Overnight access on Oxford Street

A: Summary: purpose of note and issues

Arising from discussion with stakeholders about the issues around vehicle access, this note sets out some of the background data and issues to be considered, and explains the current thinking at the start of the consultation. The intention is to inform the discussion that will take place within the consultation.

The key issues for discussion here include:

1. The need for access, for example for:
   - Freight
   - Buses, taxis and general traffic
   - NB. All scenarios would maintain access for emergency services and required access for construction and maintenance.

2. The impacts of allowing some limited access out of the busiest hours

3. What the impacts would be of trying to provide for “end to end” access outside of the busiest hours,
   - in terms of the design and use of Oxford Street West and
   - in terms of traffic displacement to the wider area

4. The impact of considering public safety and mitigating the risk of “hostile vehicle” attack

5. Concerns around Anti Social Behaviour

B: Background data

A number of data sources have been used in the preparation of this technical note to understand the pattern of movement by different forms of transport and levels of activity in the district. These sources, all commissioned by WCC & TfL, are listed below:
Oxford Street traffic counts undertaken in May, July and September 2017;

Pedestrian count surveys undertaken in May 2015;

Oxford Street West Taxi Activity Technical Note (02/02/2016, Issue No 1), WSP/ Parsons Brinckerhoff

Oxford Street Kerbside Activity, November 2015 (WSP & Parsons Brinckerhoff);

West End Partnership Oxford Street West Transport Study September 2016;

ONE Modelling – flows extracted from the current ONE model for two sections of OSW (between James Street and Orchard Street and between Davies Street and Oxford Circus) for the AM peak period in May 2017;

Future bus planning information supplied by LB Network Development Team;

Existing pedestrian flows

Walking is the predominant mode of transport within the district and along Oxford Street west. An extensive survey involving counting the number of pedestrians on streets and segments of streets within the district was undertaken in May and June 2015. A number of these counts were carried out from 0700 to midnight or 24 hours.

Figure 1 shows that the combined flow on the busiest segment – the north and south footway sections near Old Cavendish Street, labelled ‘John Lewis’, in the graph - approached 14,000 pedestrians per hour. The combined flow on the segment near John Princes Street, labelled ‘West of Regent Street’, in the graph - approached 13,000 pedestrians per hour. In the west of the Oxford Street the flows are lower but still significant in the range of 8,000 to 10,000 pedestrians per hour.
Figure 1: Weekday pedestrian flow on Oxford Street

The 18 hour and 24 hour enumerated survey site results show that the pedestrian flows on Oxford Street are some of the highest in London.

Pedestrian flows at all of the enumerated sites exceeded 1,000 people per hour between 07:00 and midnight. Pedestrian activity is also at significant levels late into the evening and only dips below 2,000 pedestrians per hour after 23:00.

Saturday pedestrian flows are higher than weekday pedestrian flows. Figure 2 shows that the combined flow on the busiest segment of the street – the ‘John Lewis’ segment near Old Cavendish Street - was 16,000 people per hour. The duration of the peak period of flow was also longer than the weekday. Pedestrian flows on the section of Oxford Street near John Princes Street were in excess of 14,000 people per hour between 12:00 and 18:00.
Figure 2: Saturday pedestrian flow on Oxford St

Saturday pedestrian flows exceeded 1,000 people per hour from 0800 until midnight. Late evening Saturday flows were of a comparable level to weekday flows with a significant level of late evening pedestrian activity.

**Existing Pedestrian Comfort Levels**

Pedestrian crowding is acute during busy periods, and this deters people from visiting or returning to visit Oxford Street. The scale of the forecast growth in population, jobs and trips will exacerbate this issue. Crowding has been measured with reference to a Pedestrian Comfort Level (PCL) scale. The scale relates the flow of pedestrians, the space they have to walk in and the context in which the space is used e.g. a high street or an interchange and the consequent impact on pedestrian behaviour. The degree of crowding is related to a 5 point A-E scale, shown in figure 3, whereby A is least crowded and E is the most crowded.

