

Committee(s):	Date(s):
Streets and Walkways Sub Committee	30 November 2015
Subject: Major Highway Works for 2016	Public
Report of: Director of the Built Environment	For Information

Summary

As predicted in last year's report, the volume of activity taking place in the Square Mile has placed increasing demands on the City's highway network. In particular, the sheer scale of projects such as Cycle Super Highway, Crossrail and Bank Northern Line upgrade means that long-term co-ordination of projects is necessary to keep the City moving.

In addition, the City currently has the largest volume of building development taking place since 2008, and although this is traditionally the sign of a thriving Square Mile, this activity brings with it a need for road space, a reduction in network capacity and additional heavy vehicle traffic. By contrast, the volume of utility street works continues to fall, and is now more than 30% below its pre-Olympic peak in 2011.

The City has a statutory responsibility to minimise disruption as part of its Network Management Duty, and so officers will continue to work to ensure the co-operation of major project sponsors, utility companies and developers in co-ordinating their works and minimising disruption. The key objectives remain:

- balancing the need to keep projects on track with the need to minimise congestion and limit the impact on traffic and pedestrians (especially vulnerable road users);
- ensuring the needs of the City's wider stakeholders (ie businesses, residents and visitors) are also considered;
- maximising the opportunity to combine works together to minimise their overall impact;
- working with Transport for London and our neighbouring authorities to ensure the needs of the wider transport network are considered.

Key to that effort remains:

- the close level of contact established by officers with individual utilities, developments and projects;
- the ability of officers to find, influence and negotiate innovative solutions to construction problems and programmes with contractors;
- understanding, programming and managing the City's own long-term programme of projects;
- continuing the development of the City's various communication

channels through which upcoming activities are publicised.

Recommendation(s)

Members are recommended to receive this report.

Main Report

Background

1. The Highways team within the Transportation and Public Realm Division of the Department of the Built Environment is tasked with co-ordinating all major activities on the highway, and has officers involved in negotiating, approving and facilitating the extent and timing of:
 - All road closures and diversions
 - Major building site operations, including mobile crane works
 - Special events, including the Lord Mayor's Show
 - Street works by utilities
 - Major street scene and transportation projects by the City
 - Resurfacing & highway repairs by the City's term contractor, JB Riney
 - Works by major transport infrastructure providers, such as Crossrail
 - Works by TfL on the 'Red Routes', and by the City's neighbouring authorities on the City fringe
 - Large scale deliveries and building removals through the parking 'dispensation' system
 - Large film shoots and outside broadcasts
 - Parking bay suspensions
2. To deliver this function, officers have well-established links with the City's Environmental Health and Highway Structure teams, the emergency services, Transport for London and other key City stakeholders so that information can be shared, co-ordinated and publicised to the general public.
3. The demand for room on the City's streets remains high, and officers try to accommodate the needs of applicants and works promoters whenever they can. However, the Highways team seeks to ensure that the needs of the public are not forgotten, and that a balance is struck between their needs and those of the works promoters.
4. As an example, when considering road closures, the following general approach is adopted:
 - no works are allowed that directly conflict with each other;
 - no diversions that use the same streets;
 - no parallel streets to be affected;

- local access to be maintained as much as possible;
- ideally two 'north / south' and 'east / west' routes through the City to be kept clear of disruption at all times;
- no more than four major daytime closures in the City at any one time, ideally spread across the Square Mile.

Current Position

- Despite the volume of street works in the City remaining more than 30% below pre-Olympic levels, the demand for space on the City's highway network has been tested this year by the largest concentration of major construction initiatives in the Square Mile for many years. Overall, those works can be categorised into four areas:
 - Major transport projects
 - Utility works
 - Development activities
 - City of London works
- Although utilities are traditionally thought to be the main source of disruption to the highway network, the scale of major projects such as Cycle Super Highway, Crossrail, Bank Northern Line upgrade and Thames Tideway has changed that profile. Such projects have a wide ranging impact, but the City is also enjoying the largest boom in building development since 2008, and although this is usually to be welcomed as a sign of a healthy City economy, the current concentration of development requires road space for scaffolds, hoardings, lorries and logistics.
- The table below shows the breakdown of road closure applications by source over the last six years. Although the number of applications from utilities has declined significantly since the Olympics, by contrast the recent surge in building activity has led to an increase in development-based applications of more than 50%. Most of these applications are for side streets, but they also tend to be for long periods of time (typically 18 months or more).

Road Closure Application Volumes

Type / Year	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Developments	98	145	99	107	101	155
Utilities	105	96	68	52	62	67
Emergencies	77	48	92	69	26	57
CoL	35	47	22	25	40	85
Other	10	11	18	8	3	18
Total	325	347	299	261	232	382

- The table also indicates a recent increase in road closure applications by the City itself. This is as a result of a more proactive approach to highway

maintenance issues, where additional funding has been secured to deliver essential road resurfacing and repairs, but in contrast to building sites, these closures are typically short term and confined to evenings and weekends.

