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Committees: Streets and Walkways Sub-Committee <i>[for decision]</i> Resource Allocation Sub-Committee <i>[for decision]</i> Projects Sub-Committee <i>[for decision]</i> Port Health & Environmental Services <i>[for information]</i>	Dates: 03 December 2019 12 December 2019 16 January 2020 14 January 2020
Subject: Beech Street Transport and Public Realm Improvements Unique Project Identifier: 10847	Gateway 3/4/5: Options Appraisal and Authority to Start Work (Complex)
Report of: Director of the Built Environment Report Author: Aldo Strydom; City Transportation	For Decision
<h1>PUBLIC</h1>	

1. Status update	<p>Project Description: The Project will address air quality issues in Beech Street by reducing or removing traffic. It also aims to deliver a vibrant street with high-quality public realm at the centre of Culture Mile.</p> <p>This is a key Corporate project led by Transportation and Public Realm within the Department of the Built Environment (DBE).</p> <p>The purpose of this report is to:</p> <ul style="list-style-type: none"> • Seek Members' authority to implement two-way zero emission restrictions along Beech Street under an Experimental Traffic Order • Inform Members of work and findings to date, risks and next steps <p>A combined gateway report is being presented as a phased approach to delivery has been taken, as instructed by Members, and as such certain elements are being brought forward for delivery (at Gateway 5 stage) while options for other parts of the project are still being developed (i.e. at Gateway 3/4 stage).</p> <p>RAG Status: Amber (Amber)</p> <p>Risk Status: Medium (Medium)</p> <p>Total Estimated Cost of Project (excluding risk): £12M–£15M</p>
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	<p>Change in Total Estimated Cost of Project (excluding risk): No change</p> <p>Spend to Date: £585,217</p> <p>Funding Source: DBE Community Infrastructure Levy (CIL), Greater London Authority (GLA) Mayor's Air Quality Fund (MAQF) Round 2</p> <p>Costed Risk Provision Utilised: 0</p> <p>Slippage: n/a</p>
2. Next steps and requested decisions	<p>Next Gateway: <i>Progress Report</i></p> <p>Next Steps: Subject to receiving approval under the Traffic Management Act (TMA) from Transport for London (TfL) by year end, the below tasks are to commence in early 2020 with a planned 'Go Live' by mid-March 2020:</p> <ol style="list-style-type: none"> 1. Set up works budget and procure ANPR cameras, signs, and civils 2. Notify Statutory Parties¹ on intent to make Experimental Traffic Order (ETO) 3. If any responses from the Statutory Parties raise significant or unexpected concerns, the matter will be reported back to Members for decision 4. Subject to the Director of the Built Environment, in consultation with the Chairman, deciding to proceed with the ETO after considering any responses from the Statutory Parties, the Director shall: <ol style="list-style-type: none"> a. Make ETO b. Commence public awareness campaign and continue stakeholder engagement c. Construction (minor civils works) 5. Zero Emission Street 'Go Live' (i.e. ETO comes into force): <ol style="list-style-type: none"> a. Six-month statutory public consultation period (on ETO) begins b. Installation of public realm engagement platform c. Enforcement commences after appropriate warning notice period d. Monitoring of scheme impacts (minimum 6 months) 6. Agree monitoring outcomes with TfL and Islington Council 7. Issues Report with recommendations (~8–12 months after 'Go Live') <p>More details, including a summary of the work to date, is included in Appendix 4.</p>

¹ As required by regulation 6 of the Local Authorities' Traffic Orders (Procedure) (England and Wales) Regulations 1996

	<p>Requested Decisions:</p> <p>Subject to the scheme receiving TMAN approval from TfL and the Director of the Built Environment, in consultation with the Chairman, deciding to proceed with the making of the ETO as set out above:</p> <p>Members of the Streets and Walkways Sub-Committee are requested to:</p> <ol style="list-style-type: none"> 1. Approve Option 1 as the Interim Scheme 2. Delegate authority to the Director of the Built Environment to enter into a Section 8 agreement with Islington Council for implementing works on Islington streets, e.g. signage and traffic mitigation measures <p>Members of the Resource Allocation Sub-Committee are requested to:</p> <ol style="list-style-type: none"> 3. Approve an additional £167,430 of OSPR funding to underwrite the upfront staffing costs for Saba <p>Members of the Streets and Walkways Sub-Committee and Projects Sub-Committee are requested to:</p> <ol style="list-style-type: none"> 4. Approve a sum of £1,119,183 as the implementation budget for the Interim Scheme, funded from within the existing budget of £1,745,362 5. Delegate authority to the Director of the Built Environment, in consultation with the Chamberlain, to make any adjustments between elements of the approved budget, provided the total approved budget of £1,745,362 is not exceeded 6. Agree to provide funding to Islington Council at an estimated cost of £80,000 funded from within the existing budget 7. Delegate to the Director of the Built Environment, in consultation with the Chamberlain, to vary the cost of the Islington contribution, subject to the total approved budget of £1,745,362 not being exceeded. <p>Members of all Committees are requested to note:</p> <ol style="list-style-type: none"> 8. GLA funding of £91,000 that has been secured for the project 9. Work and findings to date as detailed in Appendix 4
<p>3. Budget</p>	<p>The project is funded through CIL. An amount of £91,000 from the GLA MAQF Round 2 funding (previously attached to the Moor Lane project) has been secured for the project, in lieu of previously approved CIL funding.</p> <p>An additional amount of £167,430 from OSPR will be used to fund the Saba (the parking and enforcement term contractor) enforcement costs during the scheme deployment phase. These funds will be allocated to the Highways Local Risk budget.</p>

