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## Lowering Speed Limits Phase 2 Business Case Narrative

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**Distributed to**





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## 1 Executive Summary

Speed reduction is a key pillar of the Mayor's Vision Zero approach to eliminating all deaths and serious injuries on the transport network by 2041, as well as a significant enabler for the creation of Healthy Streets for London

The speed at which people are driving or riding is the most important determinant of both the likelihood of a collision occurring and of the severity of the outcome. We know that for each 1mph reduction in speed there is an associated six per cent reduction in collision frequency in urban areas<sup>1</sup>. In 2020, 45 collisions resulted in the death of someone, where the police reported that speed was a contributory factor.

Furthermore, speed related contributory factors were recorded by a police officers in 48% of collisions where someone was killed in 2020<sup>2</sup>.

London has already taken action to reduce speeds, and almost half of London's roads now have a 20mph speed limit. The exceptions tend to be roads managed by Transport for London (the TLRN), which carry disproportionately higher volumes of traffic compared to local roads. The TLRN makes up five per cent of London's roads, carries one third of traffic and is where 29 per cent of all collisions and 37 per cent of all fatalities occur<sup>3</sup>. 79.6% of TLRN is currently subject to a 20mph speed limit.<sup>4</sup>

The faster a person is driving, the less time they have to react to avoid a collision, and the more severe any resulting injuries will be. The impact of a collision increases disproportionately as vehicle speed increases. If a pedestrian is hit by a vehicle at 20mph, they are about five times less likely to be killed than if they were hit at 30mph (Figure 1)<sup>5</sup>.

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<sup>1</sup> TRL, 2000

<sup>2</sup> MPS noted one or more of the speed-related contributory factors 'exceeding speed limit', 'travelling too fast for conditions' and 'careless/reckless/in a hurry' 2018-2020 collision data

<sup>3</sup> STATS19 data for 2016 – see Vision Zero Action Plan

<sup>4</sup> Correct as of 12<sup>th</sup> August 2021

<sup>5</sup> <https://www.ncbi.nlm.nih.gov/pubmed/19393804>



**Figure 1:** Relationship between vehicle impact speed and the risk of fatal injury to adult pedestrians in a frontal impact

The Vision Zero Action Plan<sup>6</sup> was launched in 2018 and sets out how we intend to eliminate death and serious injury from London's transport network by 2041. It details our plans to reduce road danger, including proposals to implement a 20mph speed limit on the roads we operate and manage in central London. The phases of work that it proposes to reduce speed limits in London include:

- Phase 1: Roads we operate and manage within central London will have a speed limit of 20mph by 2020. This work was completed in March 2020 and is currently being monitored.
- Phase 2: Speed limits will be lowered on a further 140 kilometres of our road network in inner and outer London, including on the inner ring road, high-risk roads and roads in town centres. This might mean speed limits will be lowered along some roads from 50mph to 40mph, or from 40mph to 30mph, in addition to introducing areas of 20mph where appropriate.

The Lowering Speed Limits programme oversees the efforts for each of these phases of projects and is the mechanism for designing and monitoring these schemes to ensure the benefits of each is maximised. It also re-examines safety data from time to time, to ensure that the Programme continues to target those locations showing the greatest danger.

This business case is written in reference to Phase 2, reducing the speed limit on an additional 140km of TLRN by May 2024. The benefit to cost ratio (BCR) calculated for the preferred option is 7.63:1 over a 10 year appraisal period, indicating a good case

<sup>6</sup> <http://content.tfl.gov.uk/vision-zero-action-plan.pdf>



for investment. The case for investment remains when a sensitivity test is applied to this option. Further details of this analysis can be found in Section 3.

## 2 Strategic Case

### 2.1 Strategic context

Transport for London's first priority is the safety of those who use, and work on, London's transport network. As part of that prioritisation of safety, the Mayor's Transport Strategy (MTS) commits to the Vision Zero approach to eliminate road deaths and serious injuries in London. The core strategic objective of the Lowering Speed Limits programme is to contribute to Vision Zero by improving safety.

In addition to the primary objective of reducing road casualties, the schemes within the Lowering Speed Limits programme also have potential to contribute to the Mayor's Active, Accessible, Quality and Space Efficient MTS outcomes through Healthy Streets-focused change: if journeys on foot or by cycle are safer, people will be more inclined to travel using sustainable modes, which contributes to their health and increases the efficiency of our road network. The diagram below shows how the implementation of a lower speed limits programme closely aligns with delivery of the Mayor's Healthy Streets approach.





