Committees:	**Dates:**
Planning and Transportation Committee Policy and Resources Committee Health and Wellbeing Board Court of Common Council	25 June 2013 27 June 2013 2 July 2013 18 July 2013
Subject: 20mph Speed Limit Benefits and Disbenefits Investigation	**Public**
Report of: The Director of the Built Environment	**For Decision**

Summary

This report advocates the adoption of a 20mph speed limit in all City streets, including those managed by Transport for London. It is in two main parts: this report, which deals directly with the main points, and then two appendices, the first of which amplifies those points, and the second which provides some standard responses to what we expect will be frequently asked questions (FAQs).

Casualty figures in the City have shown a steady increase over the last three years with some 423 casualties in 2012 including 57 killed or seriously injured (KSI). This is despite continuation of our traditional programme of road safety measures. The reason for the increase is that the nature of the usage of City streets is changing. There has been a dramatic rise in the numbers of cyclists and pedestrians, and with the advent of Crossrail increasing the number of pedestrians and the encouragement of cycling generally, these numbers can only increase. Compared with the rest of London, in the City these groups are disproportionately highly represented in the casualty statistics. The situation can therefore only get worse unless we do something different.

Our strategy to reverse the rising casualty numbers is the recently adopted Road Danger Reduction Plan (RDRP). This sets out a whole range of measures to be undertaken between now and 2020. All of these have different cost to benefit ratios. We are already doing the more straightforward things, with an innovative education, training and publicity programme (ETP); minor junction improvements; driver behaviour and vehicle improvement programmes; and even some major junction improvements, like at Holborn Circus, where we are spending £3M on what is our worst casualty location. We have also delivered schemes like Cheapside, where there has been an average speed reduction of over 4 mph (and no collisions resulting in casualties), through narrowing the carriageway. But measures like these take time and to achieve City-wide results would be prohibitively expensive. This is why, in the Plan, it was also agreed that the pros and cons of introducing a reduction in the speed limit across the City should be examined.

This report looks at whether and how such a limit would make a difference. The findings are that it would, with predicted casualty savings of between 8–9%, i.e., around 30–40 casualties per annum, which would be a significant step towards our published target of 30% by 2020. The report also estimates implementation

costs at £100k–£150k which, with the achievement of predicted casualty savings, would make this approach highly cost effective. The other main findings of the study include:

- Traffic speeds would be reduced by the introduction of a 20mph limit
- The often-quoted low average speeds within the City mask both streets where average speeds are over 20mph and also peak traffic speeds at various times such as evenings and weekends. Secondary benefits such as reduced pollution and health improvements through modal shift to cycling are likely to occur.
- There is little or no disbenefit to introducing a 20mph speed limit and in particular journey-time increases would be minimal given the size of the City (typically the journey time for the longest route through the City, i.e., from Victoria Embankment to Byward Street, is not expected to exceed 1 minute even during free flow conditions).
- Transport for London (TfL), City of London Police (CoLP) and the World Health Organization (WHO) support the introduction.

The report goes on to discuss how a limit might be introduced and signed, without the need for traffic calming measures.

Recommendation

It is recommended that Members agree the following:

1. Subject to the agreement of the Court of Common Council, public notice of the City's intention to make an order prohibiting the driving of motor vehicles on all streets in the City of London for which the City is the local traffic authority at more than 20mph be given

2. That any objections that are made to the making of that order be reported to your Planning and Transportation Committee for consideration

3. That the costs of implementing a 20mph limit be met through Local Implementation Programme funding with approval being sought to utilise the 'on street parking reserve' in the event of any shortfall.

Main Report

Background

1. Over the last three years, the usage of City streets has changed. There are now 3 times the number of cyclists that there were 10 years ago, and pedestrian numbers are rising and with Crossrail on the horizon are set to go on rising. Vehicular traffic has remained steady, and with congestion charging now established, few people now drive to the City, other than taxis or to make deliveries, although the Transport for London (TfL) routes are still busy with through traffic.

2. The City has continued with all the road safety measures it has traditionally used. For example, we have a comprehensive package of road safety education for cyclists and in schools and we have improved junctions, both large (like at Mansion House Station) and small (as with courtesy crossings). We have introduced two-way cycling in 50 one-way streets as a measure to help encourage cyclists off the main streets. And yet our casualty figures continue to rise.

