qualitative evidence that demonstrates that a 'healthy street environment' is a key determinant in attracting globally mobile investment to London. Major international employers have cited London's emerging walking, cycling and public realm improvements as important factors in persuading them to locate in the city (CyclingWorks, 2014). It is vital for London to adopt a Healthy Streets approach as part of a wider 'offer' to support its ongoing position as a leading global city.

A1.25 Whilst attracting global investment is vital for London's international status, the vast majority (99.8 per cent) of private business in London are small and medium-sized enterprises (SMEs) (employing one to 249 employees) providing 50 per cent of all London's jobs (Greater London Authority, 2016). Many SMEs are located outside the central zone, providing jobs to local residents living in inner and outer London and beyond (Greater London Authority, 2016).

A1.26 Further enhancing the attractiveness of the urban realm for walking and cycling through the Healthy Streets approach is likely to strengthen the economic vitality of smaller local business in town centres across inner and outer London, for example by reducing shop vacancy, increasing footfall and providing a more diverse use of the streets. Studies in a number of countries have concluded that people accessing a town centre by bus, cycle or on foot spend more money overall than motorists. Although they typically spend less during an individual trip, they make more trips in a month, resulting in a higher overall level of purchasing (Accent, 2013; Living Streets, 2014; Portland State University, 2013).

A1.27 Supporting local businesses through Healthy Streets will support the Mayor's equality agenda. There is a significant gap between the rich and poor in London and this gap is growing (Greater London Authority, 2013). In addition the most deprived communities experience the worst impacts of motorised transport including road danger, severance, air quality and noise (Transport for London, 2014). Buses, walking and cycling can be cheap, accessible and inclusive solutions enabling people in lower income households to access jobs and services and reduces their need to own and use cars (Trust for London and New Policy Institute, 2015).

A1.28 Evidence from abroad shows how inequality can be addressed through a Healthy Streets approach. For example, cycling in Denmark is a normal form of transport for all income groups, but most importantly for the mobility of the poorest. Danish households in the lowest income group (below $13,004) make 2.7 trips per day, of which 26 per cent (0.7) are by bicycle. The average number of daily trips in Denmark rises with income to 3.4 trips per day, however the share of trips that are cycled reduces to between 12 and 16 per cent (Technical University of Denmark, 2015).

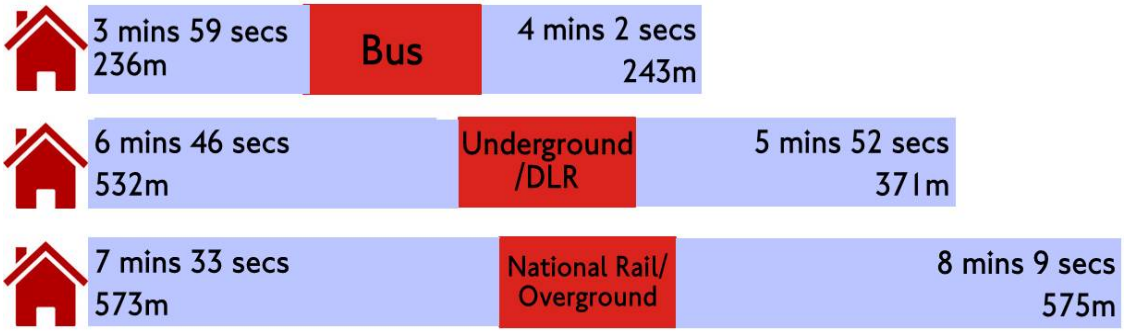
A1.29 In London, as in Denmark, the average number of total trips per day rises with household income. However, conversely to Denmark, the percentage of these trips that are cycled also increases with household income. 1.4 per cent of trips made by those with a household income of less than £15,000 are cycled, compared with 3.1 per cent of trips made by those with a household income of £50,000 or more (Transport for London, 2016).