At PCL D walking speeds are restricted and reduced and there are difficulties in bypassing slower pedestrians or moving in reverse flows. At PCL E people have very little personal space and speed and movement is very restricted. Extreme difficulties
are experienced if moving in reverse flows. These are considered uncomfortable, and in some cases unacceptable, to users.

Figure 3: Pedestrian Comfort Levels in an Oxford Street context
Figure 4: 2015 Weekend PCL on Oxford Street

A PCL analysis has been carried out for Oxford Street west which shows that crowding on significant lengths of the footway are already considered below acceptable levels of comfort, with most of the street becoming uncomfortable/ unacceptable in the future.
Future pedestrian comfort levels

Pedestrian numbers on Oxford Street are set to increase significantly following the introduction of Elizabeth line at the Tottenham Court Road and Bond Street stations. A more modest increase is also expected at Oxford Circus.
Uplift factors for PCL levels were calculated using TfL’s Railplan model for each section of Oxford Street. The resulting uplift factors varied along the length of the street depending on proximity to a station. The peaks of increased pedestrian demand occur at the Bond Street and Tottenham Court Road Crossrail stations, reflecting the expected influx of new passengers. Pedestrian demand then drops as the distance from the station increases. The PCL forecast for Oxford Street west is shown in figure 5. Crowding increases eases and PCL deteriorates in the Bond Street station section of OSW and in the vicinity of Oxford Circus in 2021. The crowding and lack of suitable space also limits opportunities for pedestrians to dwell or sit and relax. The potential consequence of this is that some people may shorten the length of their visit to Oxford Street west or be deterred from visiting at all.

**Existing traffic flows**

An extensive set of traffic surveys have been undertaken across the district on weekdays and weekends. These include 24 hour classified counts. Figure 6 shows the hourly flow profile by vehicle type on Oxford Street (by Bond Street station) surveyed on Thursday 4 May 2017.

![Hourly traffic flow on Oxford Street by Bond Street station – weekday May 2017.](image)
Taxis form 50% of vehicles across the day, and car and private hire vehicles (“minicabs”) account for a further quarter. Taxi traffic builds from 10:00 and maintains at between 300 and 400 taxis an hour for the rest of the day. Car and private hire flows increase once the traffic order prohibition ends at 19:00. Freight traffic averages around 20-30 vehicles an hour through most of the day. Pedal cycles have a very pronounced morning and afternoon peak. Figure 7 shows the same weekday survey profile but only for motorised vehicles.

![Hourly motorised vehicle flow by type of traffic](image)

**Figure 7**: Motorised traffic flow on Oxford Street by Bond Street station – weekday May 2017 (proportion of pedi-cabs non motorised)

The traffic modelling of the proposal shows some wider network impacts due to displaced traffic but this is limited and effectively constrained by the available capacity in the network and the operation of the traffic signals at junctions. Some streets in the area will see some increases in vehicle flows (Park Lane for example) while others will see a decrease in flows.

**C: Freight**

Engagement is ongoing with all businesses on Oxford Street west to understand servicing needs. Little legal loading is currently provided on OSW and surveys show there are relatively few freight movements along OS.
In total there are 425 freight vehicles movements per weekday along OSW. Of these only 90 were observed servicing i.e. using the kerbside. This suggests that most of this traffic is having no interaction with people and premises on this stretch of Oxford St. Of the 90 servicing movements 50 occurred during the day and 40 at night. If service loops were provided this would equate to approximately 4 vehicles per hour with a peak of 8 per hour (Midnight – 1am).

There are very few shops being serviced from the front via Oxford Street at the moment. Recent counts show there are 2070 servicing movements per day on the side streets north and south of OS and along OS. 93% of these movements currently occur on the side streets.

It is possible to accommodate the low level of Oxford Street kerbside activity in new bays near to OSW properties.

Figure 8: Weekday kerbside activity OSW, May 2015
D: Buses taxis and general traffic

**Buses**

Two bus routes with a total daytime 2-way flow of 36 buses per hour will operate east-west through the district, to deliver the Transformation project. Night frequencies would have a 2-way flow of 8bph. These buses are proposed to run on the alternate route using Henrietta Place and part of Wigmore Street (see bus supporting information for detail) all day.