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	<table><tr><th>Item</th><th>Reason</th><th>Funds/ Source of Funding</th><th>Cost (£)</th></tr><tr><td>Staff costs</td><td>Staff costs</td><td>CIL</td><td>787,091</td></tr><tr><td>Fees</td><td>Surveys, consultancy fees, ANPR cameras, traffic orders, etc.</td><td>CIL</td><td>433,136</td></tr><tr><td>Works</td><td>Construction costs, utilities</td><td>CIL/GLA</td><td>320,135</td></tr><tr><td>Islington contribution*</td><td>Traffic mitigations</td><td>CIL</td><td>80,000</td></tr><tr><td>Risk allowance</td><td>Costed risks</td><td>CIL</td><td>125,000</td></tr><tr><td>Saba Enforcement costs</td><td>Enabling costs</td><td>OSPR</td><td>167,430</td></tr><tr><td colspan="3">Total Estimated costs</td><td>1,912,792</td></tr></table> <p>* This is an estimate only and may change subject to agreement with Islington Council</p> <p>A breakdown of costs to date and a summary of the implementation costs for the Interim Scheme is presented in the finance tables in Appendix 3.</p> <p>Costed Risk Provision requested for this Gateway: £125,000 (see Appendix 2)</p>	Item	Reason	Funds/ Source of Funding	Cost (£)	Staff costs	Staff costs	CIL	787,091	Fees	Surveys, consultancy fees, ANPR cameras, traffic orders, etc.	CIL	433,136	Works	Construction costs, utilities	CIL/GLA	320,135	Islington contribution*	Traffic mitigations	CIL	80,000	Risk allowance	Costed risks	CIL	125,000	Saba Enforcement costs	Enabling costs	OSPR	167,430	Total Estimated costs			1,912,792
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4. Overview of project options	<p>The Interim Scheme will be a two-way Zero Emission Street (ZES), as approved by Members in July 2019. It will be introduced through means of an Experimental Traffic Order (ETO) and will deliver the project objectives (in part) by improving air quality and enhancing pedestrian amenity.</p> <p>Two options for enforcing the scheme are presented for Members' consideration:</p> <p><u>Option 1 – Point enforcement approach:</u></p> <ul style="list-style-type: none">• Creation of a Zero Emission Zone within the covered roadway area, with two ANPR cameras (one for each lane) enforcing at this location• A third camera, at the eastern end of Beech Street, will monitor the loading bay to ensure legitimate loading activity is not penalised																																

	<ul style="list-style-type: none"> Introduces a change in how vehicles access the car parks and servicing areas – i.e. non-compliant vehicles accessing off street premises will be required to enter and exit Beech Street from the same direction <p><u>Option 2 – Time/distance enforcement approach:</u></p> <ul style="list-style-type: none"> Two ANPR cameras installed at either end of Beech Street (four in total) Enforcement based on travel time of non-compliant vehicles through Beech Street – vehicles accessing off-street premises will take in excess of a certain period of time (compared to those travelling through continuously) and as such not be subject to a Penalty Charge Notice (PCN) <p>Alternatively, Members may instruct officers not to proceed with either of the options and to instead focus efforts on progressing the longer term scheme.</p> <p>While there is a likelihood of potential adverse impacts attached to both Options 1 and 2 (see Section 6 'Risks'), the making of an ETO in the first instance will allow monitoring of the scheme benefits and disbenefits.</p> <p>Setting aside which enforcement option is chosen, and on the basis of the information currently available, the benefits of the scheme (i.e. improved air quality, health advantages and benefit to pedestrians) are considered to outweigh the disbenefits of the scheme (traffic congestion and additional journey times for non-compliant vehicles). The benefits and disbenefits of introducing a ZES are highlighted below:</p> <ul style="list-style-type: none"> Air quality modelling predicts levels of NO₂ along Beech Street to reduce below recommended limits (improvement of ~40%). Air quality in the immediate vicinity will also be improved, particularly around the entrances to Richard Cloudesley School and Prior Weston Primary School The many people who walk or cycle daily along Beech Street will experience an improvement in air quality First step towards introducing wider changes in this area, including the Zero Emission Zone in the Barbican/Golden Lane area as identified in the Transport Strategy External public realm value of launching the first Zero Emission Zone in Greater London – supports the City Corporation's sustainability, transport strategy and zero carbon ambitions While NO₂ pollution does increase by a small to moderate amount on some alternative routes, polluted air is more easily able to disperse at these locations whereas they cannot within Beech Street. It is therefore reasonable to conclude that the scale of air quality improvements in Beech Street outweigh the disbenefits of NO₂ increases elsewhere While the restrictions along Beech Street will have traffic impacts on the surrounding street network, the majority of
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	<p>traffic will reassign to City Access roads (London Wall and Aldersgate Street). Some works will be undertaken in Islington to stop traffic reassigning onto neighbourhood roads (details of this is still being agreed with Islington Council)</p> <ul style="list-style-type: none"> • Traffic is also likely to reassign to residential streets within the City (Wood St – Fore St – Moor Lane – Silk St – Milton St). However, these streets will be observed during the monitoring phase • Non-compliant vehicles that previously used Beech Street will have a longer journey time, but this is not expected to be unreasonable. These impacts can be more accurately assessed once the ETO is in place and monitoring is being undertaken • One location on London Wall, where the current NO₂ levels are just below the recommended limit, are predicted to increase by 10% increase (to above the recommended limit). However, London Wall is a non-residential street and identified as a City Access street in the Transport Strategy (compared to Beech Street which is designated as a Local Access street) • The City is under a duty to “<i>secure the expeditious, convenient and safe movement of vehicular and other traffic (including pedestrians)</i>” so far as practicable (S.122 Road Traffic Regulation Act 1984). The ZES would represent a restriction on the movement of certain classes of vehicular traffic on Beech Street and an indirect impediment to the expeditious and convenient movement of traffic on surrounding streets due to the displacement of traffic. However, that restriction is considered to be the minimum practicable restriction having regard primarily to the following: <ul style="list-style-type: none"> ○ this duty also relates to pedestrians and it is expected that the ZES will improve pedestrian movement, furthermore it will improve general pedestrian amenity ○ the need to secure the expected improvements in air quality, as provided for within the Environment Act 1995 (i.e. implementing the National Air Quality objectives) and duties under Local Air Quality Management (LAQM) legislation to reduce pollution where these exceed the recommended limits² ○ being made by way of ETO, it will be for a temporary period only to enable the balance of benefit/disbenefit to be more accurately assessed before any permanent measures are introduced
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² For NO₂ the limits are set at 40 µg/m³ in the National Air Quality objectives