9. As in previous years, officers continue to identify opportunities to combine works from different contractors, thereby reducing the need for yet more closures. This resulted in 368 days of disruption being saved on the network between January and September this year. This remains an exceptionally high number for London highway authorities, matched only by TfL, and reflects the pro-active forward looking approach by officers and the level of co-operation by utilities.

Limitations to the Consent Process

10. The City exercises its authority to control activity on-street through the issue of scaffold & hoarding licences, permits to dig up the street, traffic orders to allow roads to be closed, approval of Construction Logistics Plans for developments, and the agreement for parking dispensations & bay suspensions for lorries to deliver.
11. However, the City has to act reasonably in exercising these powers, and its ability to control the pace and detail behind major works has a number of limitations. This can often mean using the power of influence to co-ordinate and manage that activity, rather than what might be a limited regulatory authority. For example:
 - The utilities retain wide-ranging statutory powers to excavate the highway; the City's authority is more about timing and impact than the works per se.
 - A developer can decide when they wish to trigger a planning application that leads to a major building site, and highway reparation or enhancement works around the site typically need to be delivered before the building is occupied.
 - As Strategic Transport Authority, TfL have the authority to implement Mayoral transport policy such as the construction of the Cycle Super Highway on their road network.
 - Crossrail, the Bank Northern Line upgrade and Thames Tideway come with bespoke powers enabled by Acts of Parliament that assume primacy of their works over other projects. They disapply many of the City's normal controls, and are deliberately drafted to limit the ability of a local authority to prevent, delay or control those works.
12. Where the City does have full control is obviously in relation to its own works, and these are programmed to ensure they only proceed with a full understanding of their scale, timing and impact on-street, plus any consequences for network resilience.

Details of Major Works and Schemes

13. To provide some further detail behind these headlines, the following paragraphs outline the major works expected to take place in 2016, including

details of how officers have sought to assess, co-ordinate and influence each project in turn. Summary details can be found in the appendices to this report, including an outline calendar of major works proposed in 2016 and a map of the locations of these various projects.

Major Transport Projects

Cycle Super Highway

14. As Members are no doubt aware, the Mayor's scheme to create two separated cycle lane corridors, north / south and east / west across London, is well underway, with those corridors intersecting in the City at Blackfriars. Although this is TfL's scheme, largely being constructed on TfL streets, the City's continues to commit considerable staff resources to support its delivery, much of it recharged by agreement to TfL.
15. To indicate the breadth of that involvement, the City's liaison has so far covered traffic management, stakeholder and emergency services liaison, City Police check points and abnormal load movements, temporary and permanent traffic orders, diversions and signage, parking bays, road safety audits, detailed highway design, street lighting, noise controls, building site impacts, traffic signals, bridge & tunnel structures, utilities, highway specifications, works inspections and public communications.
16. Indeed, the City's construction programme at Aldgate was fundamentally rewritten as far back as 2013 to deliver Minories as the first phase, creating a release valve for TfL's anticipated construction programme in 2015. The City delivered that ambition on time, reopening Minories to two-way traffic the week that TfL started works in Lower Thames Street.
17. For the east / west route, the City has already seen several months of construction activity by TfL using a contraflow between London Bridge and Trinity Square. In the coming months, these works will continue eastwards towards Tower Hill, including the full closure (for a period) of access to Trinity Square itself.
18. These works have caused a degree of congestion so far, both on Upper Thames Street and elsewhere in the City from displaced traffic, plus there has been significant congestion into East London due to the wider loss of capacity in the area. TfL have sought to address this via 'active traffic management' of traffic signal controls across an extensive part of Central and East London, and that ability to influence traffic capacity is being monitored and adapted daily to respond to local conditions in real time.
19. TfL's east / west team also need to connect the scheme in the other direction from London Bridge to Westminster, and this will require work to begin at Blackfriars in mid-November, then move east past Southwark Bridge to London Bridge. Contraflows will again be used with some side road closures; the most significant of which will be the closure of Puddle Dock for several weeks before the end of 2015.
20. Local premises will continue to be affected in terms of access when the works are in close proximity, and TfL continue to engage with businesses and residents to explain what will happen and when. However, City officers still meet TfL fortnightly to discuss strategic and operational issues, so that if

officers are aware of problems for City stakeholders, we retain the necessary forum to raise and address them.

21. For TfL's north / south team, works in the City have been delayed due to complications over the City's structures beneath Blackfriars Junction and at Blackfriars Bridge, as well as the need to agree an interim scheme that accounts for the continued construction of the Goldman Sachs development in Farringdon Street.
22. By mutual agreement, TfL did not start the main Blackfriars works until after the Lord Mayor's Show as there was a considerable risk that the works would otherwise have severely restricted the Show's procession. However, works are now expected to begin in earnest in mid-November from Blackfriars to Stonecutter Street. Lane closures and side road closures will again be used.
23. In general, TfL have worked with the City to adapt their works to suit the needs of other activities in the area, and to mitigate many of the design and construction issues that have been encountered. In terms of overall programme, TfL remain focused on completing the east / west route by the date of the London Marathon on 24 April 2016, and the north / south route by the Mayoral election the following month.

