

# Draft Revised Mayor's Transport Strategy Integrated Impact Assessment: Appendix E: Report on The Removal of the Western Extension Zone

Report for Transport for London

MVA in Association With ERM and Future Inclusion

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**mva**consultancy

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# 1 Introduction

**The purpose of this Appendix is to report the assessment undertaken of the proposal to remove the Western Extension Zone (Proposal 127) in the Draft Revised MTS and the predicted likely significant sustainability impacts of removal. The findings of this assessment have been used within the overarching assessment of the Draft Revised MTS as a suite of policies and proposals.**

## 1.1 The Role of this Appendix

- 1.1.1 This Appendix sets out the findings of the assessment undertaken of the proposal to remove the Western Extension Zone, hereafter referred to as the 'proposal'. The Appendix also sets out information on baseline conditions relevant to the assessment of the proposal, including environmental, social and economic factors.
- 1.1.2 The findings from this assessment of the proposed removal of WEZ have contributed to the assessment of the Draft Revised MTS, as summarised in Chapter 6 of the IIA Report.

## 1.2 Assessing the Proposal

- 1.2.1 The proposal to remove WEZ is assessed as part of the collective suite of policies and proposals contained within the Draft Revised MTS, as detailed in Chapter 2 of the main body of the IIA Report. This assessment has been undertaken at a strategic level, commensurate with the overarching assessment of the Draft Revised MTS. Accordingly, the proposal to remove WEZ has been assessed primarily at a London-wide level, so that its impacts are assessed taking into account the wider suite of policies and proposals in the Draft Revised MTS. The assessment, however, also describes the proposal's impact within the geographical area comprising the Extension Zone itself.
- 1.2.2 The IIA, in accordance with the SEA Directive and Sustainability Appraisal Guidance, has assessed both the impacts of the removal of the WEZ and those of its realistic alternative, that of retaining the WEZ. These impacts (effects) are dealt with in Section 4. In undertaking this assessment, the IIA has also taken into account the proposed mitigation and compensatory measures contained within the Draft Revised MTS and in the emerging Draft Mayor's Air Quality Strategy (MAQS), including those specifically identified with respect to the Extension Zone.
- 1.2.3 To ensure consistency of approach and assessment, the proposal to remove the WEZ has been assessed using the same approach adopted in the main body of the IIA Report, and using the same IIA Assessment Framework in Chapter 5. In short, this IIA assessment comprises a strategic level assessment of a London-wide transport strategy following SEA Guidance<sup>1</sup>. It also meets the requirements of a strategic level EqIA, HIA and economic assessment, whilst also being informed by the HRA Screening. The IIA Report can be accessed from the following location: <http://www.London.gov.uk/shaping-London>.

<sup>1</sup> Refer to 2.22 to 2.24 of the Practical Guide To Strategic Environmental Assessment (ODPM 09 2005)

**1.3 Structure of this Appendix**

1.3.1 The following sections in this Appendix are as follows:

- Section 2: The Role of the Western Extension Zone
- Section 3: Setting the Context: Baseline Conditions within the Extension Zone
- Section 4: Assessment Findings
- Section 5: Recommended Measures for Mitigation and Enhancement
- Section 6: Monitoring Provision

## 2 The Role of the Western Extension Zone (WEZ)

### 2.1 The Creation of the Western Extension Zone

- 2.1.1 The proposal to extend the Central London Congestion Charging Scheme (CLoCCS) was first put forward in 2005. The Western Extension Zone (WEZ), as it subsequently became known, was examined as an appropriate mechanism by which to reduce congestion in an area which had been identified as experiencing high levels of traffic and congestion, and associated negative impacts in terms of journey time and reliability.
- 2.1.2 A range of studies were undertaken to guide the development of the scheme and its future implementation. TfL subsequently consulted the public and stakeholders between May and July 2005 on a draft Variation Order for a Western Extension to the CLoCCS. The final form of the Variation Order was confirmed by the then Mayor in September 2005.
- 2.1.3 As an operational scheme, the Extension Zone was implemented in February 2007. Its primary aim was to “tackle congestion in the area by reducing the levels of traffic travelling into and through the Zone”. Along with the CLoCCS, the extension contributes directly to the achievement of four transport priorities, as set out in the prevailing Mayor’s Transport Strategy<sup>2</sup>:
- to reduce congestion;
  - to make radical improvements to bus services;
  - to improve journey time reliability for car users; and
  - to make the distribution of goods and services more efficient.
- 2.1.4 For the purposes of this Appendix, the geographical area covered by the Western Extension is hereafter referred to as ‘the Extension Zone’. ‘WEZ’ is used hereafter to refer to the extension scheme.

### 2.2 The Geographical Area & Temporal Scope within which WEZ Operates

- 2.2.1 The Extension Zone covers a geographical area of inner West London of around 17 square kilometres including most of Kensington and Chelsea and part of Westminster (Figure 2.1). Within the Extension Zone, there are approximately 230,000 residents<sup>3</sup> and 200,000 employee jobs (relative to the 4.4 million people living and 7.2 million people working in London<sup>4</sup>). The Extension Zone is, accordingly, a relatively small area of London as a whole.
- 2.2.2 The operational hours of WEZ are limited – running from 7 am to 6 pm, Monday to Friday only. Thus, WEZ is active at those times during the week when congestion, the relief of which is its primary focus, is most intense. This assessment has taken into account the time periods within which WEZ operates in its consideration of likely predicted effects or impacts.

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<sup>2</sup> Mayor’s Transport Strategy (2001)

<sup>3</sup> 2001 Census data

<sup>4</sup> 2001 Census data

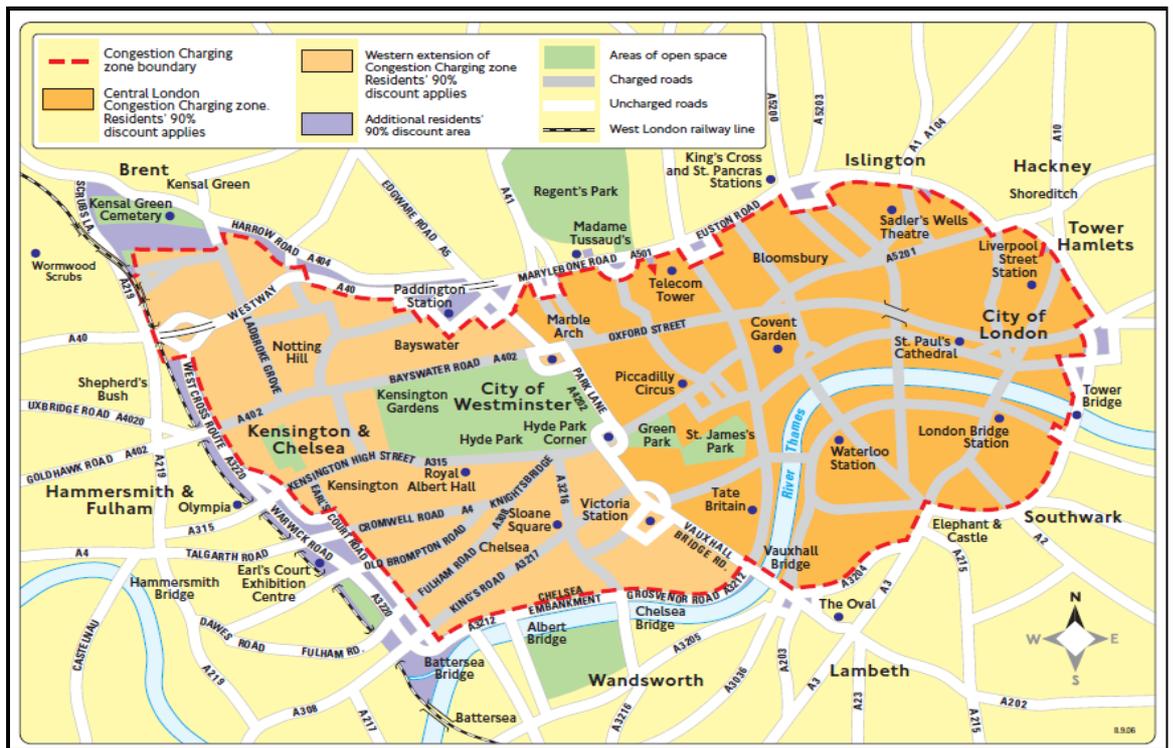


Figure 2.1 Central London and Western Extension Charging Zones

### 2.3 The Role of Congestion Charging and WEZ

- 2.3.1 The primary objective of congestion charging is to reduce traffic congestion. Excessive traffic congestion results in an inefficient use of the available road space, causing disbenefit to the wider community. Congestion arises because the use of road space is not efficiently priced, and therefore charging drivers encourages a more selective and more efficient use of available road space and should lead to overall efficiency gains; road space will be used by those who value it most.
- 2.3.2 The reduced traffic levels caused by congestion charging can also have other beneficial effects including improvements to the general environment, amenity and attractiveness of central London, and improvements to public transport – benefits which are also in part brought about by the reinvestment of net revenues from the scheme – for the benefit of all Londoners.
- 2.3.3 The application of charges does however also lead to disbenefits, particularly for those who choose not to pay the charge. This arises from the need to travel by less preferred modes or at less preferred times; inevitably some individuals or sections of the community may have to change their travel patterns altogether, with attendant social and economic impacts.
- 2.3.4 The overall benefits of the CLoCCS implemented in February 2003 encouraged the idea to investigate the application of congestion charging to other parts of central London. TfL developed proposals based on analysis that suggested that the greatest benefits from expanding the congestion charging scheme would come from a westward extension. This area experienced higher levels of traffic congestion through the working day, compared to areas to the north, south and east of the original Charging Zone. While these areas also experience heavy traffic congestion, this is more predominant at peak times. In addition,



## 2 The Role of the Western Extension Zone (WEZ)

the Extension Zone had suitable diversion routes around its boundaries enabling traffic with no need to be in the area to avoid entering the Zone. The area was, and is, relatively well-served by public transport, providing alternatives to using the car.