<p>5. Recommended option</p>	<p><u>Option 1</u> is recommended, for the following reasons:</p> <ul style="list-style-type: none"> • This option introduces a well-defined Zero Emission Zone within the covered roadway area • The accesses to the existing car parks and servicing areas (e.g. the Barbican Trade Centre and Lauderdale Place) falls outside of this zone, ensuring non-compliant vehicles may continue to use these without the risk of being penalised • Enforcement of the zone will be less complicated, as only Zero Emission Vehicles (ZEVs) allowed to use the area³, meaning there is less chance of confusion/ambiguity • A simpler approach to enforcement would be more cost effective with regards to ongoing staff requirements and processing of PCNs
<p>6. Risk</p>	<p>The following risks are attached to both options:</p> <ul style="list-style-type: none"> • Delay in receiving TMAN approval, however officers have had assurances from major stakeholders (Islington Council and TfL) that they are unlikely to object • High level strategic modelling has been undertaken to inform where traffic reassigns to. Due to the objective of delivering air quality improvements quickly, microsimulation modelling (that detail impacts on journey times and traffic congestion) have not been undertaken, as this would take between 12-18 months to develop. Due to the experimental nature of the Interim Scheme traffic reassignment modelling is considered sufficient, however there remains a risk that the traffic impacts for the Interim Scheme may be more severe than estimated. We have a robust monitoring strategy (agreed with key stakeholders) to measure the impact of the closure on the surrounding street network which will be reported back to Members regularly • The reassigned traffic, as shown in the strategic models, may negatively impact users of these streets, as well as nearby residents and businesses (e.g. through increased traffic, travel time and air pollution) resulting in objections against the scheme • While the air quality modelling shows a significant improvement along Beech Street, moderate increases in nitrogen dioxide (NO₂) levels are predicted at a number of nearby locations and this may be objected to • There is a reputational risk in that should the scheme fail (e.g. due to opposition or large traffic impacts) the experimental scheme may have to be abandoned • Islington Council, TfL or the London Borough of Camden objects during the ETO notification period, which may delay implementation

³ With the exception of whitelisted non-compliant vehicles, and those legitimately using the loading bay

	<ul style="list-style-type: none"> • Islington Council or the London Borough of Camden objects to the scheme during the statutory consultation period due to any of a number of reasons, incl. pressure from residents or concerns about traffic congestion or air quality • The zero emission restrictions will be the first of its kind in London and there may be confusion among the public with TfL's Ultra Low Emission Zone (ULEZ) and a similar scheme in Hackney where vehicle movements are restricted to Ultra Low Emission Vehicles (ULEVs) • A general lack of understanding of the newly approved traffic regulation sign for a Zero Emission restriction • As a result of confusion and the lack of understanding, compliance rates may take time to reach an acceptable level • The scheme could be perceived as a revenue raising measure • There is likely to be opposition from some stakeholders, e.g. certain road user groups and impact residents • Gas mains replacement works (Poultry to Holborn Viaduct), that coincide with the planned Go Live date and monitoring period for the Interim Scheme, will result in traffic being diverted along London Wall. London Wall will likely be busier than usual, and it will be difficult to identify the gasworks or Interim Scheme as the cause – possibly resulting in the Interim Scheme being negatively received • The ZES has the potential to negatively impact certain groups of people, particularly those aged over 65, with disabilities, with infants and/or in pregnancy and maternity. These potential impacts are set out in the Equalities Impact Assessment at appendix 8 <p>The following risks are attached to Option 1:</p> <ul style="list-style-type: none"> • This option requires a behavioural change from drivers due to the 'no through road' for non-compliant vehicles, with those affected having to enter and leave Beech Street from the same direction when accessing the car parks and servicing areas. As such there is a risk that drivers continue to use the street as before, e.g. leaving the Barbican Centre car park by executing a left turn and entering the enforcement zone (travelling in a westerly direction) • This option introduces right turn movements for egress/access movements which may conflict with through traffic, including cyclists <p>Costed Risk Provision Utilised at Last Gateway: 0</p> <p>Change in Costed Risk: £125,000 (see Appendix 2)</p>
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<p>7. Procurement approach</p>	<p>The City's term contractor, JB Riney's will implement the works.</p> <p>Siemens has recently been appointed as the City's preferred supplier for automatic number plate recognition (ANPR) cameras and will be providing the cameras and associated technology.</p> <p>Saba manages the Traffic and Parking enforcement contract in the City and will provide additional back office support for the enforcement of the scheme which will be responsive to the level of contraventions observed.</p>
<p>8. Design summary</p>	<p>A phased approach has been taken in delivering the Interim Scheme with the zero emission restrictions delivered under an ETO, as the first step. As such, only the physical works necessary to deliver this initial stage will be constructed, which will save on potentially abortive monetary and environmental costs.</p> <p>The City will notify the statutory consultees including, emergency services, TfL and neighbouring local authorities, of the intent of making the ETO.</p> <p>A statutory six-month period applies to the ETO in which objections must be considered, before a decision to make the changes permanent can be made. Monitoring of the scheme impacts will also be undertaken during this six-month period. However, it is likely that more data will be needed, particularly in relation to air quality, before the impacts can be suitably assessed and recommendations can be made accordingly.</p> <p>Should the scheme prove successful during the experimental phase, consideration can be given to making the traffic order permanent with further works, including public realm improvements, introduced in the next phase. An Issues Report with the relevant recommendations will be presented to Members to make this decision (Autumn/Winter 2020).</p> <p>The details of the scheme are summarised below with design plans included in Appendix 6. A series of maps have been developed to help communicate the scheme and these are included in Appendix 7.</p> <p><u><i>Scheme design – key points</i></u></p> <ol style="list-style-type: none"> 1. Two-way ZES along the length of Beech Street between its junctions with Aldersgate Street and Silk Street 2. Only Zero Emission Vehicles (ZEVs) permitted to use Beech Street as a through route – compliant vehicles need to comply with all three criteria: <ol style="list-style-type: none"> a. Maximum 75 g CO₂/km b. Minimum 20 mile zero emission range c. Euro 6 equivalent NO_x emission standard 3. The restrictions are in line with current TfL guidelines (published in September 2019). TfL is taking a phased approach to delivering ZEZs to allow for the uptake of ZEVs –