Crossrail

24. Crossrail continues to have a major presence in the Square Mile, but thanks to the close co-operation between the City and the five surface-level construction sites at Moorgate, Liverpool Street, Blomfield Street, Finsbury Circus and Lindsey Street, complaints from the public remain at a very low level, and its impact has been 'manageable'. The scale of the project may be much larger than a 'normal' set of building sites, but Crossrail has managed to become part of the background activity in the City.
25. Moorfields, Moor Place, Liverpool Street (west) and Hayne Street all remained closed throughout the last year, and will stay closed until the completion of the project. Charterhouse Square (westbound) was added to that list in August after the Highways team assessed and recommended the direction of the closure to minimise the impact on Smithfield market.
26. After being closed for almost a year, Moorgate (southbound) will reopen in November to allow Crossrail to undertake major works at the entrance to Liverpool Street bus station. This repeats a previous bus station closure, with bus stops relocated to Finsbury Circus, Finsbury Square, London Wall and Houndsditch in line with a plan developed by the City in conjunction with TfL Buses. Moorgate has to reopen during this time to accommodate these amended bus routes.
27. With advance publicity from Crossrail, the City and TfL, we expect this closure to be accommodated with little significant impact on bus services. This closure is expected to last for four months, after which, the bus station will reopen and Moorgate will close southbound once more.
28. Crossrail and the City have met weekly for almost four years now to plan and review the project's highway works, and the City continues to support their six-monthly residents' forum. In addition, City businesses appear sufficiently

at ease with the project that regular business briefings, requested by the City, have been put on hold with our agreement.

29. Crossrail continues to recognise that without this level of commitment from the City and the Highways team, the project would be well behind schedule, and would likely have had a far more noticeable and disruptive impact on City life.

Bank Northern Line Upgrade

30. This project will involve the construction of a new Northern Line tunnel for Bank station by 2022, plus a new ticket hall in Cannon Street, various new interchanges underground, and lift access from street level direct to the Docklands Light Railway. At surface level, the project will eventually have two main worksites; Cannon Street for the new station entrance and Arthur Street from where TfL will sink a shaft to (and tunnel from) an existing abandoned underground station structure.
31. The major tunnelling works are not expected to start until spring 2016, but TfL have already closed Arthur Street to begin the process of moving the utilities in the highway to facilitate the construction shaft. However, City officers first had to negotiate with TfL and the City Police for the relocation of the main construction activity for the adjacent (but unrelated) development site at 33 King William Street from Arthur Street to London Bridge. In addition, an emergency fire access point had to be built for the Dowgate Fire Station at Suffolk Lane, allowing them quick access into the City instead of using Arthur Street.
32. There is still a likelihood that TfL will require at least one major road closure away from Arthur Street to complete these advance utility works. They must protect utility plant from the vibration and potential settlement of the tunnelling, but the gas main they need to protect lies underneath the pedestrian passageways for Bank station in Queen Victoria Street. A road closure may be required to reach it, but National Grid Gas and London Underground are still reviewing the feasibility of the proposal.
33. City officers have been involved in the overall planning of the Bank project's construction activity since its inception, and continue meet the project team on a monthly basis to discuss the progress of the utility upgrade works. Both sides also meet on a strategic level to discuss TfL's Transport & Works Act application to HM Government, as well as planning considerations, legal consents, the adjacent development site and TfL's overall programme.

Thameslink

34. The Thameslink works to upgrade London Bridge station continue, and as part of those works, Network Rail intend to close Tooley Street eastbound from April 2016 for 18 months. For the City, this is likely to result in additional traffic on London Bridge heading east towards Tower Hill, and this impact has been factored into the wider City programme of works in the southern and eastern parts of the Square Mile.

Utilities

35. The volume of utility work taking place in the City has continued to decline from its peak before the Olympics, when the pressure to accelerate works

prior to the 2012 moratorium coincided with Thames Water's Victorian Mains Replacement programme.

Year	2010	2011	2012	2013	2014	2015
Total Permit Applications	3755	4379	3331	3319	3099	2960*

* Projection based on permit application volumes from Jan-Sept 2015.

36. Since the Olympics, only National Grid Gas have sought to undertake proactive capital upgrade works to their infrastructure, leaving the remaining utilities to focus on development connections, faults and emergencies. This consistently lower volume of work is reflected in the falling number of permits issued (noted above) and the low number of road closure applications detailed earlier in this report.