Potential for modal shift

A1.30 TfL's analysis shows there is significant potential for Londoners to shift from using their car to walking, cycling and bus. TfL's recently updated Analysis of Walking and Cycling Potential (Transport for London, 2017) identifies over 8m daily trips currently made by Londoners using mechanised modes (car, motorcycle, taxi or public transport) that could be walked or cycled and that over half of these are made by private vehicle (i.e. by car, taxi or motorcycle).

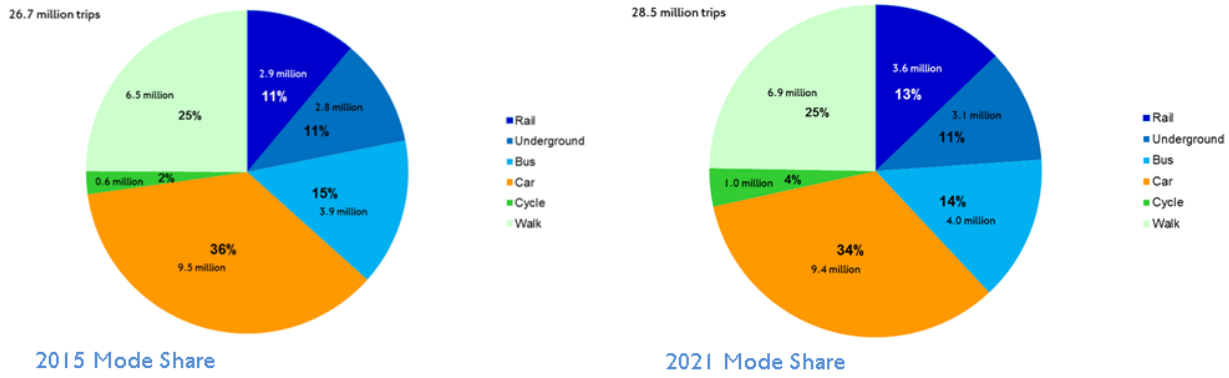
A1.31 One of the biggest opportunities for supporting active travel is through increasing walking access to public transport as part of our customers' longer journeys. At present, 50 per cent of walking in London is as part of public transport trips and there are over 2 million daily trips currently made by Londoners using private vehicles that have competitive public transport journey times (i.e. less than 10 minutes slower) (Transport for London, 2016).

Figure A1.3: walking stages (average distance and time) to access passenger transport in London (Transport for London, 2015)



A1.32 By delivering the funded projects and programmes in the Healthy Streets Programme, alongside the committed rail investment in the TfL Business Plan, we can help reduce overall car mode share from 36 per cent (2015) to 34 per cent (2021) (Transport for London, 2015). However this will still result in an increase in vehicle traffic on London's already congested roads particularly in outer London.

Figure A1.4: current and projected mode share (assuming Healthy Streets) (Transport for London, 2015)



A1.33 TfL's existing business case analysis provides evidence that this approach provides value for money. The Cycling Vision Portfolio Business Case analysed the benefits and costs of a combined 10-year investment package of Quietways, Cycle Superhighways, Mini-Hollands, and other measures as originally approved by the TfL Board at its meeting of 5 February 2014 and is superseded by the Healthy Streets Programme. This portfolio had a BCR of 2.9:1, in addition to a range of other non-monetisable benefits.

Addressing spatial challenges

A1.34 The challenges and potential for mode shift is different in different parts of London (central, inner and outer), and the MTS will promote different spatial visions for Healthy Streets in central, inner and outer London reflecting their different characteristics, pressures and future development needs.