	<p>in 3-4 years it is expected that restrictions will be stricter with 'zero' effectively meaning 'zero'</p> <ol style="list-style-type: none"> 4. Movements to 'access off street premises' (e.g. Barbican residents and Barbican Centre car parks and servicing access) still permitted for non-compliant vehicles 5. Restrictions will be introduced through an ETO that will run for a maximum of 18 months 6. Bus route 153 will be retained 7. Enforcement will be through means of ANPR cameras, and reinforced through means of PCNs 8. A list of exempted vehicles will be established and include residents and emergency vehicles 9. Warning letters will be sent in lieu of PCNs during an initial grace period 10. It is estimated that there will be an increase in journey times to access the area bounded by Chiswell Street, Golden Lane, City Road and Old Street (Bunhill Ward in Islington) as a result of: <ol style="list-style-type: none"> a. The TfL scheme at Old Street roundabout removing the right-hand turn from Old Street to City Road b. The Beech Street Zero Emission scheme c. A traffic mitigation scheme on Fortune Street 11. Implementation will consist of minor civils works to install signage and ANPR cameras, as well as: <ol style="list-style-type: none"> a. A redesigned Beech Street junction with Silk Street to allow right turns from Silk Street into Chiswell Street b. A new raised table at the existing zebra crossing (across Beech Street) together with coloured surfacing to help define the start of the ZES c. Works to close off the junctions of Golden Lane and Bridgewater Street to all traffic (except cyclists) are necessary to be able to enforce the scheme effectively. These closures will as a result provide scope to create areas where public realm improvements can be made, and during the experimental phase will be used to engage with the public through various media on what Beech Street could be in the future as part of Culture Mile d. Option 1 only – kerb works to remove central reservation at key points within the covered roadway area to allow access/egress at car park and servicing accesses, as well as additional signage (including within the Barbican car parks) to ensure drivers are made aware of the allowed movements 12. Minimal public realm works planned during the experimental stage, with an engagement platform with both digital and physical entities to be installed along Beech Street – the main purpose of this platform is to engage the public with planned transformation of Beech Street and its future vision
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9. Delivery team	<p>13. The scheme is being delivered through the Major Projects (City Transportation) team with support from teams across DBE, as well as other departments including City Police, Barbican Estate Office, Barbican Centre, Chamberlain and Town Clerk's Department</p> <p>14. The project team have been working with Islington Council and TfL in ensuring procedures are followed and approvals are in place. This collaborative approach will continue during the monitoring period</p> <p>15. JB Riney's will implement (construct) the scheme, with support from Siemens and utility providers as and when needed</p> <p>16. Saba will undertake enforcement and provide support to the City's Parking Ticket Office in the processing of traffic order infringements</p>
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10. Success criteria	<p>The ZES is expected to address the project objectives in part, in particular the following:</p> <ul style="list-style-type: none"> • A – Improve air quality in Beech Street by reducing NO₂ levels. Air quality modelling forecasts current levels to fall from around 50 µg/m³ to ~30 µg/m³ ** • B – Improve the quality of the public realm to create streets and public spaces for people to securely admire and enjoy. An engagement platform with the purpose of involving the public with planned transformation of Beech Street and its future vision will be introduced initially, followed by physical enhancements if the scheme is made permanent <p>The scheme will be monitored for a minimum of six months after it has been implemented, with the project's success criteria agreed with TfL and Islington Council as follows:</p> <ul style="list-style-type: none"> • Significant improvement in air quality – a measured reduction along Beech Street, with the wider monitored area not being any worse than predicted in the model
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** As per air quality modelling undertaken by Cambridge Environmental Research Consultants (Sep 2019)

	<ul style="list-style-type: none"> • Maintain current access and servicing arrangements – residents, visitors and businesses are not negatively impacted by the scheme • Traffic or bus journey times on the surrounding routes identified in the monitoring strategy are not unreasonably impacted <p>In addition to measuring how well the scheme is meeting its key objectives, the following will also be monitored:</p> <ul style="list-style-type: none"> • Noise levels – reduction in noise levels inside the covered roadway on Beech Street • Public perception – increase in public perception of air quality, noise and personal safety • Compliance rate – a compliance rate of 95% zero emission vehicles by the end of the 6th month after Go Live date • Taxis – journey times and costs not unreasonably increased for key routes • Safety at surrounding junctions – current road safety conditions not made worse • Vehicle volumes on surrounding streets – to understand impacts and inform future design and traffic management decisions <p><u>Enforcement strategy</u></p> <p>Lessons learned from the Bank on Safety project is that from time to time, incidents on the local street network may require experimental traffic restrictions to be temporarily suspended to mitigate traffic congestion. For example, in the event of emergency utility works at certain strategic locations in the vicinity of Beech Street, it may be necessary to allow all traffic to use Beech Street in one or both directions. Authority to make these decisions are within the delegated powers of the Director of the Built Environment, and it is expected the Director will exercise the delegated powers with regards decision making for Beech Street.</p>
11. Progress reporting	<p>It is proposed to continue providing updates to Streets & Walkways Sub-Committee throughout the monitoring period through means of the current outstanding references process. In addition, monthly updates will also be provided through Project Vision (Cora). It is proposed to provide an update to all relevant Committees at the following key stages:</p> <ul style="list-style-type: none"> • Update Report 1: ~3 months after 'Go Live' to report on progress and issues/impacts • Update Report 2: ~6 months after 'Go Live' to report on progress and issues/impacts • Issues Report: ~8–12 months after 'Go Live' to make recommendation (on making scheme permanent)

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Appendices

Appendix 1	Project coversheet
Appendix 2	Risk register
Appendix 3	Finance tables
Appendix 4	Progress to date and technical information
Appendix 5	Traffic impact report
Appendix 6	Design plans
Appendix 7	Communications materials (maps)
Appendix 8	Equalities Impact Analysis and Health Impact Analysis report