Routing the services part time on one route and then switching at a particular time would reduce the projected flow of traffic on Wigmore Street/Henrietta Place and retain additional activity on Oxford Street.

TfL’s research shows that bus passenger satisfaction is linked to a variety of requirements. One of the key requirements is for the bus network to be ‘Simple’ – easy for passengers to understand and remember and that the service pattern on each route is as simple as possible. People are deterred from using buses by complexity. Simple service patterns mitigate this effect.

Routing buses through the district on different streets dependent on the time of day would be very confusing for passengers in terms of where and when to catch a bus, particularly near the transition periods. There would also be significant issues concerning bus service operation if services are delayed and switched to the alternative corridor and passengers are left stranded.

The night frequency of 8 bph is low to minimize disruption

For these reasons this arrangement is not operated in any other part of London and is not recommended here.

**Taxis**

Taxis are the main category of traffic on Oxford Street forming over half of the traffic flow. Taxis pick-up and set-down passengers along Oxford Street and its side streets and use Oxford Street as a through route. Taxis are a particularly valued form of

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transport for those with restricted mobility because of the accessibility of the vehicle and the door to door service provided.

The kerbside survey results show that there are 260 pick-ups and set-downs by taxis on Oxford Street west between 20:00 and 08:00. To note - this time period is discussed to give an illustrative indication of the order of magnitude of movement and does not indicate a preference for a period for access. Pick-ups and set-downs reduce significantly after 22:00 to less than 20 per hour along the length of Oxford Street west. This demand could be met by the provision of taxi ranks on the adjacent side-streets but there would be some detriment to customers.

With this low level of taxi pick-up and set-down taxi flow there may be potential to dispense with an upstand or kerb to delineate the carriageway from the pedestrian area. However, prohibiting through taxi movements to restrict Oxford Street for picking-up and setting-down would be impossible to enforce.

There is an imperative to introduce Hostile Vehicle Mitigation (HVM) measures as part of the scheme. This means that allowing access for taxis would require some form of entry and egress management system because of the security implications. However, given the number of taxis it is not believed a permit entry system could be operated and therefore the HVM measures line would then be open during the access period. Therefore the HVM would protect pedestrians at the busiest times of the day but would expose pedestrians outside these times (and they can be numerous) to risk. Alternatively, the carriageway along Oxford Street west would also need to be lined with HVM measures to form a protected zone approximate to the existing footway. This would significantly impact on the public realm scheme and pedestrian crowding.

It is difficult to robustly estimate the proportion of through taxi traffic as a certain proportion may be circulating for hire or may be picking-up or setting-down in relatively close proximity to Oxford Street. A ‘worse’ case estimate of through taxi traffic can be calculated by subtracting the number observed setting-down and picking up. The traffic surveys counted 2,300 taxis between 20:00 and 08:00. Subtracting the 260 pick-ups and set-downs leaves a 12-hour total of around 2,000 taxis or an average of 170 per hour. Restricting taxi access will lead to an increase in
taxi flows on the surrounding network but this would be a higher end estimate because, as previously noted, this does not take account of circulating vehicles or those that have performed multiple jobs within the area in the time period.

In terms of impact on the schemes design this level of taxi flow on Oxford Street west would require an upstand or kerb to delineate the carriageway from the pedestrian area. With regard to security implications the comments above would also apply.

**Cars, Private Hire Vehicles and powered two-wheelers:** Between 20:00 and 08:00 there are around 800 car, private hire and motor cycle trips on Oxford Street west. This is an average of 80 an hour.

If these vehicles are permitted to use Oxford Street west in the late evening then the flows are sufficiently high that an upstanding or kerb would need to be provided in order to demarcate the carriageway from the pedestrian area.

If HVM measures are implemented on Oxford Street west then it would not be practicable to operate a permit system for general traffic and the HVM measures line would then be open during the access period. Therefore the HVM would protect pedestrians at the busiest times of the day but would expose pedestrians outside these times (and they can be numerous) to risk. Alternatively, the carriageway along Oxford Street west would also need to be lined with HVM measures to form a protected zone approximate to the existing footway. This would significantly impact on the public realm scheme and pedestrian crowding.