Thames Water: Thames Tideway Tunnel

37. Thames Water's project for London's 'super sewer' will involve a large construction site in the Thames connecting to the outfall of the River Fleet, just west of Blackfriars Bridge. Although major works in this location are not expected to start until 2017, Thames Water have just started enabling works, including utility diversions and the relocation of Blackfriars Pier to the east of Blackfriars Rail bridge.
38. In addition, the staircase from Blackfriars Bridge to the riverside walkway is about to be demolished and replaced by a new lift in approximately the same location. This will involve a compound on the riverside walkway, the removal (and subsequent reinstatement) of the riverside gardens, a barge in the river (see below) and deliveries from White Lion Hill and Blackfriars Bridge.

Thames Tideway River Compound at Blackfriars



39. Of primary importance remains the co-ordination of activities between Thames Water and TfL regarding the eventual intersection of the north / south and east / west cycle super highways and Thames Tideway. City officers meet the project teams together once a month to focus attention on that issue, but Thames Water has recently asked the City to consider how their project could be accelerated to finish well in advance of its current 2021 completion date. This will undoubtedly require additional City resources to be committed into facilitating this ambition, for which Thames Water will be expected to contribute.

National Grid Gas: Gas Main Replacement Programme

40. National Grid Gas (NGG) are replacing and upgrading their Victorian gas mains with new, more durable pipes across the City, from Aldgate in the east to Farringdon and Blackfriars in the west. The works are part of a wider long-term programme agreed with Ofgem and the HSE to replace ageing gas mains, and are essential to reduce leakage and maintain a safe and reliable gas supply.
41. The plan of the City below shows the extent of the work undertaken by NGG up to Summer 2015. Since then, Members will have seen the works to complete the section between Gresham St and St Martins le Grand, programmed (at the City's request) to be completed before the Lord Mayor's Show.

National Grid Gas: Works Complete (white) / Outstanding (red)



42. Moving forward, the Aldgate section will be finished in Q1 2016, in combination with the City's own works in the area. The section from Gresham Street to Angel Street will also happen in the first quarter of 2016, but the next major section will be from Angel Street to Newgate Street from May 2016.
43. The gas mains in Newgate Street have suffered from several emergency leaks this year that had to be repaired under emergency road closures, but in order to replace the leaking main for the long term, a closure will be required in one direction for several months. This will be a major undertaking, with several excavations open at the same time. Each existing main has to be

exposed at both ends to allow the new main to be inserted inside the old one, and this process has to begin again every time there is a bend in the pipe.

44. In their work so far, NGG have sought to minimise the duration of their works by using a number of methods including the use of robotic cameras to pinpoint any bends or obstructions inside the gas main, extended working hours agreed with City Environmental Health, and new techniques to excavate the road known as core & vac.
45. We will be expecting them to adopt the same practices here, and to fully publicise the works to the widest possible extent beforehand. In the City's wider programme, the ideal time for this work to be done will be after the completion of TfL's cycle super highway works in May next year, but we continue to meet monthly to discuss the detail behind NGG's outline programme.
46. The final element of the overall scheme will be in London Wall near Circus Place at the site of the gas governor that regulates gas pressure. This is currently planned for summer 2017, but we are already engaging with both NGG and Crossrail to understand their respective programmes so that any overlap between the projects can be considered.

UK Power Networks: New supply to Angel Court

47. UKPN have already started work to provide a major new power supply connection to the Angel Court development. These works lead from the UKPN substation near Houndsditch to Copthall Avenue, but during 2016 they will need to excavate along Old Broad Street from London Wall, closing the street in one direction. The exact timing is still to be determined with UKPN, who are negotiating additional bus services with TfL for the duration of the works, and this must also be programmed to avoid the City's closure at Aldgate.

BT Openreach: Superfast Broadband

48. As part of the City Corporation's initiative to promote superfast broadband across the Square Mile, BT Openreach are expected to install up to 22 broadband cabinets on the footway in various locations around the City next year.
49. Although the impact of installing, connecting and energising each of these cabinets is not expected to be significant, in the context of delivering a major utility initiative in partnership with the City Corporation, this project will inevitably have a very high profile.
50. Each of the proposed locations will be assessed beforehand for Planning, Street Scene, Road Safety, Accessibility and Highway aspects, and BT currently anticipate these works will take place during the course of next year.

Development Activities

51. Once a developer has a planning consent in place, the City cannot control when a development wants to start, nor do we have the power to stop a development just because other activities are taking place in the vicinity. In other words, we are unable to set an arbitrary limit on the volume of development taking place in any one area.

