

Committee	Dated:
Port Health and Environmental Services Committee Streets & Walkways Sub Committee	22 May 2018 21 May 2018
Subject: Low Emission Neighbourhood (LEN): proposals for an ultra-low emission street in Moor Lane & Beech Street	Public
Report of: Director of Built Environment Director of Markets and Consumer Protection	For Decision
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Summary

At the Port Health and Environmental Services Committee meeting on the 6th March 2018 the recommendation of progressing an 'Ultra Low Emission Vehicle (ULEV) Only' scheme in Moor Lane was not supported. The consensus among Members was that they could not support any proposal that did not include action to tackle air pollution in Beech Street.

Officers were tasked with looking again at how improvements in air quality in Beech Street can be delivered at the earliest opportunity. A subsequent meeting was convened between the Chairmen of the Planning & Transportation, Port Health & Environmental Services, and Policy & Resources Committees, together with the Chief Officers and Service Directors of the Department of the Built Environment, and the Department of Markets and Consumer Protection to consider and determine the approach to tackling air quality in Beech Street and its environs.

The successful implementation of a road closure, or 'ULEV Only' street, in Beech Street has been assessed as taking up to 2 years to deliver. It will require negotiations with Transport for London (TfL) and LB Islington, whose road network would be impacted by any decision to reduce traffic in Beech Street. Low Emission Neighbourhood (LEN) funding is only available until March 2019 and the Greater London Authority has confirmed that a time extension would not be granted and that the LEN programme should be completed by April 2019. Therefore, any decision to recommend officers work to deliver a 'ULEV' only restriction in Beech Street could not be delivered within the life of the LEN. To avoid returning funding, officers believe that the best use of the LEN funding will be to trial the 'ULEV Only' concept in a smaller less trafficked street, where traffic displacement will be limited, and which could be delivered by April 2019. This report therefore recommends that a decision to introduce a 'ULEV' only restriction in Moor Lane is reconsidered. This would deliver important learning in relation to enforcement and ongoing revenue costs. At the end of the 12 months, the 'ULEV Only' pilot project will be assessed to determine whether it can be considered a success, and whether it is suitable to be scaled up for application in Beech Street, or on an area wide basis. Both the Greater London Authority (GLA) and TfL have accepted that Moor Lane would be an acceptable alternative scheme to meet the requirements of the LEN grant.

This report also seeks to set out proposals to significantly improve air quality in Beech Street as instructed by this committee. The report advises that a Gateway 3 report is currently being prepared, recommending that officers commence work immediately to restrict Beech Street to westbound traffic only. The report will also recommend that such westbound traffic be limited to 'ULEZ' compliant vehicles only. The impact of this change would be significant on City traffic, the TfL network and on LB Islington's network. If this is achievable it is estimated that this work will take 18-24 months.

Recommendation

This committee is requested to

- 1 Agree that a Moor Lane 'ULEV Only' scheme be delivered by April 2019 using LEN funding.
- 2 Agree a further report be received by this committee setting out the findings of the Moor Lane trial scheme following 12 months of its operation.
- 3 Support the proposals set out for reducing traffic in Beech Street and improving its air quality.

Main Report

Background

1. In July 2016, the Mayor of London awarded the City of London Corporation £990,000 over three years to implement a Low Emission Neighbourhood (LEN) in the Square Mile. The project formally commenced in September 2016 and needs to be completed by March 2019. In the final 12 months of the LEN project £265,000 is available from the Mayor's Air Quality Fund (MAQF) to be spent alongside £100,000 Local Implementation Plan (LIP) allocation. The GLA has confirmed that this funding cannot be carried over into the 2019/20 financial year and the LEN project must be completed by April 2019.
2. Several small projects have been successfully delivered within the LEN. However, the funding was awarded to the City Corporation on the basis that there would be a 'transformational' element to the scheme. The original intention outlined in the bid document that was approved by both the Port Health and Environmental Services and Planning and Transportation Committees was to improve air quality in Beech Street, and support the introduction of zero emission taxis, by delivering a scheme based on an Ultra-Low Emission Vehicle (ULEV) traffic restriction.
3. Beech Street was chosen due to the high levels of pollution resulting from the covered roadway and the local concerns about air quality in the vicinity. As many

taxis use Beech Street, restricting access to the new zero emission (range extended) taxi was expected to provide an additional incentive for taxi drivers to purchase or lease the new taxi.