Retaining traffic would require a four stage method of control at both Orchard Street / Oxford Street junction and Oxford Circus which impacts on available capacity for all road users at the junctions at either end of OSW and reduces overall time available for traffic. Cross roads will be retained between OSW and the north-south traffic routes. These junctions will require at least 3 stages which will impact on the available capacity for all road users.

**E: Impacts on the design and feel of the street**

*Part time traffic access impacts on design – accessibility*
A key aim of the Oxford Street Transformation scheme is to significantly improve the experience of pedestrians using Oxford Street. It is therefore essential that the environment of the area be changed to reduce the dominance of motor vehicles when they are permitted access and make the street more people-friendly at all times. In addition, the requirements of those with a visual, mobility or other impairment must be incorporated into design so that it creates a space welcoming for all visitors.

The public realm designs for a traffic-free Oxford Street west provide for a level surface across the profile of the street. The intermittent and very low number of vehicles involved in cleansing, maintenance and emergency response do not require a vertical demarcation for the vehicle pathway within the pedestrian area for those with a visual impairment. If vehicles are allowed end to end access to Oxford Street west in the late evening then, based on the potential flow of through trip taxi traffic or through trip car and PHV traffic flow volumes, it is recommended in guidance that a minimum kerb upstand of 60mm be used to delineate the pedestrian area from the carriageway.²

A kerb has been proposed as it is readily understood by all road users and can be increased in height at bus stops to ensure bus ramp accessibility is maintained. The height of 60mm is proposed as this is the TfL recommended minimum. Some visually impaired users have raised issues with the conspicuity of lower height kerbs and a colour or materials contrast may be appropriate. This will be considered further.

With regard to the provision of crossing locations, over side roads and Oxford Street, if traffic is allowed to access in the late evening – it is recommended the existing mid-block crossings have the signal controls removed and instead become uncontrolled raised crossing points with the recommended tactile paving. This is because providing controlled crossings mid-block in these sections would result in zebra or signal controlled crossings in areas of no vehicular activity in the traffic-free period. This may result in issues around understandability. However in this case, controlled crossings will be retained at other locations (at junctions) to allow those

pedestrians with a visual impairment the opportunity to cross. Four sections of carriageway will become more difficult for visually impaired pedestrians to cross when traffic is permitted:

- Duke Street to James Street – c. 70m:
- Davies Street to Vere Street / New Bond Street 145m;
- Vere Street / New Bond Street to Holles Street / Harewood Place - 165m; and,
- Holles Street / Harewood Place to John Princes Street – 110m.

Providing controlled crossings mid-block in the above sections would result in zebra or signal controlled crossings in the periods of no vehicular activity. This may cause confusion for users. It would also create an additional infrastructure, eg traffic signals, and maintenance liabilities.

**Impacts on wider look and feel – what we are giving away when allowing access**

There are advantages and disadvantages to retaining traffic in the street at night and these vary according to assumptions about the volume and type of traffic and the use/ frontage along the street, retail opening times, management and activation of the street.

In terms of disadvantages the impact of retaining traffic at night would depend upon the volume, timing and locations of vehicular traffic allowed. Potentially this would result in:

- The need for a conventional carriageway, limiting the street options for paving, positioning of street furniture, lighting, public art, and tree planting
- Further visual clutter from signals, road signs and road markings required for the night-time operation including pedestrian crossings at cross streets and mid-block
- Upstand kerbs which could negate benefits to the mobility-impaired and present a trip hazard during the day when the street is crowded

- Bollards for hostile vehicle mitigation extending along the length of the street on both sides of the night-time carriageway adding to the visual clutter of the street and impacts on pedestrian crowding and comfort levels.

- Limitations on activation of the street as anything within the carriageway space would have to be cleared in time for night-time operation

- High quality finishes could be damaged by vehicle loading and fuel spills

The combined impact of the above may result in the street looking and operating much as it does today as many visual signals would discourage occupation of the carriageway by pedestrians during the day-time. In other words, design of the street for part time vehicle access would have a full time impact on the design, look and feel of the street across all of the day. At the very least, the space would lack legibility: for instance, pedestrian crossings could exist in day-time operation despite having no function in the day-time.