52. In many ways, redevelopment of the City has historically been seen as an indication of a thriving Square Mile, but given that the overall level of on-street activity is noticeably higher, work sites will inevitably overlap in places as they bring with them a need for road space, a reduction in network capacity and additional heavy vehicle traffic to our streets.
53. However, those same streets still need to function for residents, businesses and visitors, and be safe for motor vehicles, cyclists and pedestrians. To that end, we have staff dedicated to liaising with building sites to understand their construction needs, to working with the major projects to help manage their impacts, and to co-ordinating activities so that works overlap as little as possible.
54. That typically involves making the best use we can of the tools we have at our disposal, including our Considerate Contractor Scheme (which currently has over sixty active building sites as members) and Construction Logistics Plans for sites that are conditioned from the Planning approval process.
55. For 2016, the key activities relating to building developments in the City are briefly as follows.

Bloomberg

56. The Bloomberg development at Cannon St is expected to require 26 separate telecoms connections from eight different fibre providers, and currently we are actively supporting the use of one contractor to undertake all those works together. In addition, the programme of works by the City to complete the development with new paving, kerb lines, trees and lighting is expected to start in summer next year and progress around all four sides over the following 18 months.

27 Poultry

57. Deliveries to the Ardmere site at 27 Poultry have so far been via a southbound closure of Princes Street, which is deliberately set in the shadow of Crossrail's southbound closure of Moorgate. This would otherwise be a major closure, but instead it has progressed with little impact. However, with Crossrail reopening Moorgate from November to March 2016, we are currently in negotiation with TfL Buses over whether this facility should remain in Princes St or move to Poultry, and whether closures can continue during the day or be confined to evenings.

Creechurch Place

58. Works will be needed to reinstate the highway around the Creechurch Place development towards the end of 2016. On the Dukes Place elevation, this may require the road to be closed, but this will be programmed to avoid the closure of Tower Bridge in Q4 2016.

London Wall Place

59. Similarly, works will be required to reinstate the highway around the London Wall Place development in London Wall, Fore Street and Wood Street. Works in London Wall itself will be significant as the footway will need to be moved out over the underground car park to accommodate the new building design, but so far, those works are anticipated to require the same eastbound lane

closure used by the current site logistics. Works will be phased around the development, and may begin towards the middle of 2016.

Eastern Cluster

60. The greatest concentration of activity in the City is currently in the east, where 23 individual building sites are proposed or already underway in the vicinity of the Eastern Cluster (see Appendix 4). It is almost inevitable that works such as those at 100 Bishopsgate, Creechurch Place, the Scalpel, the Matrix Hotel, 80 Fenchurch St, 75 Fenchurch St and 120 Fenchurch St will overlap, but the City meets these sites together once a month to co-ordinate their respective programmes, and to combine (or separate) their utility works, crane operations and construction logistics. This also allows officers the opportunity to feed in our plans for Aldgate, look ahead for the future enhancement scheme for Fenchurch Street and keep key stakeholders such as Lloyds of London informed.

City of London Works

Aldgate

61. Members will be fully aware of the City's own programme of works to regenerate and redefine the Aldgate gyratory. In the context of this report, the City have been working with TfL for over two years to integrate the likely impact of its construction with that of the cycle super highway and other works throughout central London.
62. In the last year, two key milestones for the project were reached, firstly the opening of Minories to two-way traffic in May, followed by Aldgate High Street in October. Successive closures of Minories, Aldgate bus station, Fenchurch Street, Leadenhall Street, Houndsditch and the temporary reversal of Dukes Place were all planned and managed by the Project Team, making best use of our effective communications channels, co-ordination protocols and our well-respected position with TfL.
63. For next year, the last major road closure will be for the construction of the new junction and checkpoint where Aldgate, Leadenhall Street and Fenchurch Street come together. This requires all three streets to be closed in both directions from January to April, with a major traffic management plan, an extensive communications exercise and the reversal of Lloyds Avenue, including the creation of a new temporary police checkpoint.
64. Closing the junction completely will save approximately two months in the programme by allowing a significant amount of concurrent working, with larger working areas meaning more efficient and faster operations. Nevertheless, given the significant amount of junction work, level changes, new kerb lines and drainage involved, plus a significant amount of utility relocation, this one final road closure is unavoidable.

Resurfacing

65. The majority of the City's resurfacing programme takes place at evenings and weekends in order to minimise the disruption to the network. However, such options are limited around the Barbican, and in the past, we have had to employ weekday road closures to resurface in that area.

66. The final part of a long-term programme to resurface all of Aldersgate Street is due to be completed in March 2016 between Beech Street and Fann Street. Closures will be in one direction at a time, and have been programmed for when Moorgate has been reopened by Crossrail, allowing for a clear north / south parallel route. Full details of these works will be provided to Barbican Residents, the Barbican Centre and Smithfield Market nearer the time.

Middlesex Street

67. The City's Streetscene enhancement scheme to change the nature of Widegate Street, Sandy's Row and Catherine Wheel Alley at the northern end of Middlesex Street is moving towards a finalised detailed design and construction pack. Assuming the scheme is approved by Members, some localised road closures will be necessary, and the works are currently planned for the period from Spring to Autumn next year.