- 2.3.5 WEZ has reduced traffic inside the Extension Zone, and initially achieved significant reductions in congestion. However, over the course of the first year of the scheme's operation, congestion rapidly rose, such that it was comparable to the levels of congestion prevailing prior to the introduction of the scheme.
- 2.3.6 Through reducing traffic levels and (initially) congestion, WEZ has brought about some small reductions of the emissions of harmful pollutants for which road transport is responsible, though this has not had any measurable effect on air quality in or around the zone, owing to the predominance of other factors in determining local air quality.
- 2.3.7 WEZ has also generated income for TfL, some of which has been set against the cost of implementing the scheme, but the balance of which has been used to fund improvements in transport in London.
- 2.3.8 The scheme has had impacts on individuals, businesses and organisations in and around the zone, with a mixture of positive and negative effects having been identified.

### 2.4 Non-Statutory Consultation to Consider the Removal of WEZ

- 2.4.1 After the Mayoral elections in May 2008 a non-statutory consultation was held in Autumn 2008 to listen to public and stakeholder views on the future of WEZ. Overall, 69 per cent of individuals and 88 per cent of businesses responding to the informal public consultation supported the removal of WEZ, citing impacts of the scheme on the local economy and communities. The representative attitudinal survey which was carried out alongside the consultation also showed a preference for removal of WEZ, although this preference was not as strong as in the consultation. Support for WEZ among stakeholder organisations was higher, with more in favour of keeping the scheme, although some stated that this support was conditional on changes being made to its operation or charging structure.
- 2.4.2 After reviewing the issues raised, the Mayor announced his intention to put forward formal proposals for the removal of WEZ. The Draft Revised MTS states this intention in the form of Proposal 127.

### 2.5 Future Consideration of this Proposal

- 2.5.1 As previously noted, this IIA is being undertaken as part of the assessment of the Draft Revised MTS as a whole. The proposal to remove WEZ, if adopted by the Mayor in the Revised MTS, will be subject to further statutory consultation in connection with the making of the requisite Variation Order to the Congestion Charging Scheme.
- 2.5.2 In that event, it is likely that there would be further consideration of the impacts of the proposal, including those at a localised level within and around the Extension Zone, and any further relevant assessment would be published prior to that further public consultation.



# 3 Setting the Context: Baseline Conditions Within the Extension Zone

## 3.1 Introduction

- 3.1.1 The SEA Regulations specify that consideration should be given to the baseline social, economic and environmental conditions in the absence of the proposal; in the case of the removal of WEZ, the baseline conditions are those that would prevail in the event of the continued operation of WEZ.
- 3.1.2 In the context of the assessment of this proposal, the baseline comprises both conditions affecting London as a whole and a current understanding of those conditions operating within the Extension Zone.
- 3.1.3 A comprehensive overview of baseline conditions relevant to the IIA is set out in Chapter 4 of the IIA Report. The purpose of this Section is to set out a summary of those conditions but also to establish a current understanding of the baseline conditions as they relate specifically to the proposal. This understanding is based upon data pertaining to baseline conditions prior to the introduction of WEZ, the current situation, and that which can reasonably be assumed on the basis of current knowledge to evolve in 2010, should WEZ be retained. The current baseline is, therefore, generally focussed on 2007/08, for which there is relatively comprehensive data; the future baseline is focussed on 2010, the earliest date that WEZ could be removed.
- 3.1.4 The baseline, therefore, sets the conditions against which to assess the impact of WEZ's removal on traffic congestion and related impacts on economic, social and environmental conditions. This Section describes the current and anticipated future baseline situations, noting the key trends that might influence future conditions. The future baseline situation, therefore, relates to the situation with WEZ remaining in place. This provides the context within which the impacts of WEZ removal can be assessed.
- 3.1.5 Information presented in this Section draws on an extensive monitoring programme of WEZ which has been in place since its inception and is used to understand as far as possible the "before" and "after" effects of the removal of WEZ<sup>5</sup>.

## 3.2 Baseline Conditions

- 3.2.1 The following table summarises the current characteristics of the Extension Zone, the predicted trends with WEZ remaining in place and the issues that arise as a result of its removal, which are addressed further in the assessment. Data is presented relating to 'London' (in normal font) and the 'Extension Zone', first under the general heading of congestion and then in respect of each of the IIA Assessment Framework headings.

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<sup>5</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

**Table 3.1 Summary of Key Characteristics of the Future Baseline: with WEZ remaining in place**

Baseline Issue	Current Characteristics (2007/08)	Predicted Trends (with WEZ remaining in place)	Issues Identified
<b>Congestion</b>			
Road traffic levels	<p>London:</p> <p>31.8 billion motor vehicle kms per year in 2007<sup>6</sup></p> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Around 1 million vehicle kms (including cycling) during charging hours on average weekday in the Extension Zone in 2007<sup>7</sup>. This represents a 10% reduction since charging was introduced.</i></li> </ul>	<p>London:</p> <p>Comparable levels to those in 2007</p> <p><i>Extension Zone:</i></p> <p><i>Comparable levels of traffic to those in 2007</i></p>	Congestion Charge affects traffic volumes
Congestion	<p>London:</p> <ul style="list-style-type: none"> <li>Average speed on the road network is around 24 km/h during the morning peak (2003-2006)<sup>8</sup>, equating to a travel rate of 2.5 min/km</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Average speed during charging hours is around 17 km/h, a travel rate of 3.5 min/km, in the latter part of 2007 and in 2008. This is after an initial reduction in congestion in the Extension Zone when WEZ was introduced, since when congestion has since returned to pre-congestion charging levels<sup>9</sup> though traffic has remained broadly at the reduced post-charging levels.</i></li> </ul>	<p>London:</p> <p>Some deterioration in travel rates as a result of interventions on the road network and growth in population</p> <p><i>Extension Zone:</i></p> <p><i>Travel rates depend on the extent to which capacity lost in 2007 can be recovered; and on prevailing levels of traffic, which are predicted to be around the levels prevailing in late 2007 and early 2008.</i></p>	Effective capacity of highway network (e.g. performance of traffic signal junctions timings and influence of street and road works) affects congestion levels

<sup>6</sup> TfL (2009) Travel in London

<sup>7</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report) <http://www.tfl.gov.uk/assets/downloads/sixth-annual-impacts-monitoring-report-2008-07.pdf>

<sup>8</sup> TfL (2009) Travel in London

<sup>9</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

Baseline Issue	Current Characteristics (2007/08)	Predicted Trends (with WEZ remaining in place)	Issues Identified
<b>Economic Development and Population Growth</b>			
<b>Business</b>	<p>London:</p> <ul style="list-style-type: none"> <li>4.365 million jobs with 13% in retail and wholesale and 7% in hotels and restaurants<sup>10</sup></li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>200,000 jobs with 16% in retail and wholesale and 15% in hotel and restaurants<sup>11</sup></li> <li>Changes in variable in-vehicle transit costs are generally a relatively minor aspect of much business activity in and around the Extension Zone</li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Increase in the number of jobs</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>Increase in the number of jobs in line with broader growth assumptions</li> <li>Continued WEZ charge being applied to businesses</li> <li>Current congestion levels affecting business efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Congestion levels affect efficiency of businesses</li> <li>Charge is an additional (but generally a relatively minor) cost to businesses</li> </ul>
<b>Retail</b>	<p>London:</p> <ul style="list-style-type: none"> <li>In 2004, there were 398,000 workforce jobs in retail in London<sup>12</sup></li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>There has been a long term background declining trend in weekly shopper footfall, predating the introduction of WEZ<sup>13</sup></li> <li>Survey data and retail figures suggest that overall the retail sector has not been significantly affected by WEZ. However, some individual businesses may have been adversely affected<sup>14</sup></li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>By 2026, the number of retail jobs in London is forecast to be 473,000<sup>15</sup></li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>Weekly shopper footfall not expected to be significantly affected by the continued existence of WEZ</li> </ul>	<ul style="list-style-type: none"> <li>Other factors have a stronger influence on retail spend than WEZ, but there are indications that the scheme may influence business confidence</li> </ul>

<sup>10</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>11</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>12</sup> GLA Economics (2007)

<sup>13</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>14</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>15</sup> GLA Economics (2007)