3. A reflection of the change in the street usage mix has been that the City has a disproportionately high number of cyclists and pedestrians involved in collisions, compared to the Inner London boroughs. The objective, for London and nationally, is the reduction of casualties where people are killed or seriously injured (KSI). Within London, the vulnerable user groups of pedestrians, cyclists and powered two wheel riders comprise 76% of the KSI total, which is high by national standards. Within the City, the percentage is even higher: 93% of those killed or seriously injured in 2012 were vulnerable road users.

4. The road safety activity over the last decade has made the streets safer for most users but there has been an increase in casualties over the last few years. There is, therefore, a need to change perceptions, expectations and behaviours if the target reduction in casualties is to be met. Put very simply, by 2020, the annual number of casualties within the City needs to be reduced by 165 from the 2012 figure if we are to meet our Local Implementation Plan (LIP) targets.

5. The *Road Danger Reduction Plan* sets out targets and a range of actions to address the City's road safety issues and to meet the requirements under the Mayor's Transport Strategy. Introduction of a 20mph limit would be a significant step forward in the implementation of the plan.

6. The Mayor of London has set out his in principle support of reducing speed limits to 20mph in London in his Road Safety Action Plan for London entitled Safe Streets for London (the Mayor's Action Plan). Published in June 2013 the document says there are now more than 400 20mph zones in London. It states that approximately 9% of KSI collisions are speed related and that TfL will seek to support the installation of new zones and limits through LIPs.

Investigation

7. Officers have:

- Conducted a literature search including reviewing experience with 20mph environments from elsewhere in the United Kingdom and overseas;
- Commissioned a specific air quality impacts study from Imperial College London;
- Obtained average spot speed data for the City based on a study of 59 City streets;
- Had regard to the Department for Transport's recently introduced speed limit appraisal tool;
- Scoped the infrastructure required to implement a 20mph limit; and
- Assessed the predicted impacts.

8. The data collected and used in this investigation and a thorough analysis of the impacts are **attached** as Appendix 1 to this report.

Current Speeds

9. Members will be aware that the often-quoted speed for City traffic is about 8mph. This is the "space mean speed" and is calculated by conducting surveys of cars moving between two points along specific streets during the morning, lunchtime and evening peak periods, on a week day.

10. So to measure the typical speed of vehicles in free-flowing traffic the speed of vehicles at a midway point along a number of streets was collected. These data are referred to as the "spot mean speed". Data were gathered for all vehicles passing a specific point for two weeks and for 24 hours a day. This is the standard data collection technique recommended by the Department for Transport.

11. The average spot mean speed throughout the City is 22mph. The average at Upper Thames Street is 28mph, on Aldersgate Street it is 22mph and on the recently narrowed Cheapside it is 16mph.

12. Clearly there is a variation in speed throughout the day and night and also a variation between weekdays and weekends, but any street where vehicles travel in excess of 20mph has the potential to deliver speed reduction, and therefore casualty reduction.

Journey Times

13. Maximum increased journey times during the free-flow conditions of the small hours of the morning have been independently assessed as being no more than 1 minute across the City (Victoria Embankment–Byward Street), provided that speed limits are not exceeded. This is, however, not representative of the majority of journeys across the City which have an origin or destination in the City where increased journey times over a representative 1.6 mile-journey would be 25 seconds on average.

Current Casualties

14. The Department for Transport (DfT) indicate that a reduction of 6% of casualties can be achieved for each 1 mph reduction in average speed. These data have been gathered from locations throughout the country where 20 mph speed limits have been introduced.

15. Total casualties in the City in 2012 were 423. Of these, 57 were in the killed and seriously injured (KSI) category. The numbers continue to increase for the third year in a row. These figures include casualties that occur on Transport for London roads within the City.

16. From analysis of casualties in the City it can be shown that 87% of all pedestrian injuries and approximately 80% of all cyclist injuries resulted from collisions with motor vehicles.

17. Overall 93% of the KSI casualties in 2012 were vulnerable users: pedestrians, cyclists and powered two wheelers. Speed is not recorded as a factor for most of the collisions within the City but then the Police do not record speed as a

contributory factor if the vehicle was travelling at less than the prevailing speed limit (i.e., 30mph).