Tower Bridge

68. Planning for the District Surveyor's project to re-deck the bascules of Tower Bridge and to waterproof the viaduct approaches is well advanced. It is expected to require the bridge to be closed to road traffic for up to three months, and have the potential for closures to pedestrians and to river traffic for part of that time.
69. The window of Q4 2016 has been selected as this is the quietest time of year for the Port of London Authority. TfL also appear to have accepted the principle of closing part of the Congestion Charge Ring Road, which will require traffic to be diverted into the Congestion Charge Zone via Tower Hill and Lower Thames Street to Southwark and London Bridges. Closing Tower Bridge will have significant impacts on traffic in the vicinity, and other network activities are already being planned around it, such as the enhancement works for Creechurch Place mentioned earlier.

Bank Junction

70. As the 'All Change at Bank' project progresses towards the delivery of an interim scheme, Highways officers are working with the Bank team to understand the network resilience implications of both the interim design and the permanent options for the management of temporary activities and road closures. As / when an interim design is ready to be implemented, we will also seek to ensure that other works on the network do not constrain the programme to implement it.

Communications

71. The Highways team continues to strengthen its communications with the public, helping to mitigate the impact of all these works. These channels include:
- We now have nearly 2,500 followers to the DBE Highways Twitter feed (@squarehighways), providing up-to-date information on road closures, special events and road safety initiatives.
 - Around 1,100 people directly receive the weekly e-mailed Traffic Management Bulletin, covering major highway works and events for the week ahead.

- The City's web site continues to carry more in-depth information, including details behind each individual set of works, their likely impact on traffic, and which routes through the City are clear of disruption. Our web pages were visited some 660,000 times in the last 12 months, or the equivalent of 55,000 individual visits each month.
- Finally, the Highways group now have a well-used Facebook page (www.facebook.com/squarehighways) that provides another growing social media platform for real time interaction with our stakeholders. It helps us share more detailed information (ie not limited to Twitter's 140 character limit) about things that are happening out on street, such as upcoming special events, Exchanging Places initiatives and major projects such as Crossrail. As an example, our recent post about the taxi demonstrations in September reached over 1,300 people.

Summary

72. The approach from officers remains to identify the needs of these major projects early, to combine them where possible, and to keep them apart when necessary. This requires officers to:
- establish the dependency between separate projects;
 - understand their potential conflicts and impacts, and;
 - engage with project managers at an early stage (and frequently thereafter) to ensure that disruption can be minimised through a combination of regulation, negotiation and influence.
73. To take an example, there is a dependency between Crossrail's closures of Moorgate and Liverpool Street, the closure of Princes Street for 27 Poultry, the City's resurfacing of Aldersgate Street, UKPN's works in Old Broad Street and the City's Aldgate scheme. This was identified earlier this year, after which the respective project managers were involved in adjusting their programmes to fit together. Each project can still be delivered in line with expectations, but in a manageable and co-ordinated way.

Conclusion

74. With projects such as Cycle Super Highway and Bank Northern Line now underway, co-ordinating works on the City's road network will remain a challenge into the longer term, but officers will continue to work to ensure the co-operation of major project sponsors, utility companies and developers in co-ordinating their works programmes, as well as regulating the City's own activity into that picture.
75. The aim will remain to ensure there is a balance between the need to keep projects on track and the need to limit both the direct and cumulative impact they cause on the public at large.

Appendices

- Appendix 1 – Major Works Timeline (2016)
- Appendix 2 – Major Works Map (2016)
- Appendix 3 - Major Works Details (2016)