Baseline Issue	Current Characteristics (2007/08)	Predicted Trends (with WEZ remaining in place)	Issues Identified
Tourism	<p>London:</p> <ul style="list-style-type: none"> <li>14.8 million overseas visits were made to London in 2008<sup>16</sup></li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Tourism is a major economic driver within the Extension Zone with many visitor attractions including major museums, retail outlets and parks.</i></li> <li><i>Data on visitor numbers to museums show that there has been no discernible impact following the introduction of the charge<sup>17</sup></i></li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Comparable levels of tourism in the longer term, increasing in 2012, but with shorter term drop due to economic downturn</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Visitor numbers at tourist attractions not expected to be significantly affected by the continued existence of WEZ</i></li> </ul>	<ul style="list-style-type: none"> <li>Tourism unlikely to be affected by the presence of WEZ</li> </ul>
<b>Equality</b>			
Services / care for disabled people	<p>London:</p> <ul style="list-style-type: none"> <li>In 2001, disabled people made up 16% of the London resident population and 9% of people in London provide some form of regular unpaid care for someone who is disabled or unwell<sup>18</sup></li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>In 2001, disabled people made up 14% of the Extension Zone population and 7% of residents in the Extension Zone provide some form of regular unpaid care for someone who is disabled or unwell<sup>19</sup></i></li> <li><i>There has been a decrease in the frequency of trips made by those visiting someone as a carer since the introduction of WEZ by 10%<sup>20</sup></i></li> </ul> <p><i>Surveys of disabled people found WEZ</i></p>	<p>London:</p> <ul style="list-style-type: none"> <li>Continued level of carer visits to present</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Level of carer visits since the introduction of WEZ maintained</i></li> <li><i>Ability to travel of disabled people unaffected from conditions in 2008</i></li> </ul>	<ul style="list-style-type: none"> <li>Continuation of the current reduced levels of visits. The lower level of visits by carers and family and friends to disabled residents of WEZ may cause some people to feel isolated<sup>1</sup></li> </ul>

<sup>16</sup> Visit London (2009)

<sup>17</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>18</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>19</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>20</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>21</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

Baseline Issue	Current Characteristics (2007/08)	Predicted Trends (with WEZ remaining in place)	Issues Identified
Economic inequalities	<p><i>had little impact on their daily lives and no significant impact on their ability to travel<sup>21</sup></i></p> <p>London:</p> <p>Information on business ownership suggests that small business owners are more vulnerable to impacts than larger businesses or chains of businesses who can more readily afford the charge</p> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Analysis suggests that small businesses may have been differentially affected by WEZ<sup>22</sup></i></li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Continued comparable profile of business ownership</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Charge may continue to have some differential impacts on small businesses</i></li> </ul>	<ul style="list-style-type: none"> <li>Small businesses may continue to be differentially affected by WEZ</li> </ul>
<b>Health and Wellbeing</b>			
Wellbeing	<p>London:</p> <ul style="list-style-type: none"> <li>In 2001, 71% of Londoners rated their health as 'good'<sup>23</sup></li> <li>21% of resident weekday trips in 2007/08 were for leisure purposes and 27% for shopping and personal business<sup>24</sup></li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>The majority of Londoners felt that the scheme had made no difference to them; approximately 15% said they were better off and approximately 15% said they were worse off as a result of charging<sup>25</sup></i></li> <li><i>Surveys showed that there was little evidence of a decline in frequency of trips to local services and leisure facilities, although there was evidence of respondents changing their mode of travel<sup>26</sup></i></li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Continued use of services and facilities</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Little discernible effect on health for the residents within and around the Extension Zone. Changes to the determinants of health (e.g. air quality, disposable income) will continue to be very slight and there are both positive and negative aspects to this</i></li> <li><i>Continued use of services and facilities, although with continued greater use of public transport to access them</i></li> </ul>	<ul style="list-style-type: none"> <li>Continuing need for public transport provision to access services</li> </ul>

<sup>22</sup> The Impact of the Congestion Charge on the Dynamics of the Enterprise Population, Beta Model 2008

<sup>23</sup> ONS Census



Baseline Issue	Current Characteristics (2007/08)	Predicted Trends (with WEZ remaining in place)	Issues Identified
Air Pollution	<p>London:</p> <ul style="list-style-type: none"> <li>Road traffic accounted for around 73% of PM<sub>10</sub> emissions and around 46% of NO<sub>x</sub> emissions across London in 2006<sup>27</sup></li> <li>Exposure to airborne particles is associated with increased mortality and adverse health effects, in particular respiratory and cardiovascular health</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>Following the introduction of WEZ, NO<sub>x</sub> has reduced by 2.5% and PM<sub>10</sub> by 4.2% inside the Extension Zone as a result of mode change and fewer vehicles<sup>28</sup></li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Comparable levels of emissions to 2006 with progressive reductions due to fleet turnover and, in the longer term, implementation of Draft Revised MTS policies</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>Comparable levels of vehicle activity to 2007/08 in and around the Extension Zone in the shorter-term, although progressive reductions in emissions expected with natural fleet turnover and MTS and other Mayoral policies</li> </ul>	<ul style="list-style-type: none"> <li>Numbers of vehicles in and around the Extension Zone affect the level of emissions, which in turn can have impacts on health</li> </ul>
Cycling	<p>London:</p> <ul style="list-style-type: none"> <li>Cycling accounts for 2% of trips across London; there is a trend of increased cycling in central and parts of Inner London<sup>29</sup></li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>Trend of increasing pedal cycles recorded at the boundary of Extension Zone since 2005, when counts started</li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Increase in cycling trips through implementation of proposals set out in Draft Revised MTS</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>Increase in cycling trips through implementation of proposals set out in Draft Revised MTS</li> </ul>	<ul style="list-style-type: none"> <li>Physical forms of exercise, such as cycling and walking, have positive health benefits</li> <li>Lower levels of traffic more conducive to cycle use</li> </ul>

<sup>24</sup> TfL (2009) Travel in London

<sup>25</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>26</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>27</sup> TfL (July 2008) London Low Emission Zone Impacts Monitoring Baseline Report

<http://www.tfl.gov.uk/assets/downloads/roadusers/lez/lez-impacts-monitoring-baseline-report-appendix-1.pdf>

<sup>28</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>29</sup> TfL (2009) Travel in London

Baseline Issue	Current Characteristics (2007/08)	Predicted Trends (with WEZ remaining in place)	Issues Identified
<b>Safety and Security</b>			
Road collisions	<p>London:</p> <ul style="list-style-type: none"> <li>There were 24,577 reported slight casualties and 3,784 serious casualties on London's roads in 2007<sup>30</sup></li> <li>There were 10,147 reported collisions involving personal injury between March and December 2007 during the weekday charging hours<sup>31</sup></li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>There were 339 reported collisions in the Extension Zone involving personal injury between March and December 2007 during the weekday charging hours<sup>32</sup></li> <li>For collision statistics collected during the first ten months of charging:                             <ul style="list-style-type: none"> <li>there was no clear difference in the aggregate number of road traffic collisions</li> <li>there was a decrease in collisions involving pedestrians, cars and goods vehicles</li> <li>there was an increase in the number of collisions involving cyclists and powered two-wheelers<sup>33</sup></li> </ul> </li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Comparable road traffic collision rates to 2007, progressively reduced by MTS policies</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li>Comparable road traffic collisions rates to 2007 with reductions from MTS policies in the longer term</li> </ul>	<ul style="list-style-type: none"> <li>Cause and frequency of road collisions</li> <li>Increased numbers of pedal cycles and powered two-wheelers has meant an increase in the number of collisions involving these vehicle types</li> </ul>
<b>Climate Change</b>			
Reduced emissions	<p>London:</p> <ul style="list-style-type: none"> <li>Road traffic accounts for 25% of CO<sub>2</sub> emissions across London<sup>34</sup></li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Progressive reductions in CO<sub>2</sub> emissions with</li> </ul>	<ul style="list-style-type: none"> <li>CO<sub>2</sub> emissions dependent on traffic volume and</li> </ul>

<sup>30</sup> TfL (2009) Community Safety Plan for transport and travelling in London 2009/10

<sup>31</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>32</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>33</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>34</sup> TfL (July 2008) London Low Emission Zone Impacts Monitoring Baseline Report