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The benefits of lower speeds are wide-ranging. Lowering traffic speeds reduces the dominance of motor vehicles and makes streets more attractive for walking, cycling and public transport trips. At present, many people feel wary of making their journey on foot or by bike. Fear of road danger, too much motorised traffic and vehicles travelling too fast are key deterrents to walking and cycling. Nearly a fifth of Londoners feel that too much traffic, and traffic travelling too fast, are major barriers to walking<sup>7</sup>; and over half say that fear of being in a collision is a major barrier to them cycling<sup>8</sup>. Creating lower speed environments that help people feel safe to travel more by walking and cycling will lead to health benefits as people get more physical activity.

Reduced car dependency and lower speeds help create better environments for people, with less air and noise pollution and improved traffic flow. The introduction of lower speed limits has sometimes raised concerns about impact on journey times and air quality. Yet many of these criticisms are unfounded when the evidence is reviewed, with a number of studies now confirming that journey times for instance, are maintained or improved due to a more consistent traffic flow<sup>9</sup>. Imperial College London's evaluation of the impact of the introduction of 20mph speed limits on behalf of the City of London suggested they had no net negative impact on exhaust emissions but results indicated clear benefits to driving style and associated particulate emissions<sup>10</sup>. The research found that vehicles moved more smoothly, with fewer accelerations and decelerations, than in 30mph zones, reducing particulate emissions from tyre- and brake-wear.

The Department for Transport (DfT) has identified associated costs resulting from collisions and casualties. As with all local authorities across the United Kingdom, Transport for London (TfL) uses the DfT costs when completing analysis of the costs and benefits that a scheme provides.

## 2.2 Identifying roads for inclusion in the programme

This phase of the Lower Speed Limits Programme covers a total of 168km of the TLRN, of which 155km is proposed to have a new 20mph speed limit. This includes 37 town centres where high numbers of people walk and cycle. Publicly, we have committed to reducing the speed limit on 140km of TLRN. The Mayor and City Hall would like to achieve this by March 2023. The additional distances account for additional sections of the TLRN not identified in the Vision Zero Action Plan, to ensure that a consistent speed limit is posted across whole corridors and boroughs (where appropriate) and to also address known collision and road danger issues.

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<sup>7</sup> Attitudes to Walking, TfL, 2017

<sup>8</sup> Attitudes to Cycling, TfL, 2016

<sup>9</sup> Research into the impacts of 20mph speed limits and zones, Steer Davies Gleave, 2014

<sup>10</sup> Imperial College London, 2013





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A map of these roads is provided in Appendix B. An online map is also provided on [Surface Playbook](#), which will be regularly updated as projects are completed.

In 2021/22, the following roads will have a 20mph speed limit introduced:

- A10-A503 corridor in Haringey
- A107 corridor in Hackney
- A13 corridor in Tower Hamlets
- A23 corridor in Croydon
- Remaining TLRN in Westminster (subject to a separate, individual business case)
- A232 West Wickham town centre
- A205 Upper Richmond Road corridor (between Gwendolyn Avenue and A3 West Hill) in Wandsworth

The following roads will have a new 30mph speed limit introduced in 2021/22:

- A10 Great Cambridge Road in Enfield (between Great Cambridge Roundabout and White Hart Lane)
- A4180 Ruislip Road
- A12 by Gants Hill roundabout

The following boroughs in London will be affected by Phase 2 of the Lowering Speed Limits programme:

- City of Westminster (01)
- LB Camden (02)
- LB Islington (03)
- LB Hackney (04)
- LB Tower Hamlets (05)
- LB Greenwich (06)
- LB Lewisham (07)
- LB Southwark (08)



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- LB Lambeth (09)
  - LB Wandsworth (10)
  - LB Hammersmith and Fulham (11)
  - RB Kensington and Chelsea (12)
  - LB Waltham Forest (13)
  - LB Redbridge (14)
  - LB Bromley (19)
  - LB Croydon (20)
  - LB Sutton (21)
  - LB Merton (22)
  - LB Richmond upon Thames (24)
  - LB Hounslow (25)
  - LB Hillingdon (26)
  - LB Ealing (27)
  - LB Haringey (31)
  - LB Enfield (32)