- Appendix 4 – Current and proposed sites in the Eastern Cluster

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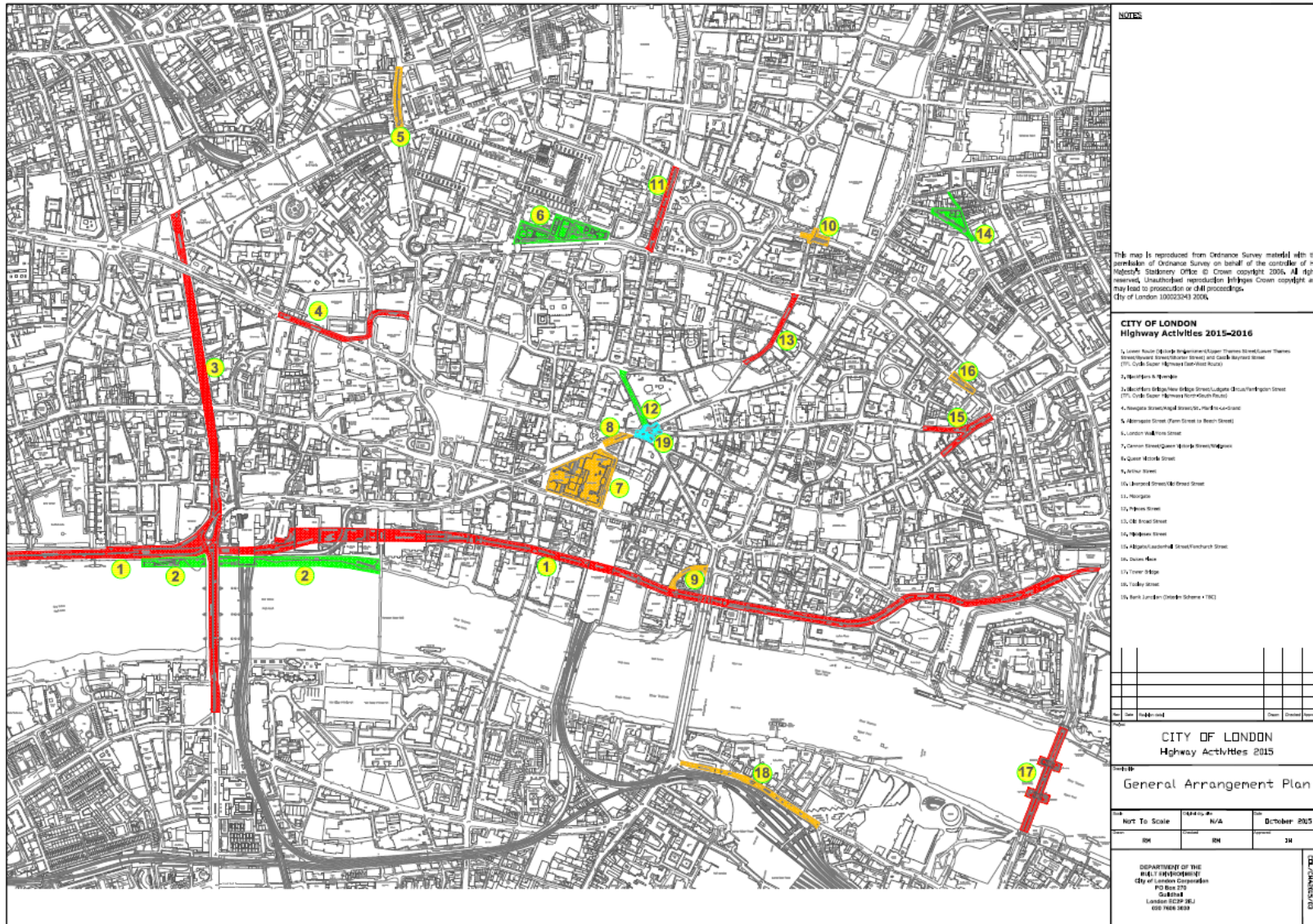
Appendix 1: Major Works Timeline 2016 (High, Medium & Low Impact schemes)

Q1	January Cycle Super Highway (TfL) Aldgate (CoL)	February Cycle Super Highway (TfL) Aldgate (CoL)	March Cycle Super Highway (TfL) Aldgate (CoL)
	Liverpool St bus station (Xrail) Arthur St (TfL / LUL)	Liverpool St bus station (Xrail) Arthur St (TfL / LUL)	Liverpool St bus station (Xrail) Arthur St (TfL / LUL) Aldersgate St resurface (CoL)
	Thames Tideway Tunnel London Wall Place 27 Poultry (Ardmore)	Thames Tideway Tunnel 27 Poultry (Ardmore)	Thames Tideway Tunnel 27 Poultry (Ardmore)
Q2	April Cycle Super Highway (TfL) Aldgate (CoL)	May Newgate St (NGG) Moorgate (Crossrail)	June Newgate St (NGG) Moorgate (Crossrail)
	Tooley St (Network Rail) Arthur St (TfL / LUL)	Tooley St (Network Rail) Arthur St (TfL / LUL)	Tooley St (Network Rail) Arthur St (TfL / LUL)
	Thames Tideway Tunnel Middlesex St (CoL) 27 Poultry (Ardmore)	Thames Tideway Tunnel Middlesex St (CoL) 27 Poultry (Ardmore)	Thames Tideway Tunnel Middlesex St (CoL) 27 Poultry (Ardmore)
Q3	July Newgate St (NGG) Moorgate (Crossrail)	August Moorgate (Crossrail)	September Moorgate (Crossrail)
	Bloomberg Tooley St (Network Rail) Arthur St (TfL / LUL)	Bloomberg Tooley St (Network Rail) Arthur St (TfL / LUL)	Bloomberg Dukes Place (Creechurch Pl) Tooley St (Network Rail) Arthur St (TfL / LUL)
	Thames Tideway Tunnel Middlesex St (CoL) 27 Poultry (Ardmore)	Thames Tideway Tunnel Middlesex St (CoL) London Wall Place 27 Poultry (Ardmore)	Thames Tideway Tunnel Middlesex St (CoL) London Wall Place 27 Poultry (Ardmore)
Q4	October Tower Bridge (CoL) Moorgate (Crossrail)	November Tower Bridge (CoL) Moorgate (Crossrail)	December Tower Bridge (CoL) Moorgate (Crossrail)
	Bloomberg Tooley St (Network Rail) Arthur St (TfL / LUL)	Bloomberg Tooley St (Network Rail) Arthur St (TfL / LUL)	Bloomberg Tooley St (Network Rail) Arthur St (TfL / LUL)
	Thames Tideway Tunnel London Wall Place 27 Poultry (Ardmore)	Thames Tideway Tunnel London Wall Place 27 Poultry (Ardmore)	Thames Tideway Tunnel London Wall Place 27 Poultry (Ardmore)