Baseline Issue	Current Characteristics (2007/08)	Predicted Trends (with WEZ remaining in place)	Issues Identified
Reduced car dependence	<p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>CO<sub>2</sub> emissions within the Extension Zone have reduced by approximately 6.5% following the introduction of WEZ as a result of reduced traffic volume and change in fleet composition<sup>35</sup>. Around one sixth of this impact is caused by through traffic diverting around the Zone</i></li> </ul> <p>London:</p> <ul style="list-style-type: none"> <li>The car mode share for average weekday trips by London residents during 2007/08 is 38%<sup>36</sup></li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>107,000 cars and minicabs entered the Extension Zone on a typical day in 2007 during charging hours; compared to before WEZ, there was a reduction in cars entering the Zone of 21%, with increases in pedal cycles (12%), powered two-wheelers (5%) and bus passengers (6%)<sup>37</sup></i></li> </ul>	<p>natural fleet turnover, reflecting the replacement of older vehicles with newer, more environmentally-friendly models</p> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Progressive reductions in CO<sub>2</sub> emissions with natural fleet turnover</i></li> </ul> <p>London:</p> <ul style="list-style-type: none"> <li>The car mode share is expected to decrease slightly in the longer-term with the implementation of Draft Revised MTS policies</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Maintaining of mode share since WEZ introduced in the short-term, with longer-term reduction in car mode share through the implementation of Draft Revised MTS policies</i></li> </ul>	<p>composition and congestion</p> <ul style="list-style-type: none"> <li>Composition of vehicles by mode will affect CO<sub>2</sub> emissions</li> </ul>
<b>The Physical Environment and Public Realm</b>			
Biodiversity	<p>London:</p> <ul style="list-style-type: none"> <li>Road traffic accounted for around 73% of PM<sub>10</sub> emissions and around 46% of NO<sub>x</sub> emissions across London in 2006<sup>38</sup></li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Comparable levels of emissions to 2006 with progressive reductions due to fleet turnover and, in the longer term,</li> </ul>	<ul style="list-style-type: none"> <li>Emissions can have an adverse effect on natural vegetation</li> <li>Levels of PM<sub>10</sub> and NO<sub>x</sub></li> </ul>

<sup>35</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>36</sup> TfL (2009) Travel in London

<sup>37</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

<sup>38</sup> TfL (July 2008) London Low Emission Zone Impacts Monitoring Baseline Report

<sup>39</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)



Baseline Issue	Current Characteristics (2007/08)	Predicted Trends (with WEZ remaining in place)	Issues Identified
	<ul style="list-style-type: none"> <li>Air pollution can have an adverse effect on natural vegetation</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>It is estimated that emissions of oxides of nitrogen (NO<sub>x</sub>) within the Extension Zone reduced by 2.5% and emissions of particulate matter (PM<sub>10</sub>) by 4.2% after the introduction of WEZ<sup>39</sup></i></li> </ul>	<p>implementation of Draft Revised MTS policies</p> <p><i>Extension Zone :</i></p> <ul style="list-style-type: none"> <li><i>Comparable levels of emissions to conditions after the introduction of WEZ in 2007 with progressive reductions due to natural fleet turnover and implementation of Draft Revised MTS policies</i></li> </ul>	<p>emissions dependent on traffic volume and composition</p>
Damage to cultural heritage features	<p>London:</p> <ul style="list-style-type: none"> <li>London contains four World Heritage sites, around 18,000 individual listed buildings and 165 Scheduled Ancient Monuments<sup>40</sup></li> <li>Buildings of architectural or historical importance are more vulnerable to the long-term damage from air pollution</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Reduction in emissions of NO<sub>x</sub> and PM<sub>10</sub> will have had beneficial impacts with respect to the level of soiling of buildings within and around the Extension Zone</i></li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Comparable levels of emissions to present day, affecting the soiling of buildings, with longer-term reductions due to fleet turnover</li> </ul> <p><i>Extension Zone</i></p> <ul style="list-style-type: none"> <li><i>Comparable levels of emissions to present day, affecting the soiling of buildings, with longer-term reductions due to fleet turnover</i></li> </ul>	<ul style="list-style-type: none"> <li>PM<sub>10</sub> and NO<sub>x</sub> emissions can have an adverse effect on buildings</li> </ul>
Changes to the urban realm	<p>London:</p> <ul style="list-style-type: none"> <li>TfL has produced a Streetscape Guidance Report for 2009 which gives advice and information to TfL staff who look after the design, appearance and upkeep of London's streets and roads</li> </ul> <p><i>Extension Zone</i></p> <ul style="list-style-type: none"> <li><i>Additional street furniture implemented for WEZ, including Automatic Number Plate Recognition (ANPR) cameras being installed at all</i></li> </ul>	<p>London:</p> <ul style="list-style-type: none"> <li>Street furniture associated with the scheme remains in place</li> </ul> <p><i>Extension Zone:</i></p> <ul style="list-style-type: none"> <li><i>Street furniture continues to be in place</i></li> </ul>	<ul style="list-style-type: none"> <li>Street furniture adds "clutter" to the street environment</li> </ul>

<sup>40</sup> English Heritage 2008



Baseline Issue	Current Characteristics (2007/08)	Predicted Trends (with WEZ remaining in place)	Issues Identified
	<i>entry and exit points to the Zone, and signs informing drivers of the location of the charging area</i>		

- 3.2.2 Whilst not a specific factor of the baseline conditions within the Extension Zone or across London as a whole, it should be noted that there are other economic considerations, in particular, impacts on TfL revenue, as a consequence of the operation of WEZ. After the scheme's operating costs are covered, the net revenue generated by WEZ contributes to the funding of the operation and improvement of the transport network across London as a whole, for which TfL is responsible. This is considered as a 'transfer payment' from those paying the charge to TfL, because no resources are consumed or produced.

#### Summary of Characteristics of the Future Baseline: with WEZ remaining in place

- 3.2.3 The future baseline is the situation with WEZ remaining in place. In the short-term, traffic conditions and their related impacts are expected to remain comparable to conditions in 2008. Following the introduction of WEZ, there was a decrease in traffic and congestion. Despite sustained reductions in traffic, however, congestion has since returned to levels broadly comparable to pre-charging conditions. This is thought to be related to highway network capacity changes as a result, for example, of the timings of traffic signals (to allow more capacity to other road users), road works (now completed) that were associated with a major development in Knightsbridge, and the increased incidence of road and street works in the WEZ.
- 3.2.4 In future it is expected that effective road capacity for vehicular traffic will improve somewhat from the levels in late 2007 and early 2008, as lost capacity is partially recovered. The general amount of road traffic in the WEZ is unlikely to change significantly in the short-term, though there may be some additional traffic in the area associated with the new shopping centre at White City, which opened in late 2008. The net effect is that congestion levels in 2010 – the earliest date for the removal of WEZ – are expected to be broadly comparable to those in 2008.
- 3.2.5 This relative stability in traffic conditions is expected, in the short to medium term, to result in relatively static conditions in respect of the composition and volume of emissions affecting air quality and road vehicle collision rates. The background trends that are expected to continue are reducing emission rates as the vehicle stock evolves and a decline in collision rates.
- 3.2.6 In the longer-term, the application of the policies in the Draft Revised MTS is expected to take effect and to impact upon conditions in the Extension Zone such that, in particular, policies to encourage cycling, and policies aimed at reducing PM<sub>10</sub> and NO<sub>x</sub> emissions, will have beneficial impacts on health and the physical environment, and will cause a further mode shift to non-car modes.

**3.3 TfL's current estimates of impacts of removing WEZ**

- 3.3.1 TfL's assessment of the impacts of the proposal to remove WEZ is informed by the results of the impacts monitoring programmes of the Congestion Charging scheme; and by the use of a traffic model to evaluate the London-wide strategic traffic implications.
- 3.3.2 The assessment of London-wide impacts is based on data taken over the 365 days of the year, and interpreted in the context of conditions across Greater London, taking into account that the Central London Congestion Charging Scheme only operates between Monday and Friday, from 7.00am to 6.00pm. The main traffic effects of congestion charging are confined to charging hours only, though the social and economic effects of charging may have wider implications. Baseline conditions used in the assessment are those prevailing in 2008.
- 3.3.3 Compared to the conditions reported in TfL's Congestion Charging Sixth Annual Monitoring Report (2008), there is today less traffic in the Extension Zone. Average speeds inside the extension zone are comparable with those reported in the second half of 2007, being around 17 kilometres per hour (10-11 miles per hour).
- 3.3.4 Table 3.2 shows how the traffic flows have changed across the boundary of the Extension Zone since 2005 when surveys commenced. The table also shows the effect of WEZ implementation in February 2007.



**Table 3.2 Vehicle flows across boundary of the Extension Zone during charging hours (thousands)**

	Cars incl. minicabs	Vans	Lorries, others	Taxis	Buses, coaches	Sub total 4+ wheels	Motor cycles	Pedal cycles	Total
<b>Inbound</b>									
Spring 2005	134	35	9	37	10	225	13	10	248
Autumn 2005	136	35	8	38	9	226	13	11	252
Spring 2006	139	35	9	36	10	229	13	12	255
Autumn 2006	136	36	9	34	9	224	13	12	250
Spring 2007	107	32	9	38	10	196	14	13	222
Autumn 2007	108	34	9	34	10	195	14	13	220
Spring 2008	102	32	9	34	11	188	13	14	214
Autumn 2008	95	32	9	35	10	181	13	13	206
Spring 2009	106	32	8	35	11	192	13	15	220
<b>Outbound</b>									
Spring 2005	139	36	10	39	10	234	12	9	255
Autumn 2005	137	35	9	40	10	231	13	10	254
Spring 2006	141	35	9	40	10	235	13	10	258
Autumn 2006	136	38	9	39	10	232	12	11	256
Spring 2007	111	33	9	38	11	202	13	11	225
Autumn 2007	108	34	9	37	10	198	12	11	223
Spring 2008	102	31	9	33	11	186	12	12	209
Autumn 2008	98	33	9	36	11	187	12	11	209
Spring 2009	110	32	8	36	11	197	13	14	224

3.3.5 The assessment of the predicted change in traffic conditions if WEZ were removed in 2010 has to take account of a number of uncertainties, in addition to the effects of the implementation of other policies and proposals in the Draft Revised MTS. The main factors of relevance, and assumptions made in the assessment (which are provided in Table 3.3, later in this section), are as follows<sup>41</sup>:

- London-wide changes in transport demand and supply: there are many influences on travel and transport in London, some of which could interact with the impacts of the removal of the WEZ; for example, changes in economic conditions. However, the estimates in Table 3.3, below, assume that such influences are constant.
- Driver responses: how individual drivers will respond to the removal of the charge or the residents' charge, and the timescales of responses, cannot be known with certainty. This means that there is a range of aggregate responses, reflected in the conditions set out in Table 3.3. This uncertainty has much less influence at the London-wide strategic level.
- Bus operations: at the time the WEZ was introduced in early 2007 a major review of bus services in this part of London was introduced. The estimates in Table 3.3 assume that the post 2007 revised bus service arrangements would be retained. This means

<sup>41</sup> The following information on key assumptions has been provided by TfL

that removing the WEZ would not represent a simple reversion to previous travel conditions in this part of London.