Central London

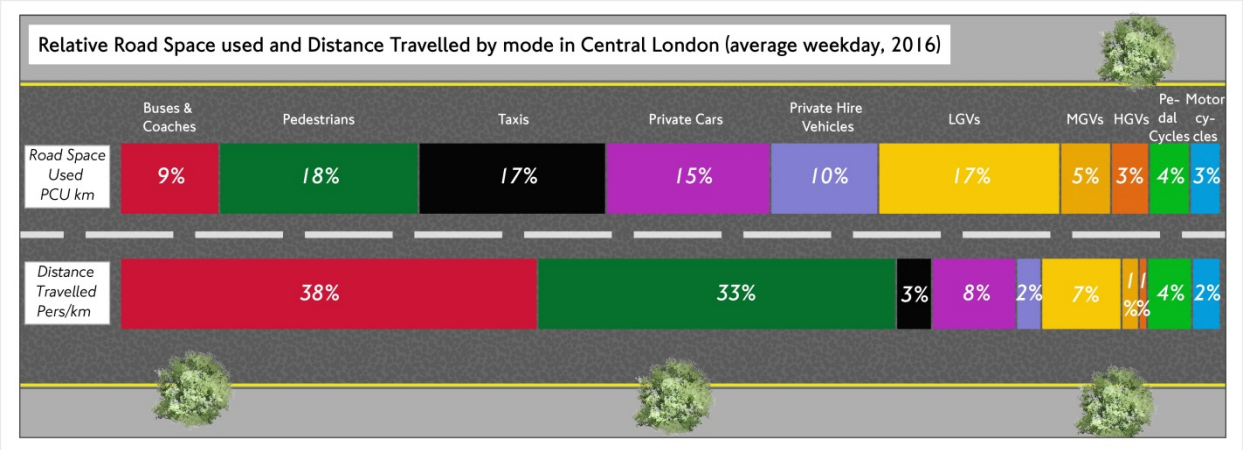
A1.35 Central London is the global iconic core of London and is one of the world's most attractive and competitive business, retail and cultural locations. The Central Activities Zone (CAZ) and the North Isle of Dogs will remain significant employment centres in the Greater South East Region, with strong employment growth expected in existing business centres (Greater London Authority, 2016). The population in the CAZ and Isle of Dogs has grown 22 per cent over the last ten years, and has been particularly concentrated in Opportunity Areas such as City Fringe, Isle of Dogs, as well as Vauxhall Nine Elms Battersea (Transport for London, 2017).

A1.36 The majority of people entering central London use public transport, with 80 per cent of them travelling on a rail-based mode in 2014, and walking makes up the majority of trips within central London (77 per cent of the mode share among central London residents) (Transport for London, 2016). Bridge screenline counts at 12 bridges in the CAZ showed an increase of 36 per cent in the number of walking trips between 2006 and 2015 (Transport for London,

2016). The number of people entering central London in the morning peak by car has decreased by almost 25 per cent (Transport for London, 2016).

A1.37 There has been substantial investment over the past five years to improve the public realm, cycling and road safety in central London. This has increased safety for vulnerable road users, improved the provision of cycling infrastructure and provided new and improved public realm. However, central London continues to be traffic dominated and there has been increasing delay on the road network over the last few years (Transport for London, 2016). Cars, taxis and private hire vehicles take up a disproportionately large amount of road space compared to the number of people carried by these modes. In particular, there has been a significant rise in the number of private hire vehicles in central London since 2011. Freight and deliveries, essential to the functioning of the economy and people's daily lives, are also taking up increasing amounts of road and kerb space in central London (Transport for London, 2017).

Figure A1.5: relative road space used and distance travelled by mode in central London (average weekday, 2016) (Transport for London, 2017)



A1.38 Pedestrian crowding on pavements and the dispersal of people from rail and underground stations remain significant challenges. The allocation of kerb space in central London does not sufficiently provide for the existing, or expected growth in, number of pedestrians. Accommodating pedestrians and the dispersal of people is a particular challenge at existing rail and underground stations such as Waterloo. It will also be important at new stations, such as the proposed High Speed 2 Euston station and new Elizabeth Line stations where there will be a significant increase in pedestrians around the stations.

A1.39 Continuing congestion in central London has impacted on bus journey time reliability, which has contributed to falling passenger numbers (Transport for London, 2017). Congestion and traffic dominated streets also result in noise pollution and poor air quality, with over half of NO_2 and PM emissions caused by road transport in London (Transport for London, 2017). This not only

impacts on people's health, but also reduces the quality of the environment and public realm and the overall attractiveness of central London as a destination and a place to invest in.