4. Ultra-Low Emission Vehicles (ULEVs) is the term used to describe any vehicle that emits less than 75g of CO₂/km from the tailpipe and can operate in zero tailpipe emission mode. ULEVs range from pure electric vehicles, to plug-in hybrids and extended range electric vehicles. A full definition can be found in the Appendix B.
5. In 2017, the annual average nitrogen dioxide concentration in Beech Street was 80 µg/m³. This is a slight reduction from 2016 when it was 85 µg/m³, and 2015 when it was 89 µg/m³. The WHO and EU set threshold limits of 40µg/m³ of nitrogen dioxide as the maximum concentration that any location anywhere in the City be can before human health is impacted.
6. Last year a comprehensive feasibility study was undertaken to assess the impact of different traffic restriction scenarios to improve air quality in Beech Street. It revealed that only two traffic restriction scenarios would result in the necessary reductions in annual average concentrations of nitrogen dioxide to 40 µg/m³. The two scenarios are:
 - a) ULEV only, full two-way access restriction (only with vehicles operating in zero emission mode)
 - b) ULEV only, one-way westbound (no eastbound traffic).
7. A number of other traffic restriction scenarios were considered, however these scenarios wouldn't deliver the required reduction in levels of nitrogen dioxide. These scenarios included:
 - a) No diesel vehicles, full two-way ban on diesel vehicles
 - b) One-way westbound general traffic only (eastbound closure)
 - c) ULEV only, two-way between Aldersgate and Golden Lane
8. Separate forecasting of the potential uptake of ULEVs has estimated that ULEVs will make-up 20% of all motorised traffic in the City of London by 2020-21. This would suggest that currently 80% of motorised vehicles would be restricted if a full two-way ULEV restriction was introduced in Beech Street. It should be noted that these forecasts do not take into consideration the potential impact that such a scheme would have on the uptake of ULEVs amongst drivers and vehicle fleets operating in the City of London. As such the proportion of ULEVs operating in the City could potentially be higher than 20% by 2020.
9. Traffic modelling of a full two-way ULEV only scheme demonstrated that the traffic displacement impact would be significant and wider ranging than, for example, the current Bank Junction scheme. The model identified traffic impacts on the road networks in neighbouring boroughs and on TfL managed routes. Given these issues, together with the evolving proposals for the Cultural Mile and the Centre for Music, it became clear that delivery of a ULEV only traffic restriction in Beech Street would not be deliverable within the life of the LEN programme. The experience of the Bank scheme is that to get to the point of introducing a scheme

in Beech Street (assuming this could be agreed given the likely impact on congestion and on neighbouring boroughs) would take around 2 years.

10. Comprehensive monitoring of the impact on the City's road network resulting from the closure of Beech Street for the OpenFest event (14-18 March 2018) has been undertaken and the results will be reported once analysis has been completed.
11. As set out above, officers have sought a time extension for the LEN related work but the GLA has confirmed that the funding cannot be carried over and it is not possible to deliver the Beech Street improvements within the life of the scheme. Given this situation, officers considered alternative sites for comparable schemes. Moor Lane was deemed the most appropriate substitute location to implement ULEV only traffic restrictions in the LEN area. The key reasons for selecting Moor Lane is that it has a high proportion of taxis passing through and the impact of traffic displacement and likely congestion would be substantially smaller than Beech Street. Consequently, only limited traffic analysis would be required. Officers consider that a scheme in Moor Lane can realistically be delivered by April 2019. Both the GLA and TfL have accepted that Moor Lane would be an acceptable alternative scheme to meet the requirements of the LEN grant.
12. In 2017 the annual average nitrogen dioxide concentration in adjacent Fore Street was $41\mu\text{g}/\text{m}^3$ and in Silk Street, $42\mu\text{g}/\text{m}^3$. Although monitoring doesn't take place in Moor Lane itself, the air quality will be very similar. A ULEV scheme in Moor Lane will not deliver the same air quality benefits as the proposed scheme in Beech Street and will not fulfil all of the original aims of the LEN. However, it would still have significant benefit by trialing the concept and effectiveness of a 'ULEV Only' street, and, helping resolve the issue of effective signage and provide a good understanding of the costs of enforcement. It will also provide an incentive for the uptake of zero emission capable taxis and raise awareness and familiarity of the 'ULEV Only' signage amongst drivers in advance of its potential wider rollout.
13. The proposal to implement a 'ULEV Only' scheme in Moor Lane rather than Beech Street was presented to Members of the Port Health and Environmental Services Committee in March 2018. The consensus among members was that they could not support any proposal that did not include action to tackle air pollution in Beech Street. It is therefore suggested that officers be authorised to proceed with the Moor Lane scheme and to bring back proposals in relation to how Beech Street air quality might also be improved.