- Changes in road network capacity: reallocations and reductions in effective vehicular capacity (typically the maximum vehicle throughput at junctions) have occurred since congestion charging was introduced<sup>42</sup>. In the Extension Zone, during the second half of 2007, there was a loss of effective vehicular road capacity of about 15 to 20%, owing to road works and alterations to traffic signals. There is uncertainty over the amount of that capacity that might be recovered and hence its effects on traffic congestion and emissions. Monitoring of traffic and congestion levels suggests that at spring 2009, about 30 to 40% of the lost effective capacity had been recovered. The estimates in Table 3 are based on the assumption that effective vehicular capacity across the Extension Zone at this somewhat reduced level – around 10% lower than pre-charging conditions – will be maintained beyond 2009.
- Traffic management mitigation measures: TfL recognises that a removal of the WEZ could produce an increase in congestion within the Extension Zone area and so is considering a number of possible measures to try to mitigate (prevent, reduce or offset) this as far as possible. The details of the measures have yet to be determined, so the effects are uncertain. This is again reflected in the range of conditions presented in Table 3.3.
- Background traffic trends: there has been a slow reduction in motor vehicle traffic in Inner London for many years; Outer London traffic levels are relatively stable. The estimates in Table 3.3 are based on an assumption of no material change in background traffic levels from 2008 to 2010.
- Westfield Shopping Centre: this opened on 30 October 2008. TfL is still processing data to assess the traffic effects of this development; there are indications of localised increases in traffic.
- Scheme policy: these analyses assume no change in scheme policy (e.g. hours of operation, charge level, payment methods, discounts and exemption classes all remain the same).
- Pedal cyclists: there has been a trend of increasing pedal cycling activity across the boundary of the Extension Zone since 2003. This is part of a wider trend within central London. The Draft Revised MTS includes proposals to provide a cycle hire scheme in central London in 2010 and to develop other measures to encourage an increase in pedal cycling as a mode of transport. The estimates in Table 3.3 reflect current levels of cycling in and around the Extension Zone and their effects on traffic conditions; no specific allowance has been made for any further increase in pedal cyclists in 2010 for the purposes of this assessment.
- Secondary travel impacts: there are numerous potential secondary impacts which could affect traffic conditions. TfL's assessments have considered the broad strategic implications of the removal of the WEZ in terms of the impact of additional traffic on overall demands for road travel and the more localised effect on residents of the Extension Zone, who make use of the residents' discount to drive into or through the original charging zone.

<sup>42</sup> TfL (July 2008) Central London Congestion Charging Impacts Monitoring Report (Sixth Annual Report)

### 3 Setting the Context: Baseline Conditions Within the Extension Zone

- 3.3.6 The assessment of the effects on road vehicle emissions necessarily takes into account an additional factor: the general trend of improvement in vehicle technology. Vehicles in 2010 will, on average, be 'cleaner' than vehicles in 2007, at the time of the Sixth Annual Monitoring Report, or in 2008, the baseline year. The air quality and CO<sub>2</sub> estimates in Table 3.3 take these changes into account.
- 3.3.7 Taking all these factors together and having due regard to the outputs of the monitoring and modelling studies, TfL's current estimates of the traffic, congestion and emissions impacts in 2010 of removing the WEZ are as set out in Table 3.3.

**Table 3.3 Impacts of removing WEZ in 2010, compared to conditions in late 2007 / early 2008**

	Strategic impacts GLA-wide	Local impacts inside the Extension Zone
<b>2010 traffic conditions</b>	<b>(365 days, 24 hours)</b>	<b>(Mon-Fri, charging hours)</b>
Circulating road traffic (four + wheeled vehicles)	Increase in vehicle-kilometres of around 0.5%	Increase in vehicle-kilometres of 15 to 20%
Congestion (minutes / kilometre)	Increase in congestion of around 0.6%	Increase in congestion of 11 to 18%
<b>2010 vehicle characteristics</b>	<b>(365 days, 24 hours)</b>	<b>(365 days, 24 hours)</b>
CO <sub>2</sub> emissions	Increase of around 0.2%	Increase of 6 to 12%
PM <sub>10</sub> emissions	Increase of around 0.1%	Increase of 4 to 8%
NO <sub>x</sub> emissions	Increase of around 0.1%	Increase of 4 to 8%

#### 3.4 Explanations of Impacts

- 3.4.1 Congestion is the delay experienced by an 'average' vehicle, measured as the additional journey time compared to 'free-flow' conditions in the middle of the night. Journey times include time spent stationary in queues, for instance at traffic lights. Journey times and congestion are measured in minutes/kilometre. Emissions estimates are expressed as annual overall changes.
- 3.4.2 Table 3.3 shows the combined effect of both removing WEZ and a partial recovery of effective network capacity. If the partial recovery of capacity alone is considered, then traffic would increase by a smaller amount than shown in the table and congestion would reduce from late 2007/ early 2008 levels, though it would still be higher than pre-charging levels.

## 4 Assessment Findings

### 4.1 Introduction

- 4.1.1 This Section summarises the assessment findings of the proposal to remove WEZ, with regard to the baseline conditions and trends identified in the previous Section and noting the extent to which the proposal would lead to a change in those conditions and give rise to significant impacts as a result.

### 4.2 Factors Influencing the Assessment

- 4.2.1 Three factors – temporal factors, the wider context within which the WEZ operates, and data constraints – have shaped the assessment of the proposal.

#### Temporal Factors

- 4.2.2 The proposal to remove WEZ could see the scheme ceasing to function in late 2010, and the key impacts of the removal would be expected to occur within a short timeframe thereafter. In the interests of consistency, the IIA should look at impacts up to 2031, the horizon year for the Draft Revised MTS. However, predicting over such a long period is inherently difficult for a proposal of this nature. The following analysis focuses on changes that might be expected within a year of the proposed removal of WEZ in 2010, assuming that these can be taken to be generally representative of the impacts that might be expected to continue into the longer term. When both the original charging scheme and the extension were introduced, the bulk of the main traffic impacts were apparent within days. Some behavioural responses to removing the scheme may occur over a longer timescale, so the full extent of the main traffic impacts may not be experienced for several weeks or months.
- 4.2.3 It should also be noted that the traffic impacts predicted are those which are assessed to take effect during the hours within which the WEZ would otherwise have operated, reflecting the time parameters within which WEZ operates today and the current understanding of how WEZ has affected traffic and related conditions within and around the Extension Zone during these hours.

#### The Wider Context within which WEZ Operates

- 4.2.4 The proposal was assessed in terms of its predicted impacts on a Zonal and a London-wide basis, taking into account the implementation of the wider set of policies and proposals in the Draft Revised MTS.
- 4.2.5 As previously noted, the operational hours of WEZ are limited – running from 7 am to 6 pm, Monday to Friday only. Thus, WEZ is active at those times during the week when congestion, the relief of which is its primary focus, is most intense. This assessment has taken into account the temporal parameters within which WEZ operates, in its consideration of likely predicted effects or impacts.
- 4.2.6 It is concluded that the main traffic impacts following the removal of the WEZ will be felt within the Extension Zone itself, and will be of a magnitude substantially greater than that which is experienced elsewhere in London or across London as a whole.



### Data Constraints

- 4.2.7 The assessment has identified, where possible, quantifiable data specific to WEZ. The identification of impacts has, however, also relied on qualitative data to determine the relative significance and likely severity or scale of impacts. The impacts identified have therefore been assessed as a matter of professional judgement using the wider technical knowledge and expertise of the IIA team, where quantification has not been possible and/or where a determination of the relative impact of the removal of the WEZ has been required.

### 4.3 Assessment Alternatives

- 4.3.1 The SEA Regulations require the assessment of realistic alternatives or options in determining the likely significant impacts of the proposal. This assessment addresses two options, namely:

- The status quo, retaining WEZ as it currently operates;
- The current proposal to remove WEZ in the Draft Revised MTS, taken together with the set of measures within the revised Strategy to reduce as far as possible adverse impacts from its ceasing to operate.