TfL's Healthy Streets Outcomes for central London:

A world-leading cultural and economic centre that is highly accessible by public transport and a great place to be for both people and businesses:

Feet first approach / Safe and accessible streets / Iconic places free of traffic / Fewer deliveries at busy times / Clean vehicles / Reduced motorised traffic and congestion / Public transport reliable and not overcrowded / Onward travel by foot or bike / Affordable and efficient options for those not able to walk or cycle

A1.40 The Healthy Streets projects in central London will help achieve these outcomes, and will include:

(a) the West End Project to make Tottenham Court Road safer, less congested and more attractive for residents and visitors, boosting business and creating new public spaces by replacing the existing one-way system with bus lanes, protected cycle lanes and providing wider pavements on Gower Street;

(b) the transformation of Oxford Street will deliver safety, air quality and pedestrian improvements, positively impacting the health of the thousands of people who use Oxford Street everyday; and

(c) Old Street where we are transforming the existing busy roundabout to provide safer crossings, segregated cycle lanes and a new public space.

Inner London

A1.41 The rate of population growth in inner London has been higher than outer London, and is projected to increase by 590,000 people, 31 per cent of London's expected population growth, by 2036 (Greater London Authority, 2016). The largest growth in employment to 2041 is expected in central and inner London, including 1.4 million jobs growth forecast in the central sub-region (Camden, Islington, Kensington and Chelsea, Lambeth, and Southwark) (Greater London Authority, 2016). A number of London's Opportunity Areas are also located within inner London, and these will support a significant amount of new homes and jobs.

A1.42 Inner London has some of the most densely populated areas in London. Denser land uses, with shops and services closer to homes, are linked to the higher rate of walk trips and longer walk trip lengths seen within inner London,

particularly compared to outer London (Transport for London, 2016). A large proportion of trips within inner London are undertaken by public transport, which has increased from 36 per cent of the mode share in 2005/06 to 38 per cent in 2015/16. Over the same period the cycle mode share increased from two and a half per cent to four per cent, with walk mode share increasing from 34 per cent to 36 per cent. There has been a significant decline in private transport mode share among inner London residents, falling from 27 per cent in 2005/06 to 22 per cent in 2015/16 (Transport for London, 2016).

A1.43 To accommodate the significant amount of population and economic growth expected in inner London, together with the continued expansion of the CAZ, there needs to be a continuation of the transport trends observed over the past ten years, with increasing walking, cycling and public transport use and falling private vehicle use. Air quality is also a significant issue in inner London, in particular, areas of high population and multiple deprivation in inner London disproportionately suffer poor air quality partly because these areas are often near busy roads. (Greater London Authority, 2017). Therefore addressing areas of poor air quality, including NOx and PM concentrations in parts of inner London are a priority.

TfL's Healthy Streets Outcomes for inner London:

A dense mixed place to live and work with most travel by public transport, walking and cycling:

People-friendly places / High levels of cycling and bus use of 'mini-radial' transport systems (strategic interchange hubs) / Expanded ULEZ / Safe Cycling Network / Reduced Car Dependency / Less traffic and more efficient freight

A1.44 The Healthy Streets projects in inner London will help achieve these outcomes, and will include:

(a) White Hart Lane public realm and accessibility improvements aim to transform the physical environment and the perception of the White Hart Lane area of north Tottenham; and

(b) West Norwood Regeneration will deliver changes to the public realm, and aims to make walking and cycling safer and more attractive transport modes for residents and visitors to West Norwood.

Outer London

A1.45 Outer London has an important strategic function as a place to live and work, with over 60 per cent of Londoners living and 42 per cent of total employee jobs in outer London (Greater London Authority, 2016). Employment growth in outer London has been slower than in inner or central London; however

employment levels have been lower partly because a large proportion of outer Londoner residents commute out of the area to work (GLA Economics, 2016). Outer London's population is projected to grow 28 per cent between 2011 and 2041 (Greater London Authority, 2015).