Contact

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Options Appraisal Matrix

Option Summary	Option 1	Option 2
1. Brief description of option	Point enforcement approach	Time/distance enforcement approach
2. Scope and exclusions	<ul style="list-style-type: none"> • Introduce a 'point closure' in Beech Street through creating a Zero Emission Zone within the covered roadway area • Enforcement will be through the use of two ANPR cameras at this location and all non-compliant vehicles entering the zone will be subject to a PCN upon entering the zone⁵ • A third camera will be installed at the eastern end of Beech Street, to monitor the loading bay to ensure legitimate loading activity is not penalised • Minor civils works to be undertaken, including: <ul style="list-style-type: none"> ○ Reconfiguring the Beech St/ Silk St junction (to allow right turns from Silk St) ○ A new raised table at the existing zebra crossing (across Beech Street) ○ Closing off the Beech St junctions with Golden Lane and Bridgewater St 	<ul style="list-style-type: none"> • Non-compliant vehicles subject to a PCN if deemed to use Beech St as a through route – this will be determined based on the length of time a vehicle takes to travel through the street • Two ANPR cameras for each direction of travel (i.e. four in total) will monitor activity – e.g. camera 1 detects a non-complaint vehicle entering the ZES, and camera 2 detects the same vehicle leaving the ZES. Should this occur within a short period of time⁶, this would be deemed a violation as the vehicle used the street as a through route without accessing off street premises (as permitted under the ETO) • Minor civils works to be undertaken, including: <ul style="list-style-type: none"> ○ Reconfiguring the Beech St/ Silk St junction (to allow right turns from Silk St) ○ A new raised table at the existing zebra crossing (across Beech Street)

⁵ With the exception of white listed vehicles and those using the loading bay legitimately

⁶ It has been observed on site that vehicles take on average 1 minute 30 seconds, or less to travel through the street

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Option Summary	Option 1	Option 2
	<ul style="list-style-type: none"> ○ Kerb works to remove central reservation at key points within the covered roadway area to allow access/egress at car park and servicing accesses ○ Additional signage at access/egress points (including within the Barbican car parks) to ensure drivers are made aware of the allowed movements ○ Installation of coloured surfacing at either end of the restricted zone as well as at either end of Beech St, to help define the ZES 	<ul style="list-style-type: none"> ○ Closing off the Beech St junctions with Golden Lane and Bridgewater St
Project Planning		
3. Programme and key dates	<p>With TMAN approval expected in late December:</p> <ul style="list-style-type: none"> • Jan–April 2020: Awareness campaign • Feb–Mar 2020: Implementation/construction • Mar 2020 – Go Live • Sep 2020 (6 months after Go Live) – statutory consultation period ends • Sep–Dec 2020: data/evidence gathering and reporting • Sep–Oct 2020: Public realm design • Dec 2020: Issues report to Committees 	

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Option Summary	Option 1	Option 2
4. Risk implications	<p>Overall project option risk: Medium</p> <ul style="list-style-type: none"> • As per discussion in Section 6 in the main body of the report • Lack of understanding of the change in traffic behaviour, resulting in drivers entering the new zone by mistake (especially visitors to the Barbican Centre) 	<p>Overall project option risk: Medium</p> <ul style="list-style-type: none"> • As per discussion in Section 6 in the main body of the report
5. Stakeholders and consultees	<ul style="list-style-type: none"> • Other teams within DBE • Other departments within the City Corporation (Barbican, Chamberlain's, City Police, Comptroller and City Solicitor's, Town Clerk's) • Transport for London • Islington Council • Greater London Authority • Road user groups • Local residents and businesses 	
6. Benefits of option	<ul style="list-style-type: none"> • The creation of a 'zone' for use by compliant ZEVs only will result in less ambiguity when enforcing – i.e. vehicles do not have to be monitored for accessing off street premises (or not) • This signifies a less complicated enforcement process and as a result: <ul style="list-style-type: none"> ○ less staff time will be spent on processing PCNs ○ less staff required in general ○ more cost-efficient way of managing the enforcement process 	<ul style="list-style-type: none"> • Users of the street, including visitors to the Barbican Centre and Barbican residents, will be able to continue to use the street as before

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Option Summary	Option 1	Option 2
<p>7. Disbenefits of option</p>	<ul style="list-style-type: none"> • Introduces a driver behavioural change with non-compliant vehicles having to enter and leave Beech Street from the same direction, when accessing the car parks and servicing areas off Beech Street, as detailed below: <ul style="list-style-type: none"> ○ On-street loading bay in Beech St – vehicles exempted/whitelisted with access/egress from/to the east allowed (no change) ○ Barbican Centre car park – access from the east (as before) / egress to the east, by executing a right turn out of the car park (change) ○ Barbican Estate refuse bay – vehicles exempted/whitelisted with access/egress from/to the east allowed (no change) ○ Barbican residents' car parks (Shakespeare Tower and Defoe House) – access from the west, by executing a right turn into the car park (change) / egress to the east (as before) ○ Lauderdale Tower reception and Barbican Estate Office – access from the west, by executing a right turn into Lauderdale Place (change) / egress to the east (as before) 	<ul style="list-style-type: none"> • More complicated enforcement process. Although the timing (of vehicles travelling along the street) can be programmed between the two ANPR cameras, the two images will need to be manually verified and checked by enforcement staff, before a PCN is generate. This will result in: <ul style="list-style-type: none"> ○ More staff required ○ Longer processing time ○ Creation of a large white list of exempted vehicles

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Option Summary	Option 1	Option 2
	<ul style="list-style-type: none"> ○ Barbican Trade Centre – access from the west (as before) / egress to the east, by executing a right turn (change) • These changes may: <ul style="list-style-type: none"> ○ result in objections from regular users (such as residents) ○ cause confusion for regular users in the initial stages of the scheme 	
Resource Implications		
8. Total estimated cost	<ul style="list-style-type: none"> • £994,183 • Fairly confident 	<ul style="list-style-type: none"> • £939,565 • Fairly confident
9. Funding strategy	<ul style="list-style-type: none"> • DBE Community Infrastructure Levy (CIL) • MAQF Round 2 funding from GLA • Initial Saba costs, i.e. during the scheme mobilisation phase, will be funded through the On-Street Parking Reserve (OSPR). It is expected that the ongoing enforcement costs will be covered by the income received from Penalty Charge Notices (PCNs) issued to vehicles contravening the traffic order 	
10. Investment appraisal	N/a	
11. Estimated capital value/return	N/a	
12. Ongoing revenue implications	<ul style="list-style-type: none"> • This option is deemed simpler to enforce and is therefore expected to be more cost efficient due to a lower number of staff required 	<ul style="list-style-type: none"> • This approach to enforcement will be more labour intensive and as such more staff will be needed