## 2.3 Objectives and Benefits Criteria

### 2.3.1 Programme benefits

The Lowering Speed Limits programme was initiated with the core aim of improving safety on London's roads. The specific objectives for this project, are set out in the table below:

Objectives	Main benefits by stakeholder group
a). Reduce the number of people Killed or Seriously Injured on London's roads	Vulnerable road users Emergency services
b). Reduce the number of people involved in collisions on London's roads	Vulnerable road users



	Emergency services
c). Improve the quality of the street environment	Vulnerable road users

Table 1 – Vision Zero Objectives

Projects in the programme will also deliver wider MTS benefits, where opportunities arise in the context of delivering safety benefits. These are set out in the programme level benefits map, which forms part of the Benefits Management Strategy.

### 2.3.2 Individual project benefits

The roads identified for intervention as part of the Lowering Speed Limits programme are diverse in location and nature, and the nature of the casualties recorded at each can vary. A simplified approach of lowering the posted speed limit via regulatory signs and carriageway roundels only, as well as the statutory traffic regulation order making, will provide blanket benefits at each of the locations.

The key expected transport benefits are shown in Table 2.

MTS Outcome	Benefit / Disbenefit	Expected level of benefit
Safe	Reduced number of KSI Collisions	Medium
Safe	Reduced number of collisions	Medium
Safe	Reduced severity of collisions	High
Active	Increased pedestrian and cyclist confidence	Low
Safe	Potential disbenefit of more collisions due to more vulnerable road users using area because they 'feel' safer	Low



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**Table 2 - Summary of project benefits**

## 2.4 Existing Arrangements and Business Needs

A total of 232km of the TLRN is covered by the Lowering Speed Limits programme, of which 184km are addressed in Phase 2 of the programme (16km has already been accelerated). 155km is currently subject to a 30mph speed limit; 7km is currently subject to a 40mph speed limit and 6km is subject to a 50mph speed limit. All of these roads will have their current posted speed limit reduced by 10mph to 20mph, 30mph or 40mph respectively.

The roads included in scope are displayed in Appendix B and in detail on [Surface Playbook](#).

Buses operate on most of the roads included.

## 2.5 Potential Scope and Service Requirements

There is a wealth of research, information and lessons learned from 20mph implementation in other parts of the UK and London. As set out in DfT Guidance, successful 20mph speed limits are generally self-enforcing – this means that the existing conditions of the road together with measures such as traffic calming and signing, and publicity and information as part of the scheme, should lead to a mean traffic speed compliant with the speed limit. Consequently, to maximise the potential benefits of the scheme the potential scope should include work packages relating to:

- Physical infrastructure, including signage and necessary Traffic Regulation Orders
- Marketing, communications, and stakeholder engagement
- Enforcement, including mobile and fixed speed cameras

## 2.6 Constraints and Dependencies

Identified constraints have been summarised below:

### *Operational constraints*

- To achieve compliance there should be no expectation on the police to provide additional enforcement beyond their current enforcement activity, other than the change in policing approach set out in the Vision Zero action plan.

### *Cost constraints*



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- As a result of the Covid-19 pandemic in 2020, TfL revenue plummeted and TfL is currently reliant on short-term funding agreements with the DfT. Early EFC for the programme total £16.8m.
  - In 2021, there is £2.32m funded P1-P9 and £2.24m unbudgeted in P10-P13. A total of £12.3m is required to March 2025.
  - This figures includes all current work packages including design, monitoring of both Phase 1 and Phase 2 projects, marketing and communications, operational support, Traffic Regulation Order drafting and advertising, construction (capital costs only - not including future maintenance) and research to benefit the programme and any future lessons learned.
  - Detailed cost estimates are being developed with the Commercial Estimating team based on the specific proposals for each location.
  - Early EFC has been developed based on an assumed construction cost of £81k / km plus staff costs at 20% and risk at 20%. This will be refined as the programme develops and does not take into account the latest HMPF contract rates.