A1.46 Travel within outer London is more car dependant than in central or inner London due to fewer alternatives to private vehicle use and lower land use densities (Greater London Authority, 2015). The mode share of private transport in outer London has been falling at a slower rate compared to the reduction in inner and central; falling from 50 per cent in 2005/06 to 47 per cent in 2015/16 (Transport for London, 2016). Cycling increased from one per cent to two per cent over the same period, but the greatest increase has been in public transport mode share, which has increased from 20 per cent to 26 per cent between 2005/06 and 2015/16. This increase in public transport however has been at the expense of walking, which has decreased four per cent over the same period (Transport for London, 2016).

A1.47 The car dominates for commuters travelling into outer London workplaces. For example 85 per cent of (non-resident) commuters to the London Borough of Hillingdon travel by car (Greater London Authority, 2016). Trips wholly within outer London, 45 per cent of all trips, are most likely to be undertaken by car (Transport for London, 2016).

A1.48 There remains a huge potential to increase the mode share of walking in outer London, and the number of public transport and cycle trips. Greater intensification in outer London, with developments that have access to local services, are well connected with good public transport provision and are attractive for walking and cycling, will contribute significantly to reducing car dependency in outer London. Outer London boroughs are projected to increase their density by 17.2 per cent over the next 25 years (Greater London Authority, 2016).

TfL's Healthy Streets Outcomes for outer London:

A diverse place where the majority of Londoners live and a significant proportion work, with travel within and between centres by public transport, walking and cycling

Vibrant town centres and high streets / Short journeys on foot or bike / Better access by bike to local services and interchanges / More space for pedestrians / 'Turn up and go' bus and rail services / More efficient road network and less traffic on local roads / reduce car use

A1.49 The Healthy Streets projects in outer London will help achieve these outcomes, and will include:

(a) Mini-Hollands in Enfield, Waltham Forest and Kingston involve packages of measures to overcome specific barriers to cycling and increase cycling

in those boroughs, aiming to move significant numbers of suburban car journeys on to the bike;

(b) Beddington Gateways scheme will re-route HGVs around Beddington to help improve residential and environmental amenity; and

(c) The Liveable neighbourhoods programme will make town centres and neighbourhoods attractive places in which to walk, cycle and spend time.

A1.50 Many Healthy Streets projects or programmes will provide benefits across all of London, or are route-based, for example:

(a) Quietways to deliver low-trafficked cycle routes away from main roads that also provide benefits for pedestrians and the urban realm;

(b) Cycle Superhighways including phase 2 of the North-South Cycle Superhighway, which will complete the Cycle Superhighway route between Stonecutter Street and King's Cross and Cycle Superhighway 11 (CS11) between Swiss Cottage and Portland Place to help make cycling safer and more attractive, and provide for significant current, potential and future demand;

(c) safety projects to achieve TfL's goal of a 50 per cent reduction in people killed and seriously injured include safety engineering schemes that target collision hot spots such as Lambeth Bridge and implementation of the Bus Collision Reduction Programme;

(d) new technology projects to improve the efficiency of the road network, reduce congestion and enable prioritisation of different modes including development and deployment of software systems, including Traffic Information Management System and Surface Intelligence Technology; and

(e) Bus Priority Reliability/Growth Programme to increase the reliability of the bus network improving customer experience, encouraging more public transport use and related active travel.

Future Projects

A1.51 A spatial planning approach will be adopted to establish which outcomes are most important for given locations, leading to the identification of the best projects to address those outcomes. This process will integrate 'big data' from across the planning and operational activities of TfL and express priorities in line with the spatial priorities articulated in the MTS.

A1.52 Using the Healthy Streets outcomes as a basis, spatial data is currently being aggregated to enable the analysis to identify and prioritise locations where a number of Healthy Streets conditions are met. For example, locations where there are air quality, road safety and bus performance challenges as well as opportunities to improve the number of trips taken by walking and cycling.

A1.53 By planning in this way TfL can also consider the modal-specific networks that require continuous routes and consistent levels of service (eg Quietways).

References

Accent, 2013. *Town Centres 2013.* [Online]
Available at: http://content.tfl.gov.uk/town-centres-report-13.pdf
[Accessed 15 February 2017].