- 4.3.2 Both options are assessed by reference to their respective impacts and in the context of the implementation of the collective suite of policies and proposals within the Draft Revised MTS.

### 4.4 Assessment: Recognising the Element of Uncertainty

- 4.4.1 The assessment has used analysis undertaken by TfL to understand the potential impacts of the removal of WEZ and to establish what wider measures are required to mitigate the predicted adverse impacts of this proposal.

- 4.4.2 It is important to note, however, that TfL's current analysis of the proposal considers potential impacts in terms of ranges and makes an estimation of likely predicted impacts as best can be determined at this stage. It is not possible to quantify with precision future impacts because of the range of influences on traffic conditions in the Extension Zone. Nevertheless, despite these uncertainties it is considered that the assessment is sufficiently robust for the purposes of this assessment and provides as accurate a prediction of likely significant strategic impacts as can be produced with current knowledge.

- 4.4.3 TfL will be continuing to undertake analysis of the potential impacts of the Proposal to remove the WEZ. The outputs of this will be used to inform the subsequent formal public consultation, required in the event of the requisite Variation Order being made in 2010.

### 4.5 Presentation of Findings

- 4.5.1 The IIA Assessment Framework, developed for analysis of the Draft Revised MTS, has been used to assess the impacts of the removal of WEZ.

- 4.5.2 Similarly to the assessment of the Draft Revised MTS Options presented in the main IIA Report and Appendix D, a scoring system, based on the significance of the predicted impact,



has been used to show the impacts of the removal of WEZ on each of the key aspects of sustainability, as shown in Table 4.1.

**Table 4.1 Terms used in Assessment**

Strength and Nature of Impact	Colour Code	Description
Strong positive	✓✓	A <b>positive</b> impact of <b>moderate to major</b> magnitude.
Positive	✓	A <b>positive</b> impact of <b>minor to moderate</b> magnitude.
Neutral	-	An impact where <b>no</b> change from the current situation is expected.
Uncertain	?	Where uncertainty exists as to the overall impact – or – there are both positive and negative impacts
Negative	X	A <b>negative/adverse</b> impact of <b>minor to moderate</b> magnitude.
Strong negative	XX	A <b>negative/adverse</b> impact of <b>moderate to major</b> magnitude.

NB: Where the benefit or disbenefit is felt to be particularly minor, or major, this is stated outright.

4.5.3 The summary of the assessment findings is shown in tabular form in Table 4.2 against the IIA Assessment Framework. These findings have also been used to inform the assessment of the impact of the adoption of the policies and proposals of the Draft Revised MTS as a collective suite of policies and proposals. London wide impacts are shown in normal font; impacts on the Extension Zone itself are presented in italics.

Table 4.2 Assessment of the Proposal to Remove WEZ

Objective A – To contribute to, and facilitate, more sustainable and efficient economic progress within London	
Secondary Objective	Assessment
1. Promote more sustainable transport and travel patterns for all users and potential users of the London transport system	<ul style="list-style-type: none"> <li>The removal of WEZ will encourage some people to make journeys by car rather than use public transport, walking or cycling, and hence the impact in terms of this objective is negative.</li> <li>However, the scale of this impact relative to the performance of London's transport system as a whole is not regarded as being significant and is assessed as <b>neutral</b>.</li> </ul> <p><i>Within the Extension Zone during operating hours the impacts are assessed as:</i></p> <ul style="list-style-type: none"> <li>TfL current estimates predict that there will be more road traffic circulating within the WEZ. Over time, elements of this will in part be offset by the implementation of London-wide measures in the Draft Revised MTS to encourage a modal shift towards more sustainable forms of transport, including walking and cycling, for example, through smarter travel programmes.</li> <li>Within and around the Extension Zone, while there will be a potential modal shift back to car use (by some if not all former car-users), this will be partly offset by the measures to encourage use of public transport, cycling and walking.</li> <li>However, it is unlikely that these measures will prevent a significant mode shift back to car use and so it is concluded there will be a <b>negative</b> impact that is <b>minor to moderate</b> in magnitude with respect to the attainment of this objective within the Extension Zone.</li> </ul>
2. Increase the economic efficiency and environmental and social sustainability of freight transport and transfer within and around London and the South East	<ul style="list-style-type: none"> <li>In the context of London as a whole the removal of WEZ is expected to create a very slight increase in congestion (TfL estimates as previously set out in Section 3) and this is unlikely to have any significant effect on freight efficiency. Freight users will also not need to pay the charge where trips are made in the Extension Zone.</li> <li>This impact across London is therefore assessed as <b>neutral</b>.</li> </ul> <p><i>Within the Extension Zone during operating hours the impacts are assessed as:</i></p> <ul style="list-style-type: none"> <li>WEZ introduction initially reduced congestion in the Extension Zone, producing efficiency benefits to road freight, but road freight users in the zone had to pay the charge. WEZ removal will in principle reverse these changes with direct savings to those who previously paid the charge, but increased congestion will create economic disadvantage for deliveries within the Extension Zone.</li> <li>Overall, for vehicle operators, the expected congestion disbenefit may outweigh the benefit of not having to pay the charge. Thus the impact is assessed as <b>negative</b> and of a <b>minor to moderate</b> magnitude for the Extension Zone.</li> </ul>

<p>3. Facilitate and contribute to regeneration across all communities in London</p>	<ul style="list-style-type: none"> <li>Given that WEZ covers a relatively small area of London and does not comprise significant areas of regeneration, in the context of London as a whole the impact of removal of WEZ will have little effect on regeneration and the effect is assessed as <b>neutral</b>.</li> </ul> <p><i>Within the Extension Zone during operating hours the impacts are assessed as:</i></p> <ul style="list-style-type: none"> <li><i>The proposal to remove WEZ is predicted to give rise to a positive impact in respect of the affordability of travel by vehicles and will therefore enable more people to have access to opportunities by car, including key workers and similar lower paid persons who are less able to afford the charge. However the extent to which this may facilitate regeneration is unclear. Greater accessibility by vehicular traffic and potential benefits for some businesses within the zone through removal of the charge (a function of both the businesses not having to pay the charge and the positive demand effects generated from consumers also not having to pay the charge and therefore having more to spend) could have a positive role in facilitating development and regeneration – but it is recognised that the Extension Zone is generally well developed and not in need of regeneration. There may also be some disincentive to regeneration caused by increased congestion experienced within the Extension Zone.</i></li> <li><i>Taking into account the lack of substantial opportunity for major regeneration in the Extension Zone, the overall impact in the Extension Zone of the removal of the WEZ with respect to the attainment of this objective is assessed to be <b>positive</b> and <b>minor</b> in magnitude.</i></li> </ul>
<p>4. Contribute to enhanced productivity and competitiveness amongst all businesses within the London area</p>	<ul style="list-style-type: none"> <li>For London as a whole, TfL estimates predict a slight increase in congestion, but this will be offset by some businesses benefiting from not having to pay charges for relevant trips. The London-wide impacts on productivity and competitiveness are accordingly expected to be marginal and have therefore been assessed as <b>neutral</b>.</li> </ul> <p><i>Within the Extension Zone during operating hours the impacts are assessed as:</i></p> <ul style="list-style-type: none"> <li><i>With the removal of WEZ, TfL estimates predict that there will be an increase in traffic resulting in increased congestion levels during the charging period within the Extension Zone. This will have a negative impact on transport efficiency, network resilience and service reliability.</i></li> <li><i>However the removal of WEZ is likely to be welcomed by some businesses within the Extension Zone who have long lobbied against WEZ's introduction and perceive it as a "barrier" to them.</i></li> <li><i>Some small rises in operational costs may be experienced by businesses attributable to the rise in congestion levels. However, to the extent that effective road network performance is increased, for instance through the Smoothing Traffic Flow programme, the congestion impacts of removing the WEZ could be somewhat relieved.</i></li> <li><i>Removing WEZ is likely to have a positive impact on business confidence through enhancing perceived access to those customers, suppliers, goods and services that use cars and road freight vehicles. Businesses themselves would benefit from not having to pay the charge to drive or receive deliveries within</i></li> </ul>