Projects to be programmed:

- Queen Victoria St (National Grid Gas for TfL), Old Broad St (UKPN) & Bank (CoL)

Appendix 2 – Major Works Map 2016



Appendix 3: Major Works Details 2016

No.	Location	Activity	Contractor	Traffic Mgt	Impact	Start	Finish	Cert.*	Powers
1	Lower Route & Castle Baynard Street	East / West cycle super highway	TfL	Lane restrictions & side road closures	High	In progress	April 2016	High	TfL / CoL
2	Blackfriars & Riverside	Thames Tideway (pier & utility relocation)	Thames Tideway Tunnel (Thames Water)	Slip road closure & lane restrictions	Low	In progress	2021	High	TWA / TfL / CoL / PLA
3	Blackfriars / New Bridge Street / Farringdon Street	North / south cycle super highway	TfL	Lane restrictions & side road closure	High	In progress	May 2016	High	TfL / CoL
4	Newgate Street / Angel Street / St Martins le Grand	Gas mains replacement	National Grid Gas	Newgate Street closed W/B	High	May 2016	July 2016	High	CoL / TfL
5	Aldersgate Street (Fann St to Beech St)	Resurfacing	CoL (Riney)	Road closures	Med	March 2016	March 2016	High	CoL
6	London Wall / Fore Street / Wood Street	Area enhancement around London Wall Place	CoL (Riney)	Eastbound lane closure	Low	Q3 2016	Q2 2017	Low	CoL
7	Cannon Street / Queen Victoria Street / Walbrook	Telecoms connections & area enhancement	Blue3 for Bloomberg & CoL (Riney)	TBC	Med	July 2016	Dec 2017	Low	CoL / TfL
8	Queen Victoria Street	Gas main upgrade	TfL (London Underground Northern Line)	Westbound closure	Med	TBC (1 month duration)	TBC	Low	TWA / CoL / TfL
9	Arthur Street	Utility relocation & access shaft construction	TfL (London Underground Northern Line)	Road closure	Med	In progress	2022	High	TWA / CoL / TfL

10	Liverpool St / Old Broad St	Bus station closure	Crossrail	Relocated stands & bus routes	Med	Nov 2015	March 2016	High	Crossrail (TWA)
11	Moorgate	Tunnel & shaft construction	Crossrail	Southbound road closure	High	May 2016	Dec 2016	High	Crossrail (TWA)
12	Princes Street	Site construction deliveries	Ardmore	Southbound road closure	Low	In progress	TBC	Med	CoL
13	Old Broad Street	Major power connections	UKPN for Angel Court	Road closure (one direction)	High	TBC	TBC	Low	CoL
14	Middlesex Street	Streetscene enhancement	CoL (Riney)	Road closures	Low	April 2016	Sept 2016	Low	CoL / LBTH
15	Aldgate / Leadenhall St / Fenchurch Street	Aldgate project	CoL (Riney)	Road closures	High	Jan 2016	April 2016	High	CoL / TfL
16	Dukes Place	Creechurch Place area enhancement	CoL (Riney)	Road closure	Med	Sept 2016	Sept 2016	Low	CoL / TfL
17	Tower Bridge	Structural repair to deck & resurfacing	CoL (District Surveyors)	Traffic, pedestrian & river closure, Congestion Charge Zone	High	Oct 2016	Dec 2016	High	TfL / PLA
18	Tooley St	Station redevelopment	Network Rail	Eastbound road closure	Med	April 2016	Sept 2017	Med	TfL
19	Bank junction (interim scheme)	Traffic alteration	CoL	TBC	TBC	TBC	TBC	TBC	CoL / TfL

* Cert = Certainty, or how likely the programme is currently expected to be met

Powers

- CoL = City Corporation authority required
- TfL = TfL authority required (either as highway authority on the Red Routes, or as overall Strategic Transport Authority)
- LBTH = London Borough of Tower Hamlets authority required
- TWA = Transport & Works Act granting bespoke powers to the work promoter (Crossrail Act, Northern Line upgrade, Thames Tideway)
- PLA = Port of London Authority approval required

Appendix 4: Current and proposed sites in the Eastern Cluster