British Medical Association, 2014. *Healthy transport = Healthy lives ,* London: Britishe Medical Association.

CyclingWorks, 2014. *London employers for cycling.* [Online]
Available at: https://cyclingworks.wordpress.com/
[Accessed 16 February 2017].

Department of Health, 2010. *Our Health and Well Being Today.* [Online]
Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/215911/dh_122238.pdf
[Accessed 16 February 2017].

GLA Economics, 2016. *London labour market projections 2016.* [Online]
Available at: https://www.london.gov.uk/sites/default/files/llmp-2016.pdf
[Accessed 16 February 2017].

GLA Economics, 2016. *London's Economy Today.* [Online]
Available at: https://www.london.gov.uk/sites/default/files/londons_economy_today_no171_241116.pdf
[Accessed 16 February 2017].

Greater London Authority, 2010. *Proposals to reduce transport's contribution to climate change and improve its resilience.* [Online]
Available at: https://www.london.gov.uk/sites/default/files/mts_chapter_5_pt5_0.pdf
[Accessed 16 February 2017].

Greater London Authority, 2013. *The Wealth Gap In London.* [Online]
Available at: https://data.london.gov.uk/dataset/wealth-gap-london
[Accessed 15 February 2017].

Greater London Authority, 2015. *2015 round population projections,* London: Greater London Authority.

Greater London Authority, 2015. *OUTER LONDON COMMISSION FOURTH REPORT May 2015 (PART ONE),* London: Greater London Authority.

Greater London Authority, 2015. *Population projections.* [Online]
Available at: https://data.london.gov.uk/demography/population-projections/
[Accessed 15 February 2017].

Greater London Authority, 2016. *Economic Evidence Base for London 2016.* [Online]
Available
at: https://www.london.gov.uk/sites/default/files/economic_evidence_base_2016.compressed.pdf
[Accessed 15 February 2017].

Greater London Authority, 2017. *Air quality and health.* [Online]
Available at: https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/air-quality-and-health
[Accessed 16 February 2017].

Greater London Authority, 2017. *Air Quality and Health.* [Online]
Available at: https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/air-quality-and-health
[Accessed 16 February 2017].

Living Streets, 2014. *The pedestrian pound.* [Online]
Available
at: https://www.livingstreets.org.uk/media/1391/pedestrianpound_fullreport_web.pdf
[Accessed 15 February 2017].

Mindell JS, W. S. a. C. J., 2011. *Health on the Move 2,* s.l.: Transport and Health Study Group.

Portland State University, 2013. *Consumer Behavior and Travel Choices: A Focus on Cyclists and Pedestrians.* [Online]
Available at: http://nacto.org/docs/usdg/consumer_behavior_and_travel_choices_clifton.pdf
[Accessed 15 February 2017].

Technical University of Denmark, 2015. *The Danish National Travel Survey - Main Results.* [Online]
Available at: http://www.modelcenter.transport.dtu.dk/english/tu/hovedresultater
[Accessed 15 February 2017].

Transport for London, 2012/13. *Travel in London report 6,* London: Transport for London.

Transport for London, 2014. *Attitudes towards cycling.* [Online]
Available at: http://content.tfl.gov.uk/attitudes-to-cycling-2014-report.pdf
[Accessed 16 February 2017].

Transport for London, 2014. *Improving the health of Londoners.* [Online]
Available at: http://content.tfl.gov.uk/improving-the-health-of-londoners-transport-action-plan.pdf
[Accessed 15 February 2017].

Transport for London, 2014. *Understanding the travel needs of London's disabled people,* London: Transport for London.

Transport for London, 2015. *Surface Plan 2015/16,* London: Transport for London.

Transport for London, 2015. *Transport for London Fact sheet. Casualties in Greater London during 2014,* London: Transport for London.

Transport for London, 2015. *Travel demand forecasts for London,* London: Transport for London.

Transport for London, 2015. *Travel in London Report 8.* [Online]
Available at: http://content.tfl.gov.uk/travel-in-london-report-8.pdf
[Accessed 16 February 2017].