	<p><i>the area.</i></p> <ul style="list-style-type: none"> <li>• <i>The rating for this objective is assessed as <b>uncertain</b> for the Extension Zone as it is not clear whether the benefits from businesses and their customers not having to pay the charge would be offset by the impacts of the expected increase in congestion levels; both effects are, however, relatively small in the context of overall business costs and other factors affecting business performance.</i></li> </ul>
<p>5. Help to facilitate and contribute to increased employment and earnings especially in low-waged areas</p>	<ul style="list-style-type: none"> <li>• In the context of London as a whole, the effect on employment and earnings is likely to be very small and is assessed as <b>neutral</b>.</li> </ul> <p><i>Within the Extension Zone during operating hours the impacts are assessed as:</i></p> <ul style="list-style-type: none"> <li>• <i>The removal of WEZ is predicted to increase the accessibility of people living or working within the area. Data collected following the introduction of WEZ indicated that key workers had been affected adversely by the introduction of the charge and it is likely that low-paid employees were similarly impacted.</i></li> <li>• <i>While overall the attainment of increased economic efficiency may be variable within the Extension Zone as a result of increased congestion, the positive demand effects and savings from not having to pay the charge may improve prospects for employment among the low-paid. Maintaining the increased bus capacity that was introduced alongside WEZ will also provide assistance for those who are low-paid but do not own a car (though there may be some negative impacts to bus reliability for these people).</i></li> <li>• <i>The removal of WEZ may also see current residents of the Extension Zone lose their 90% discount to enter the CLoCCS.</i></li> <li>• <i>The predicted impact with respect to the attainment of this objective is assessed to be <b>positive</b> within the Extension Zone, given the potential of the removal of WEZ to enhance the accessibility of workers. The scale of this benefit is considered <b>minor</b> in magnitude.</i></li> </ul>
<p>6. Contribute to the alleviation of poverty and its contributory factors</p>	<ul style="list-style-type: none"> <li>• In the context of London as a whole this effect is very small and is assessed as <b>neutral</b>.</li> </ul> <p><i>Within the Extension Zone during operating hours the impacts are assessed as:</i></p> <ul style="list-style-type: none"> <li>• <i>Monitoring suggests that the low skilled and low paid were adversely affected by the introduction of WEZ, in particular carers and key workers.</i></li> <li>• <i>Maintaining the increased bus capacity will provide accessibility for those who are low-paid and who do not own a car.</i></li> <li>• <i>The proposal to remove WEZ is predicted to give rise to a <b>positive</b> impact, with respect to the attainment of this objective, primarily arising in respect of the potential for the removal of WEZ to increase accessibility to employment, training and up-skilling opportunities for the less well paid as well as increasing accessibility to key services and facilities. The scale of this benefit is <b>minor</b> in magnitude.</i></li> </ul>



Objective B – To enhance equality and actively mitigate the barriers to this	
Secondary Objective	Assessment
1. To address the key barriers to equality of access for all users and potential users of the London transport system	<ul style="list-style-type: none"> <li>In the context of London as a whole the effect on equality and inclusion is very small and is assessed as <b>neutral</b>.</li> </ul> <p><i>Within the Extension Zone during operating hours the impacts are assessed as:</i></p> <ul style="list-style-type: none"> <li><i>Removal of WEZ will have a positive impact on providing more affordable travel by car in the area. The TfL Monitoring Report showed that there had been a drop of 10% in the frequency of trips made by carers, and removing WEZ will therefore benefit individuals who require care.</i></li> <li><i>Similarly, surveys of key workers have shown that the number of car trips made by key workers has reduced since the introduction of WEZ. There has also been a reduction in car trips taking children of all age groups to school. Again, removing WEZ will increase the affordability of travel in WEZ for these groups of people.</i></li> <li><i>Removing WEZ will also improve affordability to travel by car for those people in low income households.</i></li> <li><i>The overall impact is predicted to be <b>positive</b> for the Extension Zone, given the potential for enhanced affordability of travel inside WEZ, and the consequential social benefit for WEZ residents in terms of the potential for greater accessibility for visitors, particularly carers who would no longer need to pay the charge. The scale of this benefit is assessed as <b>minor</b> in magnitude.</i></li> </ul>
2. To give all users and potential users equal opportunity to access the London transport system and sustainable transport choices)	<ul style="list-style-type: none"> <li>In the context of London as a whole this effect is very small and is assessed as <b>neutral</b>.</li> </ul> <p><i>Within the Extension Zone during operating hours the impacts are assessed as follows:</i></p> <ul style="list-style-type: none"> <li><i>Whilst greater accessibility is predicted to occur through removing WEZ – this primarily being through car use – it is recognised that barriers exist to public transport use for some groups, particularly those with mobility problems. The use of car can be an essential means of travelling for these people. Enhanced vehicular access, therefore, facilitates sustainable social and economic interaction but incurs an environmental disbenefit.</i></li> <li><i>There will be some potential adverse effects on those adopting sustainable transport modes such as cycling and walking, as increases in traffic negatively affect perceptions of safety and amenity.</i></li> <li><i>Reductions in TfL's income from the removal of WEZ would also tend to reduce budget for investment in sustainable modes, and could reduce choice for travellers.</i></li> <li><i>Other policies and proposals in the Draft Revised MTS promote greater accessibility and the use of more sustainable transport modes, including policies to make the transport system more inclusive. Thus, the benefit of WEZ removal in making car use easier within the Zone for those who rely on the car would be</i></li> </ul>

		<p><i>smaller in future.</i></p> <ul style="list-style-type: none"> <li>Overall, therefore, the impact of removal of the WEZ within the zone is assessed to be <b>positive</b> recognising that for those who experience inequality or unequal opportunity in terms of access, greater inclusivity could be achieved through the removal of the charging scheme. The scale of this <b>benefit</b> is <b>minor</b> in magnitude.</li> </ul>
<p><b>Objective C - To contribute to enhanced health and wellbeing for all within London</b></p>		
<p><b>Secondary Objective</b></p>	<p><b>Assessment</b></p>	
<p>1. To address health inequalities and factors which negatively impact upon health and wellbeing</p>	<p>—</p>	<ul style="list-style-type: none"> <li>London-wide, it is considered unlikely that the removal of the WEZ would have any significant effects on health and wellbeing or health inequalities. The overall impact is therefore assessed to be <b>neutral</b> with regard to the attainment of this objective.</li> </ul> <p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li>There could be some small negative impacts on health inequalities through the impact of removing WEZ on emissions of air quality pollutants from vehicles in the Extension Zone, since poorer people may be more likely to live on or near the busier roads.</li> <li>There will possibly be some small positive income effects through removing a financial burden on charge-payers – income being correlated with health outcomes.</li> <li>As with London as a whole, it is unlikely that the removal of the WEZ would have any significant effects as regards addressing health inequalities. Some minor positive benefits are anticipated to accrue with respect to the health and wellbeing of equalities groups, through improving accessibility and tackling barriers to access, within the Extension Zone and the overall impact is assessed as <b>neutral</b>.</li> </ul>
<p>2. To promote enhanced health and wellbeing for all</p>	<p>—</p>	<ul style="list-style-type: none"> <li>Overall, the impact on health and wellbeing of the proposal to remove WEZ is <b>neutral</b>, for London as a whole.</li> <li>The impact upon health and wellbeing is not anticipated to be significant in scale, though there is potential for disproportionate adverse effects on those living close to the road network and vulnerable groups in the wider community. However, on a London-wide scale, TfL modelling indicated that there would be a negligible impact.</li> <li>The removal of WEZ is likely to encourage a modal shift away from public transport or walking or cycling and back towards use of the car. The scale of this mode shift is, however, considered to be neutral for London as a whole.</li> <li>The removal of WEZ is predicted to slightly increase congestion across London. The resulting small decrease in journey time reliability will have a marginal and broadly neutral impact for Londoners as a whole.</li> </ul>



	<p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li>• Whilst it is anticipated that there will be an increase in emissions to air within the Extension Zone (TfL estimates predict an increase in NO<sub>x</sub> and PM<sub>10</sub>), the impact upon health and wellbeing is not anticipated to be particularly great in scale. For those living in close proximity to the road network and for vulnerable groups in the wider community, the effects are assessed as a minor to moderate disbenefit.</li> <li>• Following the introduction of WEZ, there was a 12% increase in cycling within the zone, part of a longer term trend for increased cycling in central London. The removal of WEZ is unlikely to significantly affect this trend, although, all other things being equal there would be more cycling in the Extension Zone with WEZ. The implementation of policies and proposals in the Draft Revised MTS that encourage walking and cycling and the use of public transport is considered likely to intensify the trend towards more cycling and walking.</li> <li>• Although to be accompanied by targeted mitigation measures, the removal of WEZ is predicted to increase congestion within the Extension Zone. This will decrease journey time reliability within the Extension Zone and on some routes into the Extension Zone; this is assessed as likely to have a minor negative impact upon quality of life for affected commuters and for residents within the zone.</li> <li>• The increase in traffic flows within the Extension Zone may have some adverse effects in terms of increasing the risk of injuries through road traffic collisions, as shown in the baseline, however collision rates are difficult to predict and therefore the overall impact of this is <b>uncertain</b></li> </ul>
3. Improve air quality and the noise climate across London	<p>Overall, the proposal to remove WEZ on air quality and noise is assessed as <b>neutral</b> for London as a whole.</p> <ul style="list-style-type: none"> <li>• London-wide there would be no material adverse impact on air quality (TfL estimates shows negligible change in PM<sub>10</sub> and NO<sub>x</sub> emissions across London).</li> <li>• The overall impact in terms of noise within the wider London area as a result of removing WEZ is considered to be insignificant.</li> </ul> <p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li>• Although there will be a slight increase in emissions of NO<sub>x</sub> and PM<sub>10</sub> (see Table 3.3), the assessment concludes that the change will not have a 'material effect on the measured air quality inside the Western Extension area'.<sup>43</sup> This is because emissions from vehicles inside the Extension Zone make up only a small proportion of the air pollution within the zone. The likely impact is regarded as being negative but <b>minor</b> in magnitude.</li> <li>• Although it is likely that increasing traffic flows will add to noise levels generally in the zone the effect of the additional traffic and congestion on noise levels experienced by persons living in or working in or visiting the zone is predicted not be significant. This is because of the relationship</li> </ul>