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Option Summary	Option 1	Option 2
	<ul style="list-style-type: none"> The ongoing staff costs is however expected to be covered by revenue generated through PCNs 	<ul style="list-style-type: none"> The ongoing staff costs is however expected to be covered by revenue generated through PCNs
13. Affordability	N/a	
14. Legal implications	<p>The project team have taken legal advice from the Comptroller and City Solicitor team regarding:</p> <ul style="list-style-type: none"> The City's powers as Traffic Authority to make the ETO Scope to make minor variations to the ETO Objections to the ETO from other authorities <p>The advice is that the City is acting within its authority under the Road Traffic Regulation Act 1984, the Environment Act 1995 and Local Authorities' Traffic Orders (Procedure) (England and Wales) Regulations 1996 as well as Local Air Quality Management (LAQM) legislation</p> <p>To ensure there is no ambiguity with regards the above independent legal advice has also been sought from Legal Counsel.</p>	
15. Corporate property implications	None	
16. Traffic implications	<ul style="list-style-type: none"> Similar to Option 2, with the following additional considerations: <ul style="list-style-type: none"> A behavioural change is needed due to the 'no through road' for non-compliant vehicles – traffic accessing the car parks and servicing areas off Beech Street will be entering and leaving Beech Street form the same direction 	<ul style="list-style-type: none"> Current traffic levels along Beech Street number - ~9,500 vehicles (24 hrs) for the average weekday ZEVs are estimated at ~2-4% of all traffic (approx. 190-380 vehicles), with non-compliant movements estimated at 200-300 per day This means ~ 9,000 vehicles will be displaced to the surrounding road network

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Option Summary	Option 1	Option 2
	<ul style="list-style-type: none"> ○ Right turn movements to/from the accesses will need to be executed – this will be facilitated through removing the central reservation at the access points 	<ul style="list-style-type: none"> • Greatest traffic increases are forecast along London Wall and the north–south routes either side of Beech St (Goswell Rd/Aldersgate St and Finsbury Pavement/Moorgate) • Local streets in the City are also predicted to take extra traffic (Wood St – Fore St – Moor Lane – Silk St – Milton St) • Minor increase along local roads in Islington also expected – i.e. Bunhill Row, Banner St and Golden La • Estimate that journey times for residents and businesses approaching (from the west) the Bunhill Ward area south of Old Street will increase due to the length of the diversion route via Aldersgate Street, London Wall, Moorgate and Chiswell Street
17. Sustainability and energy implications	Improve air quality	
18. IS implications	None	
19. Equality Impact Assessment	An independent Equalities Impact Assessment has been undertaken and a copy of the EqIA report is included in Appendix 8. The EqIA identified that the proposals could have the potential to negatively impact certain groups of people, particularly those aged over 65, with disabilities, with infants and/or in pregnancy and maternity:	

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Option Summary	Option 1	Option 2
	<ul style="list-style-type: none"> • given the existing narrow and uncomfortable environment and the anticipated increase in pedestrian and bicycle traffic during peak times, this could affect those who use mobility aids or buggies. It could make manoeuvring more difficult and users could be more fearful of the street • issues could also arise should access for essential support be limited by the blocked-off roads and alternative routes have to be taken (e.g. vehicles belonging to district nurses, doctors and carers) • in addition, the reduced traffic along Beech Street is likely to reduce the number of 'eyes on the street' at quieter times of the day and could therefore increase crime and fear of crime. This could have a negative impact on the above groups in addition to residents and users of Beech Street from non-white backgrounds, minority religious groups, females and/or people from the LGBTQ community <p>The above issues are not perceived as being contentious, nonetheless these will be observed during the monitoring period.</p> <p>A number of positive impacts have also been identified in the EqlA, as well as HIA, including the improvements in air quality and pedestrian amenity.</p>	
20. Data Protection Impact Assessment	A Privacy Impact Assessment will be carried out in respect of the proposed use of ANPR cameras, by the specialist supplier (Siemens).	
21. Human Rights Impacts	<p>Consideration has been given to the potential interference with the right to enjoyment of property and right to life due to worsened air quality in some areas.</p> <p>The impacts will be mitigated by proposed traffic restrictions to routes through key residential areas. The remaining impacts are considered to be justified by the air quality improvements</p>	
22. Recommendation	Recommended	Not recommended

Appendix 1: Project coversheet

Appendix 2: Risk register

Appendix 3: Finance tables

Table 1: Evaluation budget (16800068) – Expenditure to date

Beech Street Transport and Public Realm Improvements			
Description	Approved Budget (£)	Expenditure (£)	Balance (£)
PreEv P&T Staff Costs	13,500	13,500	–
PreEv Fees	15,000	15,000	–
DBE Structures Staff Costs	18,402	–	555,577
Env Servs Staff Costs	69,280	5,211	64,069
P&T Staff Costs	851,544	329,447	522,097
P&T Fees	777,636	222,059	555,577
TOTAL	1,745,362	585,217	1,160,145

Table 2: Budget adjustment

Beech Street Transport and Public Realm Improvements			
Description	Approved budget (£)	Adjustment (£)	Revised Budget (£)
<i>Evaluation budget (16800068)</i>			
PreEv P&T Staff Costs	13,500	–	13,500
PreEv Fees	15,000	–	15,000
DBE Structures Staff Costs	18,402	-16,902	1,500
Env Servs Staff Costs	69,280	-58,781	10,499
P&T Staff Costs	851,544	-498,500	353,044
P&T Fees	777,636	-545,000	232,636
Sub-totals 1	1,745,362	-1,119,183	626,179
<i>Interim Scheme implementation budget</i>			
Env Servs Staff Costs	–	71,016	71,016
P&T Staff Costs	–	337,532	337,532
Fees	–	185,500	185,500
Works	–	245,135	245,135
Utilities	–	75,000	75,000
Costed risk	–	125,000	125,000
Islington Contribution	–	80,000	80,000
Sub-totals 2	–	1,119,183	1,119,183
TOTAL	1,745,362	-	1,745,362

Appendix 4: Progress to date and technical information

Baseline study

1. A comprehensive baseline study has been undertaken on the existing conditions in Beech Street and the wider study area. The baseline report contains information on the history of Beech Street, various assessments as well as present data collected over the last year or so, including traffic movements, public transport air quality, noise, collisions and the public realm. The baseline study will be used as a reference point to compare the effects as a result of any changes.