Transport for London, 2016. London: s.n.

Transport for London, 2016. *Travel in London Report 9.* [Online]
Available at: http://content.tfl.gov.uk/travel-in-london-report-9.pdf
[Accessed 15 February 2017].

Transport for London, 2016. *ULEZ consultation.* [Online]
Available at: https://tfl.gov.uk/modes/driving/ultra-low-emission-zone
[Accessed 16 February 2017].

Transport for London, 2017. *Analysis of Cycling Potential 2016,* London: Transport for London.

Transport for London, 2017. *Healthy Streets for London.* [Online]
Available at: http://content.tfl.gov.uk/healthy-streets-for-london.pdf
[Accessed 16 February 2017].

Transport for London, 2017. *P10 Surface Performance Report,* London: Transport for London.

Transport for London, 2017. *Transformation of central London narrative,* London: Transport for London.

Trust for London and New Policy Institute, 2015. *London's Poverty Profile - Key facts.* [Online]
Available at: http://www.londonspovertyprofile.org.uk/key-facts/
[Accessed 15 February 2017].

World Health Organisation, 2012. *Environmental health inequalities in Europe assessment report,* s.l.: World Health Organisation.

Appendix 2: Healthy Streets Programme – Schedule of constituent projects and details

Initiative	EFC band	Authority request
A23/A232 Fiveways Croydon	£50m<EFC<£100m	
King's Cross / Euston Road	£25m<EFC<£50m	
Non infrastructure	£25m<EFC<£50m	
Old Street roundabout	£25m<EFC<£50m	
Oxford Street transformation	EFC>£100m	
Rotherhithe to Canary Wharf bridge	EFC>£100m	
Vauxhall Cross	£25m<EFC<£50m	
Wandsworth gyratory removal	£50m<EFC<£100m	
Waterloo	£25m<EFC<£50m	
Transformational projects with £1m<EFC<£25m (TLRN)	£1m<EFC<£25m	
TfL led transformational projects over £1m		**£187.5m**
Crossrail Complementary Measures	£25m<EFC<£50m	
West End project	£5m<EFC<£25m	
Transformational projects with £1m<EFC<£25m (Borough)	£5m<EFC<£25m	
Borough led transformational projects over £1m		**£80.5m**
Multi-modal small scale schemes under £1m		**£11.6m**
Bus Priority growth schemes	£25m<EFC<£50m	
Bus Priority reliability schemes	£50m<EFC<£100m	
Bus Priority complementary schemes	£25m<EFC<£50m	
Bus priority other	£5m<EFC<£25m	
Bus priority		**£28.8m**
Cycle Superhighway 1	£5m<EFC<£25m	
Cycle Superhighway - Upgrades to routes 2,3,7,8	£25m<EFC<£50m	
Cycle Superhighway 5 (central)	£5m<EFC<£25m	
East West Cycle Superhighway Phase 1	£50m<EFC<£100m	
East West Cycle Superhighway Phase 2	£50m<EFC<£100m	
North South Cycle Superhighway Phase 2	£5m<EFC<£25m	
Cycle Superhighway 4	£50m<EFC<£100m	
Cycle Superhighway 9	£50m<EFC<£100m	
Cycle Superhighway 11	£5m<EFC<£25m	
Cycle Superhighway routes (undefined alignments)	£5m<EFC<£25m	
Cycle Superhighways		**£59.6m**
Central London Cycling Grid	£25m<EFC<£50m	
Cycling Quietways	EFC>£100m	
Quietways and Central London Cycling Grid		**£29.1m**
Mini Holland Enfield	£25m<EFC<£50m	
Mini Holland Kingston	£25m<EFC<£50m	
Mini Holland Waltham Forest	£25m<EFC<£50m	
Mini Hollands		**£18.4m**
Surface Intelligence Technology	£50m<EFC<£100m	
Traffic technology schemes with EFC<£25m	£5m<EFC<£25m	
Traffic technology		**£70.0m**
Value Engineering		**-£8.6m**
Overprogramming		**-£38.2m**
Total		**£439m**