## *Time Constraints*

- TfL has committed to a 2021 Mayoral Manifesto pledge to accelerate the programme and introduce a 20mph speed limit on a further 140km of TLRN by March 2023. The remainder of the programme (totalling 184km) is to be delivered by March 2024.
- No contingency has been factored into this deadline, as the Mayor will wish to publicise the programme ahead of the pre-election period preceding the next Mayoral election. The indicative programmed stage gates are set out below in the Management Case.

## *Legal and Consents*

- All speed limits should be made by order under Section 84 of the Road Traffic Regulation Act 1984, and include the statutory consultation required as part of the TRO implementation.
- An Environmental Evaluation has been undertaken to identify any legal risks, and confirm whether any additional consents are required.
- Project level EQIAs will be undertaken to identify any legal risks relating to groups with protected characteristics.



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- Section 8 agreements may be needed with London Boroughs for advance signs or other works on borough roads.

### *Dependencies with other projects*

- Future cycling routes and bus priority corridors have been taken account of during the design process.
- During construction, there may be conflicts with other project's Traffic Management areas and diversions - and hence early engagement is needed with the Works Coordination and Permitting team to ensure the road space is available for construction.

### *Technical Constraints*

- Given the simplified approach to design and delivery, involving signs and lines only, significant impacts on statutory undertaker utilities are not expected.
- Two projects may currently involve statutory undertakers. The location of utility access chambers should be carefully considered during the design process, in consultation with the relevant SU.
- Where speed reduction measures are required on bus corridors, infrastructure should consider: TfL Guidance Note '*Traffic calming measures for bus routes – Bus Priority Team technical note BP2/05*', September 2005<sup>11</sup>; and DfT guidance in Local Traffic Note 1/07 '*Traffic Calming*', March 2007<sup>12</sup>.
- All infrastructure changes should be implemented in line with established highway design standards - including but not limited to: TfL Streets Toolkit<sup>13</sup> and Traffic Signs Regulations and General Directions 2016<sup>14</sup>.

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<sup>11</sup> <http://content.tfl.gov.uk/trafficcalmingmeasuresleaflet-rev-final.pdf>

<sup>12</sup> <https://www.gov.uk/government/publications/traffic-calming-ltn-107>

<sup>13</sup> <https://tfl.gov.uk/corporate/publications-and-reports/streets-toolkit>

<sup>14</sup> <http://www.legislation.gov.uk/ukxi/2016/362/contents/made>





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## 3 Economic Case

### 3.1 Options

During the early feasibility stage, three options were considered for Phase 2, including:

- Option 1: no physical infrastructure changes to the highway: signs and road markings
- Option 2: Medium level of physical infrastructure changes: signs, road markings and vertical deflection positioned depending on existing mean speeds
- Option 3: Combination of options 1 and 2, with vertical deflection positioned only at hot spots of KSI collisions

However, in order to meet City Hall's ambition of introducing 140km of 20mph on the TLRN by March 2023, only Option 1 is viable to meet the challenging time constraints. Option 2 within this delivery programme is Do Nothing.

Extensive monitoring will be undertaken post-implementation. Where vehicle speeds have not reduced sufficiently, a further future programme of works will be initiated to address localised concerns. This is outside the scope of this business case.

### 3.2 Explanation of Costs, Cost Savings and Revenues

- Early programme EFC has been estimated by the Portfolio Sponsor, based on benchmarking of similar previous projects. It is appreciated that both the 20mph trial programme and Phase 1 of the Lowering Speed Limits programme varied in scope and procurement approach. Risk of 20% was included.
- Costs for the accelerated design approach are being developed by TfL's Commercial Estimating team. The business case will be updated accordingly when these are available.
- No revenue is anticipated from the scheme





## 3.2.1 Overview

Option	Base cost *	Risk *	Construction total*
<b>2021/22 Delivery approach:</b> (including some physical features)	£3,798,407	£759,681	£4,558,088
<b>Remainder of Phase 2 Option 1:</b> no physical infrastructure changes to the highway: signs and road markings	£10,295,240	£2,046,060	£12,341,300
<b>Option 1 Total</b>	£10,693,647	£2,796,741	£16,899,388
<b>Option 2 Total</b>	Nil	Nil	Nil

\*All costs are undiscounted



## 3.3 Project Benefits

### 3.3.1 Monetised benefits

The key monetised benefit in the analysis relates to the social value of a collision reduction, as set out in the TfL Business Case Data Pack:

Average value of prevention per casualty by severity and element of cost	
£ 2021 Prices and Values	
Casualty type	Road
Fatal	2,293,991
Serious	265,703
Slight	27,101

For the purpose of the appraisal, baseline collision data was taken from Collstats for the 36 months from Jan 2018 to Dec 2020. This data should not be considered baseline data for post-implementation comparison, as traffic levels in London have been affected by the Covid-19 pandemic.