Traffic and statutory approvals

2. The team continue to liaise with Transport for London (TfL) and Islington Council on obtaining the necessary approvals via the TMAN process.
3. Strategic traffic modelling was completed in November 2019, with significant traffic displacement forecast on the surrounding road network including Aldersgate Street/Goswell Road, London Wall, Moorgate, Finsbury Park/Finsbury Pavement and Old Street, as a result of the two-way Zero Emission restrictions. A traffic impact report has been completed, based on the strategic modelling outputs, and included in Appendix 4.
4. Additional traffic is also expected on local roads, in particular in Islington along Bunhill Row, Banner Street and Fortune Street. Traffic is also predicted to increase along Moor Lane.
5. Under the proposed zero emission restrictions, bus 153 – the only route servicing Beech Street – will continue to use the street as before as the 153 fleet is electric and therefore compliant.
6. The displaced traffic is expected to affect bus journey times of services in the immediate vicinity, including route no's 4, 56, 76 and 100.
7. A monitoring strategy has been developed in consultation with TfL and Islington Council, for the purposes of checking the effects of the scheme during the initial stage (i.e. until a decision has been made to make the scheme permanent) and respond/mitigate as necessary
8. Traffic (flow) along the affected streets, as well as bus journey times will be monitored during the monitoring period.
9. An audit of all relevant signage in the study area was undertaken to understand the requirements for providing advanced information to drivers and direct traffic accordingly.
10. A new sign to enforce the scheme was approved by the Department for Transport (DfT) in September 2019 – a copy is included in Appendix 5.

Air quality

11. A specialist consultancy was appointed to undertake air quality modelling and this task was completed in September 2019. The air quality modelling is based on traffic data collected as part of the baseline and the strategic traffic modelling outputs.

12. Under the two-way ZES scenario, air quality is set to improve significantly along Beech Street with some minor improvements also expected in the immediate vicinity. Conversely, some worsening of air quality is expected on the surrounding road network as a result of traffic being reassigned. The locations of the modelled air quality receptors are shown in Figure 1, with results presented in Table 1.