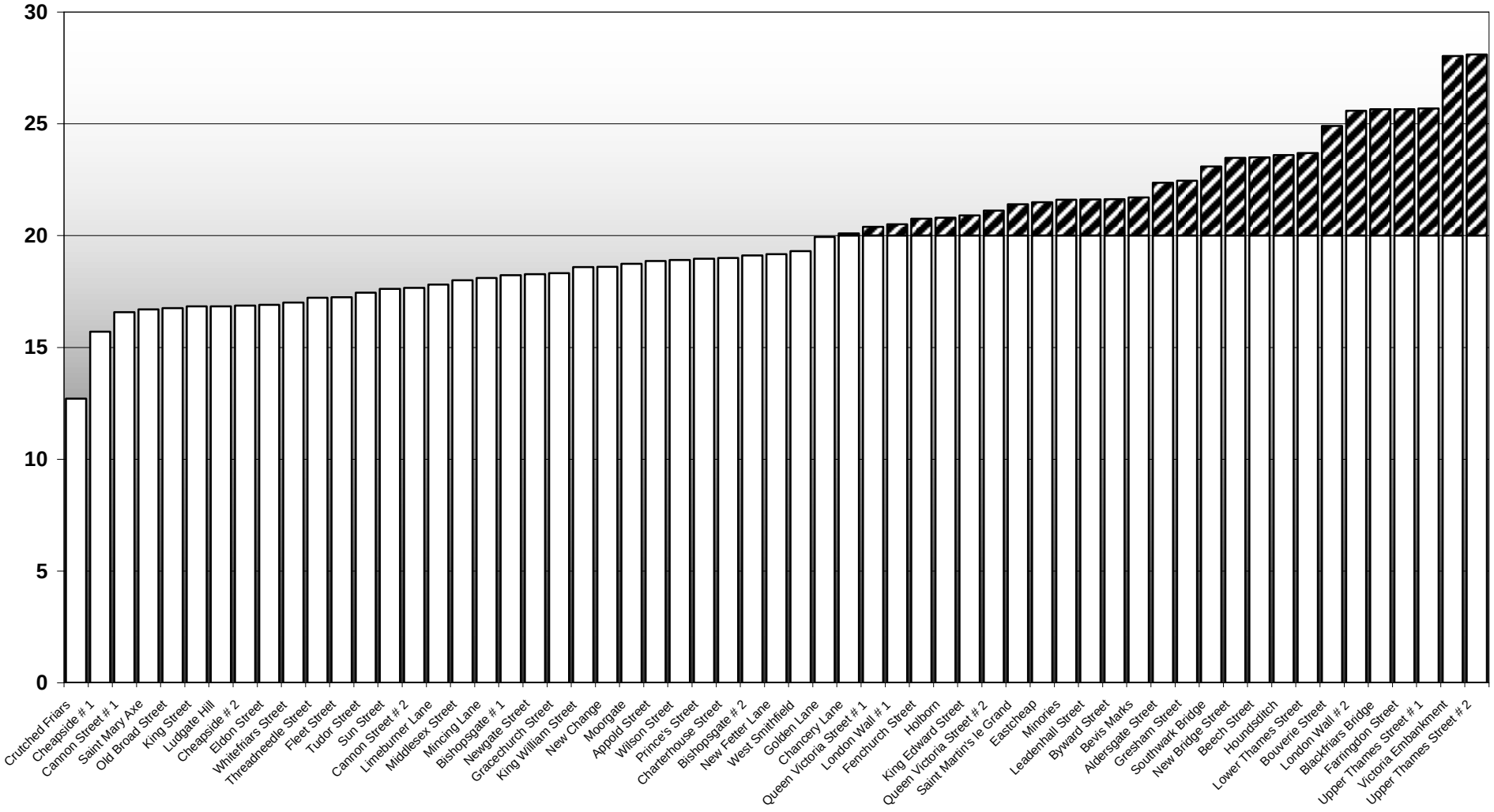
18. Officers have used the DfT analysis to estimate a reduction in casualties in the City as result of a 20mph speed limit. This produces an estimated reduction in casualties of 35 per annum. Casualties on those streets where the spot mean speed is already at or below 20mph have been discounted. Where the spot mean speed is above 20mph, a casualty reduction of 6% is predicted for each mile per hour above 20mph, up to a maximum reduction of 4mph. (The evidence used for the DfT's Circular also indicates that 4mph is the maximum reduction in average speed that can expected from a 20mph speed limit without a significant increase in enforcement activity).

19. As a result, casualty reductions are likely to be greatest on those streets where the spot mean speeds are at least 24mph.

20. This is of course an estimate based on national experience, but we have local evidence to support this. Several years ago, Transport for London introduced a 20mph limit on Upper Thames Street between Swan Lane and Queen Street to facilitate the refurbishment of Walbrook Wharf. There was a dramatic reduction in casualties. The three-year casualty total before the speed-limit reduction was nine and the total for the three years of the 20mph limit was nil.

21. In addition, as well as reducing the number of casualties, a 20mph speed limit would be likely to reduce the severity of casualties.