The project's Benefits Realisation Strategy sets out the steps the project will take to develop baseline data for post-implementation monitoring.

### 3.3.2 Non-monetised benefits

Non-Quantified Benefits that should be considered as arising from implementation of the project include:

- *Reputation*: Goodwill generated by TfL and the Mayor being seen to take positive action to deliver Vision Zero
- *Emissions and congestion*: Imperial College London's evaluation of the impact of the introduction of 20mph speed limits on behalf of the City of London suggested they had no net negative impact on exhaust emissions but results indicated clear benefits to driving style and associated particulate emissions. The research found that vehicles moved more smoothly, with fewer accelerations and decelerations, than in 30mph zones, reducing particulate emissions from tyre- and brake-wear<sup>15</sup>.

<sup>15</sup> Imperial College London, 2013



- *Noise*: Research undertaken by TRL shows that residents perceive a reduction in general traffic noise following implementation of traffic calming schemes. <sup>16</sup>
- *Modal shift*: Benchmarking of other 20mph schemes has demonstrated a marginal modal shift away from motorised vehicle following implementation of the schemes. This has positive benefits for health, air quality and the urban realm.

### 3.3.3 Journey time impacts

One of the most frequent comments during public consultation of previous 20mph projects was in regards to the impact on journey times and congestion. Due to current day time average speeds on the roads included, it is unlikely that the lowering of speed limits from 30mph to 20mph will change existing journey times during the day.

During off-peak periods, including overnight, some people may experience a slight increase in journey times. However, research into the impacts of 20mph<sup>17</sup> suggests introducing 20mph speed limits has a negligible impact on journey times, given that overall journey times are largely dictated by junction delays and not vehicle speeds.

In light of this research no journey time disbenefits are expected as a result of this project, and they have not been included in the calculations.

### 3.4 Key Assumptions

Inflation and discount factors were applied to the analysis, as set out in the TfL Data Book.

It is assumed that new static speed cameras would not be introduced in Phase 2 and that these would be considered as part of a future phase subject to monitoring of the initial implemented scheme. All existing cameras would be recalibrated to enforce at the lower speed limit threshold.

It is assumed that the programme would be supported by appropriate marketing and communications.

The collision reduction savings associated is as follows (based on past research into the impact of different types of interventions):

	Average speed reduction expected (mph)	Average collision saving (%)

<sup>16</sup> TRL, 2000

<sup>17</sup> Research into the impacts of 20mph speed limits and zones, Steer Davies Gleave, 2014



<b>Option 1:</b> no physical infrastructure changes to the highway: signs and road markings	<1	6
<b>Option2:</b> Do nothing	0	0

### 3.5 Risks and opportunities

Risk workshops have been held and a table of key risks and proposed mitigations is available for review in a table below. A QRCA will be undertaken to better understand the required risk provision, and this has been factored into the project budget.

Key project risks principally surround (1) constrained timescales for the delivery of the project; (2) dependency on short-term funding agreements with the DfT; (3) high levels of staff turnover due to multiple secondment opportunities (4) coordination of works during a very congested working window; (5) requirements for traffic orders (and associated regulatory signage) being in place in multiple London Boroughs prior to launching the new speed limit; and (6) the business risk the implementation of the new limit does not bring about the intended reduction in speed, undermining the investment.