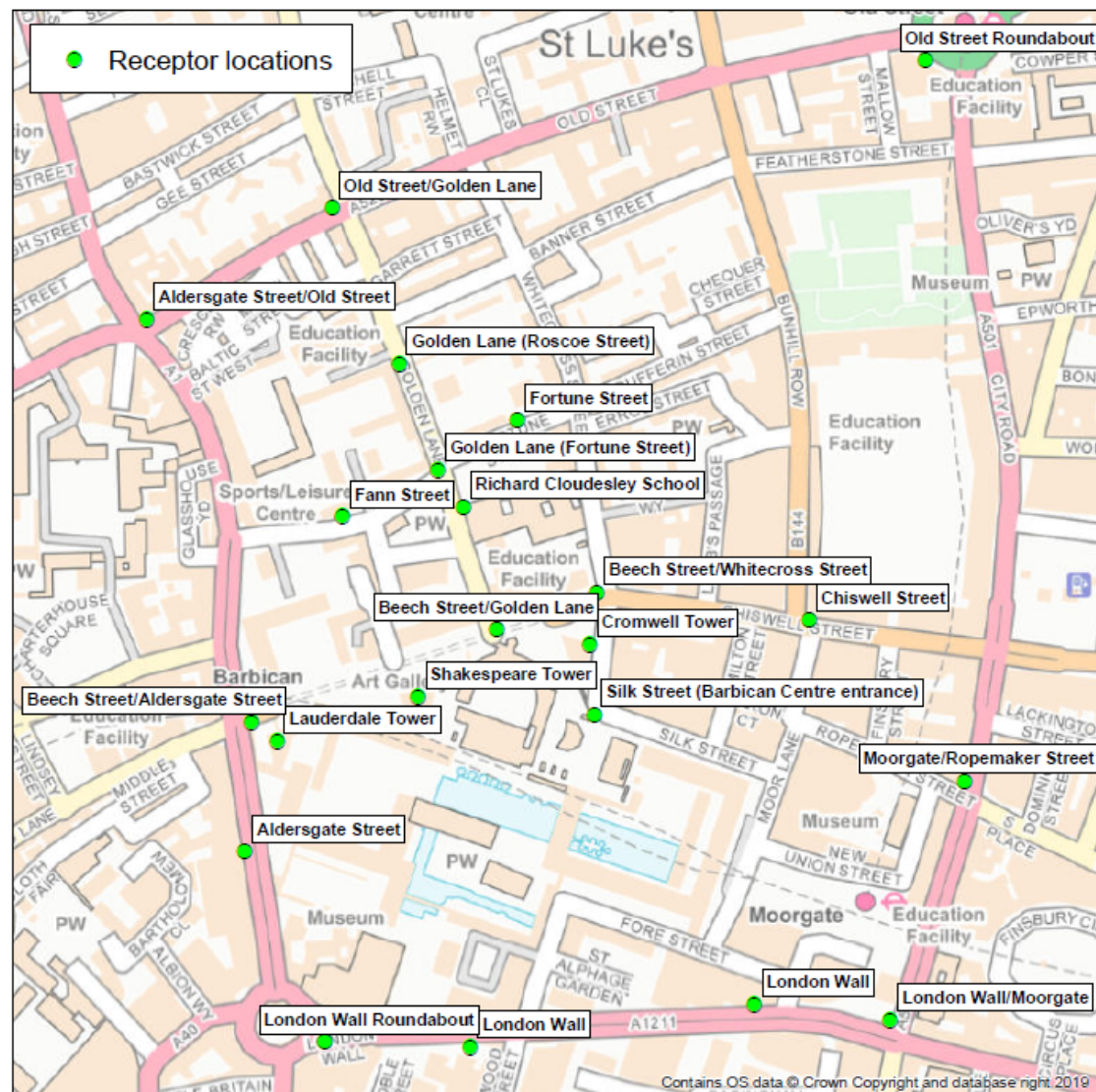


Figure 1: Air quality receptor locations

Table 1: Modelled annual average concentrations at receptor locations

Receptor name	2021 Baseline	Two-way ZES	
	Concentration (µg/m³)	Concentration (µg/m³)	Change (%)
Aldersgate St/Old St	41.6	45.6	10%
Old St/Golden Ln	40.9	45	10%
Old St Roundabout	34.8	34.6	-1%
Golden Ln (Roscoe St)	32	33.8	6%
Golden Ln (Fortune St)	30.9	29.9	-3%
Fortune St	29.6	30	2%
Richard Cloudesley Sch	28.8	28.6	-1%
Beech St Whitecross St	50.4	29.3	-42%
Beech St/Golden Ln	54.9	33.3	-39%
Beech St/Aldersgate St	52.7	31.6	-40%
Silk St (Barbican entrance)	31.2	35.2	13%
London Wall Roundabout	46.6	51.3	10%
Aldersgate St	45.4	45.4	0%
London Wall	29.8	29.9	1%
London Wall	39.7	43.7	10%
London Wall/Moorgate	44.6	45.5	2%
Moorgate/Ropemaker St	43.2	46.7	8%
Chiswell St	40.6	36	-11%
Fann St	29.3	29.2	0%
Lauderdale Tower	32.6	30.5	-6%
Shakespeare Tower	30.1	29.1	-3%
Cromwell Tower	29.5	28.7	-3%

Design and layout

13. Only ZEVs will be allowed to use Beech Street as a through road and a 'point' enforcement approach has been taken to managing the ZES, by creating a zone within the covered roadway where enforcement will take place.
14. The accesses to the existing car parks and servicing areas (e.g. the Barbican Trade Centre and Lauderdale Place) falls outside of this zone, ensuring non-compliant vehicles may continue to use these. To allow for this the central reservation will be amended to accommodate right turn movements to/from the various accesses – essentially this means a behavioural change that will result in the entry and exit movements to/from Beech Street are from the same direction (i.e. either east or west).
15. A new sign to enforce the scheme has been approved by DfT and these will be installed at the enforcement point, as well as at either end of Beech Street – a copy of the sign is included in Appendix 6. Advanced warning signs will also be installed in the wider area, both for information purposes and to

guide drivers. All of the signs will be able to be covered up if needed, e.g. if Beech Street would need to be reopened to all traffic under an emergency diversion scenario.

16. Currently, the right turn movement (for northbound vehicles) is prohibited from Silk Street into Chiswell Street and instead vehicles execute a left turn, entering Beech Street and continue their journey in the westbound direction.
17. So as to avoid non-compliant vehicles entering the ZES various options for removing the right turn ban were explored, including the introduction of a mini roundabout and changing priorities at the junction. However, these changes will result in cyclists (travelling in an east-west direction) coming into conflict with vehicles and was therefore dismissed as a safe choice.
18. A stage 1/2 road safety audit will be carried out on the final layout to ensure safety of all road users have been taken into consideration.

Enforcement

19. Siemens was appointed in October 2019 as the City's preferred supplier for ANPR cameras and will also be used to supply the required technology for this scheme.
20. The project team has been working closely with other teams and departments, as well as Siemens and Saba (who will be supplying resources to enforce the scheme), in establishing an enforcement regime.
21. A grace period will apply after the scheme goes live, where warning letters will be sent to those who contravene the restrictions, in lieu of PCNs.
22. A 'whitelist' will be developed that will include details of non-compliant vehicles that will be exempt from the restrictions.

Legal

23. As previously reported, progressing a closure or restrictions on Beech Street without the necessary approvals in place, are not recommended due to the requirements of the decision-making framework, for the following reasons:
 - a. A full or partial closure of Beech Street will require a traffic order, which must be consulted on. Neighbouring authorities likely to be affected must be consulted. Objections from all stakeholders must be carefully evaluated (sometimes involving an Inquiry)
 - b. In making traffic orders and carrying out its traffic authority responsibilities, the City Corporation has duties to secure the expeditious, safe and convenient movement of traffic (having regard to effect on amenities) (S.122 Road Traffic Regulation Act 1984), and to secure the efficient use of the road network, avoiding congestion and disruption (S.16 Traffic Management Act 2004). These duties require the impacts of proposals to be fully understood and mitigated. The TMAN process has been put in place by TfL to ensure that the impacts on traffic movements on strategic roads can be properly assessed, and therefore that the decision-making process is robust.
 - c. Officers do not recommend proceeding with implementing any form of vehicle restriction before completing the TMAN process, as successful

completion of this process helps to ensure compliance with the traffic authority duties outlined above.

24. Independent legal (Counsel) opinion on the scheme proposals have been sought to ensure there is a high degree of certainty that the City is acting within its statutory powers, with the following reviewed: the traffic order; Gateway Reports; and the advice given by the Comptroller and City Solicitors team.

Public Realm and Culture Mile considerations

25. Introducing the ZES will limit the scope for public realm improvements, as the street layout will not change under this scenario.
26. A workshop with Culture Mile partners were held in September to gather views on conceivable public realm interventions for Beech Street as result of the Interim Scheme.
27. A specialist consultant will be appointed during the initial phase (i.e. the experimental period) of the Interim Scheme to engage with stakeholders and the wider public to gather views on the ZES changes and the future possibilities of this street and how this relates to the wider Culture Mile aspirations. The costs associated with this will be limited to ~£50,000 to save on potentially abortive spending.
28. Should the decision be taken to make the ZES permanent, more extensive public realm interventions will be introduced, using the outcomes from the above engagement process.
29. The proposed changes will be reported back to Members via the Issues report planned for later in 2020.

Engagement

30. A number of face-to-face meetings were held with representatives from the taxi trade and private hire trade. Views on the scheme and input to the monitoring process were sought as part of this process. It is intended to continue to liaise with these and other groups, including the freight industry, going forward.
31. Street user perception surveys were completed in August 2019. The surveys collected views on how various individuals/groups use and perceive Beech Street in its current form. The surveys also sought information on possible changes/improvements that individuals would like to see in the area. The results have been included in the baseline report.

Other

32. An Equalities Impact Analysis (EqIA) and Health Impact Analysis (HIA) was completed by an independent consultant in November 2019, with the results incorporated into the final design. A copy of the EqIA and HIA report is included in Appendix 8.
33. A graphic design specialist was appointed to create a series of maps that will assist in communicating the scheme – these are included in Appendix 6.

Appendix 5: Traffic impact report

Appendix 6: Design plans

Appendix 7: Communications materials (maps)

Appendix 8: Equalities Impact Analysis and Health Impact Analysis report