OVERALL AVERAGE CITY OF LONDON SPOT MEAN SPEEDS (MPH)



Traffic Calming

22. Department for Transport guidance for an authority like the City, with an average speed of 22mph, is that a speed limit on its own will be substantially self-enforcing and does not require physical speed reducing features along a street such as chicanes or speed humps.

What Are Others Doing?

23. On 6 June the Mayor of London published his *Safe Streets for London* strategy document. In it he sets out his support for 20mph speed limits in appropriate locations and advises that there are now some 400 20mph zones across London covering 19% of the total London road network.

24. Transport for London has indicated that, in principle, they support the introduction of a 20mph speed limit for all of their streets within the City of London. Therefore it is proposed that the limit would cover all streets within the City.

25. All boroughs surrounding the City, with the exception of the City of Westminster, have adopted 20mph for all, or most, of their area.

26. Internationally, New York, Paris and Tokyo have, or plan to, introduce substantial speed-reduction initiatives in at least part of those cities.

27. The City has already introduced 20mph for several minor streets:

    - Watling Street;
    - Baltic Street West;
    - Golden Lane; and
    - Chiswell Street.

Enforcement

28. The City of London Police support the introduction of a 20mph speed limit for the City and the Association of Chief Police Officers (ACPO) have recently made clear their support for appropriately introduced urban 20mph speed limits. In reviewing the practicalities of implementation, the Commissioner has noted that the existing speed cameras in the City are not suitable for the enforcement of 20mph speed restrictions and therefore that, if any 20mph speed limit is not successful in being self enforcing, there may be a need for additional enforcement resources (for new speed cameras and additional back-office penalty charge notice processing). The provision of resources to address this issue is a specific action for TfL set out in the recent Mayor's *Safe Streets for London* action plan.

Health and Wellbeing

29. The World Health Organization has stated that "One of the most effective ways to improve pedestrian safety is to reduce the speed of vehicles" and lists area-wide lower speed limits (e.g., 30km/h or 20mph limits) as an intervention of proven effectiveness in improving pedestrian safety.

30. Modal shift to cycling as a result of better conditions for cycling, resulting from a 20mph speed limit, would assist in improving public health. Similarly public health

benefits would also result from modal shift to walking, although these benefits are likely to be less as the potential for modal shift to walking is less.

Air Pollution Effects

31. The likely air pollution effects resulting from a 20mph speed limit have been studied by Imperial College London under a commission from the City. The likely effects are complex and are different for petrol vehicles and for diesel vehicles, and for larger vehicles (e.g., goods vehicles) and smaller vehicles (e.g., cars). The composition of the vehicle fleet using the City's streets is therefore a key determinant of the likely air quality effects. In general terms however, the study concludes that:

    The effects of a 20mph speed restriction … were shown to be mixed, with particular benefit seen for emissions of particulate matter and for diesel vehicles. The methodology was validated by consideration of real-world tailpipe emissions test data. It was therefore concluded that air quality is unlikely to be made worse as a result of 20mph speed limits on streets in London.

Practicalities

32. The project should cost £100k–£150k. The Mayor of London has stated in his Safe Streets for London action plan that he will support the installation of 20mph limits through LIP funding. It is proposed a specific bid be made for this purpose and that approval be sought to utilise the 'on-street parking reserve' in the event of any shortfall.

33. The speed limit should be largely self-enforcing. The police are expected to carry on as existing although final enforcement requirements have not yet been quantified.

34. TfL will be requested to alter the traffic signal "green wave" to reinforce a maximum 20mph transit speed which should result in reduced delays due tored signals.

Conclusion

35. The changing usage of the City's streets means that radical action on reducing road danger is necessary. Introducing a 20mph limit City-wide is a cost-efficient and practical way of making such a radical change quickly. The evidence is that it will be effective in reducing both the number and severity of collisions; be largely self-enforcing; have no adverse impacts on air quality; and be seen to be contributing towards healthier lifestyles. It would fit with international, national and local moves in the same direction. The drawbacks are few: increased journey times when roads are quiet; and a cost of between £100k and £150k.

36. Its introduction cannot be a complete answer to a reduction of casualties and changed behaviours, and it would (if introduced) remain a part, albeit a significant part, of the City's holistic approach to road safety as set out in the *Road Danger Reduction Plan*.

Philip Everett
Director of the Built Environment
020 7332 1600 | philip.everett@cityoflondon.gov.uk

Craig Stansfield
Team Leader, Transportation Strategy and Programmes
020 7332 1702 | craig.stansfield@cityoflondon.gov.uk