These risks are further defined in the table below:

<b>Risks</b>		
<b>Title</b>	<b>Description</b>	<b>Mitigation</b>
1. Risk of late delivery due to compressed programme timescales	The available time to deliver this programme is tight. A compressed programme has therefore been prepared which displays no time risk allowance. Therefore delays to activities on the critical path will mean that the programme is unable to deliver against the Mayor's timeline.	<p>Simplified design approach excluding physical measures.</p> <p>Early Contractor Engagement has commenced for projects in delivery this FY. This was in order to overlap activities that can commence earlier, like drainage and sign post design and delivery.</p> <p>Regular two-way briefings and updates on progress between the delivery team and City Hall.</p>



<p>2. Dependency on short-term funding agreements with the DfT</p>	<p>During the Covid-19 pandemic and the instruction to work from home if possible, TfL revenue plummeted and consequently our Capital Investment portfolio is dependent on short-term funding settlements with the DfT. The current funding settlement ends 11<sup>th</sup> December 2021, but the Lowering Speed Limits programme runs until 2024/25.</p>	<p>Regular review of expected project costs to ensure that public funding offers value for money with limited underspend.</p> <p>Design approach has been simplified to reduce project costs and associated dependence on external survey procurement.</p>
<p>3. High levels of staff turnover due to multiple secondment opportunities</p>	<p>Due to no long-term resourcing recruitment across IDP, the programme is largely staffed through secondments of 6-12 months. Many permanent members of the project team are on secondment to other teams.</p>	<p>Agile staff resource management. Investigations into fixed term external contracts to take place to assist with project delivery in a constrained timeframe.</p>
<p>4. Works coordination and permit availability at the time of delivery</p>	<p>There are several Mayoral priorities all requiring road space in the run up to the pre-election period and may also be third party works taking place on the highway.</p>	<p>Early engagement with Works Coordination and Permitting team to help schedule works.</p> <p>Provisional Advance Authorisation obtained as soon as practicable.</p>
<p>5. Traffic Regulation Orders spanning London</p>	<p>Traffic regulation orders (TRO) spanning multiple London Boroughs are required in order to bring the 20MPH limit into force. Should it not be possible to mount signage in the required position, or should the TRO consultation receive multiple objections, the making the orders will be delayed meaning the new</p>	<p>Structural assessment of signage mounting locations will take place early within the detailed design of the signage.</p> <p>Individual TROs will be drafted for each Borough to limit the impact of potential objections to only the Borough they are raised in.</p>



	speed limit cannot be put in place.	
6. Programme does not deliver intended speed reduction benefits	<p>The most effective speed reduction schemes are self-enforcing, using physical measures such speed tables, raised crossing points, speed cameras etc.</p> <p>The accelerated timescales of this programme mean that physical measures (beyond those already designed) cannot be accommodated within this programme. Furthermore, the number of measures required across the network is likely to be challenged by Bus Operators on comfort and health grounds as well as emergency services, who may be unable to respond to emergencies as required.</p> <p>Should post-introduction vehicle speeds fail to materialise, the programme may be undermined.</p>	<p>Briefings have taken place to key stakeholders to manage the expectations of what scope will be completed prior to launching the new limit.</p> <p>Ensure we facilitate a two-stage approach if required, revisiting sites after post-implementation has been completed.</p> <p>Research will be commissioned to ensure success and failure is monitored and documented.</p>

### 3.6 Outcome of Quantified Analysis

The preferred option showed Benefit-to-Cost Ratios of 7.63:1, suggesting that investment in speed reduction infrastructure is worthwhile.

Previous BCR calculations based on physical infrastructure (Phase 1 Option 2 - do maximum) was significantly lower than for Phase 1 Option 1 (no physical infrastructure, signs and lines only), suggesting that the return on investment falls the more infrastructure is implemented (i.e. there are diminishing returns on investment).



Whilst an average speed reduction of 6% has been used to form these calculations, TfL monitoring of previous projects where the speed limit has been reduced shows positive collision savings of 10% (20mph Trials on the TLRN programme 2015-2017)

A sensitivity test was carried out against Option 1, which assumed speed reduction and therefore collision savings estimates were 25% less than predicted. This test showed that the scheme remained viable should this take place.

Table 3: Economic Appraisal

10-year appraisal period; Discounted	Option 1	Option 2	Sensitivity test on option 1
Capital costs (£m)	16.9	0.0	16.9
Collision reduction benefit (£m)	14.25	0.0	9.5
<b>BCR</b>	<b>7.63</b>	<b>0</b>	<b>4.93</b>

### 3.7 Economic Case Conclusion

In conclusion, whilst previous business cases have explored options including physical measures to provide a self-enforcing speed limit, in order to meet the challenging timescales for delivery, Option 1 is the only viable option.