Culture Mile – Beech Street transformation

14. The Cultural Mile programme team is progressing proposals that will result in the transformation of Beech Street. These proposals include traffic restrictions to enable an improved public realm and pedestrian conditions. A Gateway 3 report is currently being prepared that will be recommending to Members that a scheme be developed that moves Beech Street to being reduced to just one lane, with the northern footway built out to facilitate pedestrian movement and public realm enhancements. This would deliver significant traffic reduction as well as improving air quality. The Exhibition Halls in Beech Street are due to be redeveloped and are expected to be reopened in their new guise in Summer 2021. The intention is that

any transformational highway and public realm improvements in Beech Street will need to be delivered by this date.

15. The timescale for the wider Beech Street work is beyond that of the LEN project. However, the LEN project complements the Culture Mile proposals and vice versa. Given a successful pilot scheme, it may be possible to introduce a ULEV restriction prior to the final one-way traffic scheme, which it is targeted to be introduced in Summer 2021. The intention is that this would coincide with the likely completion of the proposed transformation of Beech Street, which the Gateway 3 report will indicate should be due Summer 2021. The phased approach is described in paragraph 26.
16. The public realm building works are expected to take 12-15 months and this will be informed by the results of radar surveys of the highway which will be commissioned shortly. It is considered likely that structural difficulties will be found through these surveys necessitating building works to commence by Summer 2020, or even earlier. This means there may be very limited opportunity to introduce any directional 'ULEV Only' scheme before the building works commence and hence before the opening of the Exhibition Halls. Any such opportunity would only be for a very short period e.g. 3-6 months before it would have to be taken out to facilitate the carriage way improvements associated with the Beech Street improvements. Once costs are better defined a decision will be needed on the cost benefit of seeking to deliver an east bound directional ULEV before the highway building works commence.

Financial Implications

17. The City Corporation has been awarded £900,000 over three years to for the Low Emission Neighbourhood programme. This has been matched by the City Corporation from a variety of sources such as Local Implementation Plan money, department underspend, City businesses, Transport for London, staff time and Planning obligations under Section 106 of the Town and Country Planning Act 1990.
18. Transport for London has approved the alteration to the original programme to consider Moor Lane as a ULEV only street rather than Beech Street. Consequently, the City Corporation will still receive the allocated funding for the third and final year of the LEN project.
19. Should Moor Lane become a ULEV only street in early 2019, the operation costs for the first year would be covered by the LEN funding. The scheme would then be assessed to consider whether it should be continued given its cost, local impact and effectiveness.
20. The costs of the improvements to Beech Street are currently being assessed and are not covered within this report.

Corporate & Strategic Implications

21. The LEN project supports the aims and objectives of the City of London Air Quality Strategy 2015–2020, in addition to many other corporate policies and strategies. It also goes towards addressing air quality, which has been identified as a corporate risk.
22. It supports two key Corporate Plan outcomes:
 - a. 'People enjoy good health and wellbeing'
 - b. 'We have clean air, land and water.....'