The advantages could include:

- Pedestrianised streets, partly dependent upon design, may feel soul-less at night and there is a perception that they can be susceptible to anti-social behaviour. This is based on anecdotal evidence only, there is a sparsity of relevant case studies, there is a view that letting traffic back in at night could mitigate these potential problems.

- Not all streetscape would be impacted by night-time vehicular traffic. For instance, street lighting and suspended art installations could still make a significant contribution to the character of the street.

- Depending on the volume of traffic, some paving and streetscape solutions can accommodate some vehicles within a street design focused primarily on pedestrians, but it is recognised that the potential for significant transformation of place through the use of designed art on the carriageway surface is very much limited or even precluded.
F: ASB

Anti Social Behaviour (ASB) is conduct which causes, harassment, alarm or distress e.g. street urination, begging or abusive behaviour. The link between the level of informal surveillance from traffic and levels of crime is complex and inconclusive. A search of the literature did not highlight any case studies or research which demonstrated that crime and anti-social behaviour would increase if traffic were removed. Changing the use of the space may change the opportunities for specific types of crime but this can be mitigated by good design such as improved lighting. A combination of crime prevention features, “designed in” at the outset and created with the future management of the space firmly in mind has more potential to effectively reduce opportunities for crime. WCC officers have advised that active natural surveillance i.e on-street as opposed to from within vehicles and enforcement are the best tools to reducing on-street anti-social behaviour.

The flows of pedestrians, to provide active natural surveillance, are still relatively high into the late evening and the Tube stations provide a hub of activity until the last trains between midnight and 01:00 (and beyond on Night Tube).

A key element to the way that the space will operate will be the District Management Plan that is being developed by Westminster, looking at a range of issues around powers and legislation, models of place management in other places, and the level of resources needed to ensure that the changed Oxford Street and the wider district are managed well,

G: Hostile Vehicle Mitigation

The increased risk and threat from a terrorist attack using a vehicle has placed an additional requirement on the project with regard to the consideration of provision of Hostile Vehicle Mitigation (HVM) measures. A key consideration will be how to deliver proportionate security measures without impinging on the needs of local businesses and communities or the functionality of the public space. The HVM, potentially in the form of security bollards, and complementary multi-function public realm measures, would form a secure perimeter and a protected space for pedestrians. For the security of the area to be effective this also will require some form of physical access control and vetting / permitting system to authorise access for a subset of the current activities. A general principle will be that the complexity of
managing access and the increase in security risk will rise with the increase in permitted vehicles and types of permitted access. In addition:

(a) The control of access may require consideration of a permit system to ensure ‘rogue’ vehicles cannot access the area.

(b) Even with a permit system the issue of tail-gating would arise, or at Vere Street an unwanted vehicle could access the protected area. This could be addressed with the introduction of an ‘airlock’ system, but this would be intrusive and costly as additional lines of bollards (both static and movable) would be required.

(c) If a permit system could not be adopted then HVM infrastructure may be required along the sections of Oxford Street west closed during the day, with the consequent issues on pedestrian crowding, pedestrian comfort levels and urban realm.

(d) If significant access is permitted for parts of the day then a need for HVM within what would otherwise be a protected space would need to be considered, with impacts on the design and feel of the street.

H: Conclusion

- Closure end to end brings significant benefits, not least to the potential to deliver significant new spaces in this part of central London.

- There is some capacity to cope with limited after hours access and still keep these benefits, albeit reduced.

- Allowing end to end access would raise a number of concerns including:
  - Impact on pedestrian crowding, particularly from HVM measures if they are required.
  - Higher security risk if vehicles have uncontrolled accesses within the protected area.
  - The need for demarcation of the carriageway.
o Reduction in the flexibility of the street space to host events and exhibitions.

o Impacts upon the potential design of the “carriageway” section, limiting options to those which make clear that this space is used by traffic at some times. This is likely to impact on how the space is used during the full day.

• This needs to be set against the impact on the wider area of the displaced traffic