**Option 1 is the Recommended Option.**

## 4 Commercial Case

The commercial aspects of the project are considered low risk, as the proposed engineering solutions are straightforward, the level of systems integration is minimal, and design and delivery will be managed through the internal TfL design team and existing HMPF contract with FM Conway and Ringways.

The use of Aecom staff to produce the early Feasibility designs has enabled Early Contractor Engagement, and will assist the programme in refining the project estimates



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and design out construction risks at an early stage (e.g. to minimise the impacts on statutory undertakers).

## 5 Financial Case

The programme EFC is £16.9m, which be required over the coming years to 2024/25. Subject to future funding arrangements, this programme will be prioritised within Healthy Streets portfolio business plans.

This project was included in the 2021/22 Programme Investment Committee (PIC) request for Healthy Streets, which received approval. £2.3m has been approved for funding up to 11<sup>th</sup> December 2021 (period 9).

There is a public commitment to introduce a new 20mph speed limit on 140km of TLRN by March 2023. Consequently, the majority of the funding will be forecast in 2022/23. The remainder of the programme will be delivered in 2023/24, with a small amount of funding required in 2024/25, to close the programme.

Given the recency of the request to accelerate the programme, commercial estimates have been requested, but not yet received. This estimate will be prepared using the current TfL Surface estimate template, and based on the most up-to-date design and cost information. In accordance with Pathway's Estimating Procedure, the estimate will follow a review and validation process from the main stakeholders prior to final sign off.

Therefore, this business case currently is based on Sponsor experience and contains a risk contingency of 20%. Some project level commercial estimates have been received, which will further inform the programme going forward. As soon as more refined costs are received this business case will be updated.

The project team will seek to make value engineering savings of up to 10%. This is in line with standard TfL project management process and involves seeking cheaper ways of achieving the same desired outcome. Details on how this target will be met will be presented to future meetings of the working group. Value Engineering workshops will be scheduled as detailed design proceeds.

The project team is aware that there will be additional maintenance costs associated with the maintenance of the new infrastructure proposed.





## 5.1 Financial Impact and Funding of the Project

As with all TfL capital investment projects currently, Phase 2 of the Lowering Speed Limits programme is not currently funded beyond P9 2021/22. Given the high profile of this programme and commitment of the Mayor to the Vision Zero agenda, this programme will have to be prioritised within the Healthy Streets portfolio within any future funding settlements with the DfT.

Table 1: Financial Impact – Outturn project and opex costs, revenues, savings. **TO BE COMPLETED**

UIP / ST-PJ632C	Spend to date (to Pxx)	2021/22	2022/23	2023/24	2024/25	Future Years	TOTAL
Feasibility							
Preliminary & Detailed Design Fees							
Advanced Works/Utilities							
Main Works							
Consultants							
TfL Staff costs (Salary/Pension/NI)							
TfL Support Services Costs (IM)							
TfL Support Services Costs (Accom)							
TfL Support Services Costs (HR)							
<b>Total Base Cost</b>							
Risk							
<b>Total Estimated Final Costs</b>							
Opex Cost / Revenue Area 1							
Opex Cost / Revenue Area 2							
Support Services Costs Ongoing							
Savings							

NB: Earmarked contingency should be added to the table above where costs are covered by third parties.

## 5.2 Expected Final Cost History Comparison



Analysis of the EFC for Phase 2 of the Lowering Speed Limits programme in comparison to previous estimates can be found in Table 3.

Please note that a commercial estimate on the programme is being developed. Therefore, this table will be completed against Gate 0 estimations. It is important to note that the current estimate is based on previous projects included lower speed limit measures, including Phase 1 of the Lowering Speed Limits programme. However, the scope and approach to these programmes is not exactly comparable and consequently a lower value EFC is anticipated.