Conclusion

23. It is recognised that any recommended proposals will need to include action to tackle air pollution in Beech Street, whilst minimising the impact of traffic displacement both within the City and in neighbouring boroughs.
24. The recommendation is that Moor Lane 'ULEV Only' scheme is given approval to proceed as a concept/pilot project to be delivered by April 2019 using LEN funding and be a forerunner to a larger scale scheme in Beech Street as part of the new scheme being delivered in Summer 2021.
25. Subject to the outcome of the Moor Lane pilot project, it is recommended that the following phased approach to reducing traffic volumes, improving air quality and the public realm in Beech Street is progressed. Appendix C provides further information.
26. Proposed phased approach:
 - Phase 1a – Moor Lane ULEV only
 - Phase 1b - Beech Street engagement & feasibility – *project initiation subject to results of monitoring of the OpenFest closure*
 - Phase 2 - Beech Street; Directional eastbound ULEV Only (westbound remains open to all traffic) – *subject to outcome of the Moor Lane pilot project and timescales of the Exhibition Hall construction and footway buildout and discussions with TfL and neighbouring boroughs and the resultant cost benefit analysis.*
 - Phase 3 - Beech Street; northern footway buildout and completion of public realm improvements westbound only, all traffic.
 - Phase 4 - Beech Street; including westbound ULEV only, if found to be viable.
27. Closing the eastbound lane to traffic and making Beech Street westbound only (to all motor vehicles) will result in significantly reduced traffic flows (at least 40% reduction). However, on its own it will not result in an acceptable improvement in air quality unless the westbound lane is also restricted to ULEV vehicles only. As such the final phase of the Beech Street transformation programme is recommended to include making it ULEV Only westbound if this is found to be

viable without causing unacceptable traffic disruption both in the City and within LB Islington.

Appendices:

Appendix A - Moor Lane benefits table

Appendix B - Definition of ULEVs

Appendix C - Moor Lane and Beech Street: further information

Appendix A - Moor Lane – Objectives, benefits & risks

Phase	Description	Objectives / benefits	Risks
1a	Moor Lane ULEV Only access restriction	• Meet the requirements of the GLA grant funding within the next 12 months • Pilot the concept of a ULEV only scheme to act as a forerunner to larger scheme in Beech Street • Increase familiarity of ULEV Only signage amongst drivers • Incentivise uptake of electric taxis • Help to understand anticipated levels of compliance and expected uptake of ULEVs • Futureproof Moor Lane for any potential traffic displacement from Beech Street • City Corporation seen as pioneering initiatives to tackle air pollution retaining reputation as one of the leading local authorities in London.	• Limited impact on air quality in immediate vicinity • Pilot scheme considered a failure and no rollout • Low compliance amongst drivers • Resident and stakeholder concern and disquiet that the City Corporation is not doing enough to tackle traffic-based air pollution. • Low uptake of zero emission capable vehicles and ULEVs amongst taxi drivers, private hire drivers, businesses and local residents resulting in continuing poor air pollution in the City of London.

Appendix B – Definition of ULEVs

There are four different types of ultra-low emission electric vehicles:

- Pure electric vehicles (EVs) – wholly electric vehicles powered by a battery. Currently most manufacturers offer pure electric cars with a range up to 100 miles or more.
- Plug-in hybrid electric vehicles (PHEVs) – battery range in excess of ten miles. After the battery range is utilised, the vehicle reverts to conventional hybrid operation (utilising both battery power and Internal Combustion Engine (ICE)).
- Extended-Range electric vehicles (E-REVs) – similar to BEVs but typically with a shorter pure electric range of around 40 miles-100 miles, range is extended by an ICE on-board generator providing many additional miles of mobility. With an E-REV, the propulsion technology is always electric, unlike a PHEV where the propulsion technology can be electric or hybrid.
- Fuel cell electric vehicles (FCEVs), with zero emission at the tailpipe, can become a key part of the portfolio of technologies to help deliver a cleaner environment and improved air quality. FCEVs are relatively new to the UK market, with the first models only arriving in autumn 2014.