**Table 3: EFC History**

UIP / ST-PJ632C	Current Business case	Gate B	Movement :BC vs Gate X
Date	August 2021	August 2021	
Feasibility			
Preliminary & Detailed Design Fees			
Advanced Works/Utilities			
Main Works			
Consultants			
TFL Staff costs			
TFL Other costs			
Total Base Cost	10,693,647	10,693,647	-
Risk	2,796,741	2,796,741	-
Total Estimated Final Costs	16,899,388	16,899,388	-



## 6 Management Case

### 6.1 Programme Milestones and Timescales

Forecast milestones for the programme are:

Tier	Milestone	Target Date	Achieved/ forecast Date	Comments
1	Westminster: Go Live of speed limit change	4 April 2022	4 April 2022	Separate business case
2	Westminster: Start on signage installation on site	18 February 2022	18 February 2022	Separate business case
1	Lowering Speed Limits introduced to 25km of roads, across all projects	31 March 2022	31 March 2022	
1	PPD: 20mph speed limit introduced to 10km of the TfL road network.	31 March 2022	31 March 2022	
2	PPD: Completion of 80% stand alone Lowering Speed Limit schemes on TLRN	24 March 2022	24 March 2022	
2	PPD: Completion of Detailed Design for 80% of Lowering Speed Limit schemes	14 October 2021	14 October 2021	
2	PPD: Completion of Concept Design for 80% of Lowering Speed Limit schemes	12 August 2021	3 September 2021	

**Table 1 - Key Milestones**

To ensure milestones are delivered by agreed dates, the programme consists of multiple projects delivering the speed limit reduction over a whole corridor or borough. This will assist the HMPF contractors to focus their resources more effectively. The project team are also maintaining contact with key stakeholders to secure ongoing support.

### 6.2 Measures of Success / Benefit Realisation

The key quantified benefits in the Business Case will relate to collision reduction savings, both in terms of frequency and severity of collisions, as well as perception of safety of vulnerable road users using the area. Three key data sets will be used to measure the outcomes and benefits of the programme:

- Before and after speed surveys



- Before and after collision statistics (including monitoring severity of collision)
- Healthy Streets Mystery Shopper Surveys to assess perception of safety of street environment

More detail of the specific project benefits are provided below, and detailed further in the supporting benefits management strategy.

<b>ID</b>	<b>Benefit Description</b>	<b>Change Logic</b>	<b>Target</b>	<b>Measure</b>	<b>Measurement Methodology</b>	<b>Timing</b>
LSL1	Reduced Number of KSI Collisions	Lower speed limits will reduce the number of KSI collisions	% reduction	Number of KSI Collisions	Previous Collstats data will be compared with data collected 12, 24 and 36 months after implementation	Within 1, & 3 years of implementation
LSL2	Reduced Number of Collisions	Lower speed limits will reduce the overall number of collisions	% reduction	Number of Collisions	Previous Collstats data will be compared with data collected 12, 24 and 36 months after implementation	Within 1, & 3 years of implementation
LSL3	Reduced Average Vehicle Speed	Reduced average speed should aid congestion and keep traffic moving	Reduced average speed from baseline data	Measured average speed	Previous Speed Survey data will be compared with data collected 3, 6 and 12 months after implementation.	Within 1 year after implementation
LSL4	Reduced severity of collisions	Lower speed limits should reduce the severity of	% reduction	Proportionate reduction in the number of KSI collisions	Previous Collstats data will be compared with data collected 12, 24 and 36	Within 1, & 3 years of implementation



		collisions occurring			months after implementation	
LSL5	Increased pedestrian confidence  / Increased cyclist confidence	Lower average speeds will reduce perception of danger and mean walking and cycling are more travel attractive options	% increase	Mystery Shopper Survey	Surveys	Within 1 year of implementation



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## 7 Summary

### 7.1 Overall Assessment

This business case confirms the value of investing in infrastructure to lower speeds on the TLRN as identified by the Vision Zero Action Plan. The assessment shows that physical measures to slow traffic where appropriate – prioritised in places with high mean speeds and KSI collision patterns – yield an important step change in anticipated collision savings, and that this is worth the additional cost over and above the cost associated with a 'Do Minimum' signs and lines scheme.

### 7.2 Next Steps

This Business Case sets out the case for Phase 2 of the Lowering Speed Limits programme; further work will be undertaken in 2021 to develop the proposals and recommendations for Phase 2.



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## APPENDIX A: Consultation

Name	Directorate
A large black rectangular redaction box covers the names of all individuals listed in the table.	Business Case Functional Lead
	Investment Delivery Planning – Network Sponsorship
	Investment Delivery Planning
	Investment Delivery Planning – Benefits Management
	Vision Zero
	Finance
	Bus Operations – Bus Client
	Network Management
	Assurance
	Legal

## APPENDIX B: Map of roads included in Phase 2