<sup>43</sup> Emerging Draft Mayor's Air Quality Strategy (2009)

		<i>between the generation of noise and its perception by the human ear. The overall impact in terms of increased noise is assessed to be negligible and <b>not significant</b> within the Extension Zone.</i>
<b>D – To promote safety and security for all working, travelling and using London transport services and facilities</b>		
<b>Secondary Objective</b>	<b>Assessment</b>	
1. Increase security and resilience to major incidents on the network	—	<ul style="list-style-type: none"> <li>The WEZ extends to a relatively small component part of the highway network in London and hence the effect of the removal of the WEZ is likely to be small in a London-wide context.</li> <li>London-wide there are expected to be no significant changes to current levels of security and resilience to major incidents on the transport network. The impact of this proposal is, accordingly, assessed to be <b>neutral</b> for London as a whole.</li> </ul> <p><i>The impact on the Extension Zone During Charging Hours is expected to be:</i></p> <ul style="list-style-type: none"> <li><i>The removal of WEZ will give rise to increased congestion that could diminish the resilience of the road network to cope with incidents.</i></li> <li><i>However, the implementation of the policies and proposals in the Draft Revised MTS is predicted to improve the management and operation of the highway network to some extent, for example, through encouraging smarter travel choices and smoothing traffic flows.</i></li> <li><i>The effect of the removal of the WEZ on the attainment of this objective in the zone is assessed, accordingly, to be <b>adverse</b> but <b>minor</b> in magnitude, and likely to be largely offset by mitigation measures.</i></li> </ul>
2. Increase road safety for vehicular users, pedestrians and cyclists	—	<ul style="list-style-type: none"> <li>The overall impact of removal of WEZ on road safety in London as a whole is likely to be marginal and has, therefore, been assessed as <b>neutral</b>.</li> </ul> <p><i>The impact on the Extension Zone During Charging Hours is expected to be:</i></p> <ul style="list-style-type: none"> <li><i>Following the introduction of charging in WEZ, it was not clear whether there was any significant change in the number of collisions due to the small numbers involved. There was a decrease in collisions involving pedestrians and cars and goods vehicles, but an increase in collisions involving cyclists and powered two-wheelers.</i></li> <li><i>With the removal of WEZ, there is likely to be more traffic in the Extension Zone increasing the potential for collisions. Cycling stakeholders do perceive WEZ's removal as likely to increase the number of collisions.</i></li> <li><i>The impact within the zone of the proposal to remove WEZ is assessed as <b>uncertain</b> reflecting the small sample nature of the collision monitoring data available from before and after WEZ was introduced.</i></li> </ul>

3. Increase staff and passenger safety on all modes of transport	—	<ul style="list-style-type: none"> <li>The available data does not indicate that the removal of WEZ would give rise to any significant impact in respect of safety on public transport modes; the impact has, therefore, been assessed as <b>neutral</b> for both the Extension Zone and London-wide.</li> </ul>
4. Contribute to the reduction of crime and fear of crime for all users and potential users of the London transport system	—	<ul style="list-style-type: none"> <li>There are expected to be no significant effects related to crime and fear of crime arising from the removal of WEZ. The impact is, therefore, assessed to be <b>neutral</b> for both the Extension Zone and London-wide.</li> </ul>
<b>E- To contribute to the mitigation of and adaptation to climatic change</b>		
<b>Secondary Objective</b>	<b>Assessment</b>	
1. To contribute to the reduction of Greenhouse Gas (GHG) emissions arising from within the London area (focussing on CO <sub>2</sub> )	—	<ul style="list-style-type: none"> <li>Taking into account the mitigation proposed, the overall impact in terms of reducing GHG emissions is assessed to be marginal and <b>neutral</b> for London as a whole.</li> <li>TfL estimates there will be negligible impact in CO<sub>2</sub> emissions across London (see Table 3.3)</li> </ul> <p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li><i>The removal of WEZ is predicted to result in an increase of carbon dioxide (CO<sub>2</sub>) emissions from the vehicles within the Extension Zone (TfL current estimates), as well as a small increase in CO<sub>2</sub> emissions resulting from net traffic increases outside the zone relative to the option of retaining it.</i></li> <li><i>The implementation of WEZ removal mitigation measures contained in the Draft Revised MTS have potential to offset some of the increased CO<sub>2</sub> emissions, though the extent to which this would be the case in the Extension Zone has not been quantified.</i></li> <li><i>The impact within the Extension Zone to the attainment of this objective is predicted to be <b>adverse</b> and of <b>minor</b> to moderate magnitude.</i></li> </ul>
2. To reduce GHG emissions arising from operations and service provision	—	<ul style="list-style-type: none"> <li>The overall impact in terms of reducing GHG emissions from operations and service provision is assessed to be <b>neutral</b> for London as a whole (refer to Table 3).</li> <li>Any increases and decreases in GHG emissions following the removal of WEZ will be small in scale and localised, and are not, therefore, expected to have a significant impact for London as a whole.</li> </ul>



		<p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li>• The removal of WEZ is predicted to result in a decrease in the number of bus passengers entering the Extension Zone, perhaps by 10% during charging hours, although bus-kms will remain constant unless there is a decision to change bus services. Each bus journey is, however, predicted to be slightly less fuel efficient because of the increased congestion levels.</li> <li>• The overall impact in terms of GHG emissions from transport operations and service provision is therefore slightly increased emissions of CO<sub>2</sub>, arising from buses within the Extension Zone. When assessed in the context of the introduction of hybrid buses and more fuel efficient driving, as proposed in the Draft Revised MTS, the increase in GHG emissions will be slightly higher within the Extension Zone than for London as a whole. For the reasons discussed above, however, the impact is not expected to be significant, even on this scale.</li> </ul>
3. To enhance and facilitate adaptation to the impacts of climate change	—	<ul style="list-style-type: none"> <li>• The removal of WEZ has little direct bearing on adaptation to climate change and has been assessed as <b>neutral</b> on a London-wide scale.</li> </ul> <p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li>• The removal of WEZ has also been assessed as having no discernable impact on climate change adaptation within the Extension Zone.</li> </ul>
<p><b>F – To protect and enhance the physical, historic, archaeological and socio-cultural environment and public realm</b></p>		
<b>Secondary Objective</b>	<b>Assessment</b>	
1. To promote more sustainable resource use and waste management	—	<ul style="list-style-type: none"> <li>• The removal of WEZ is not predicted to give rise to any significant impacts in respect of resource use and waste management. The impact has, therefore, been assessed as <b>neutral</b> on a London-wide scale.</li> </ul> <p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li>• The removal of WEZ has also been assessed as having no discernable impact on resource use and waste management within the Extension Zone.</li> </ul>
2. To protect and enhance the built environment and streetscape through planning and operations	—	<ul style="list-style-type: none"> <li>• The removal of WEZ is not predicted to give rise to any significant impacts in respect of the built environment and streetscape. The impact has, therefore, been assessed as <b>neutral</b> for London as a whole.</li> </ul> <p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li>• The removal of WEZ is not predicted to give rise to any significant impacts in respect of the built environment and streetscape within the Extension Zone, although there may be slight benefits in terms of the removal of the road signs and markings and other street furniture related to WEZ.</li> <li>• Traffic management plans, as promoted under the policies and proposals of the Draft Revised MTS, will contribute to minimising as far as possible any impacts</li> </ul>



		<p><i>from additional traffic (and congestion) on streetscapes within the Extension Zone as a result of the removal of WEZ.</i></p>
<p>3. To protect and enhance the historic, archaeological and cultural environment through planning and operations</p>	<p>—</p>	<ul style="list-style-type: none"> <li>• The removal of WEZ is not predicted to give rise to any significant impacts affecting buildings of architectural or historical importance or other cultural heritage. The impact has, therefore, been assessed as <b>not significant</b> on a London-wide scale.</li> <li>• Buildings of architectural or historical importance are vulnerable to soiling and long-term damage from air pollution (NO<sub>x</sub> and PM<sub>10</sub> in particular). However, due to the relatively small increase in emissions expected as a result of the removal of WEZ (see Table 3.3) it is not expected that this will lead to significant additional impacts on buildings of architectural or historical importance or other cultural heritage features, in the Extension Zone or in the wider GLA area.</li> </ul> <p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li>• <i>The removal of WEZ will give rise to an increase in NO<sub>x</sub> and PM<sub>10</sub> (see Table 3.3) within the Extension Zone. Given the very small impact on local concentrations of these pollutants, it is not expected that the removal of WEZ will lead to significant impacts on buildings of architectural or historical importance or other cultural heritage features, in the Extension Zone.</i></li> <li>• <i>The assessment takes into account, however, that Traffic Management Plans assume an essential role in ensuring traffic around designated and non-designated sites of historic and archaeological importance are adequately protected from traffic. In the context of the proposal to remove WEZ, it is expected that such plans will be alert to the need to monitor how such sites are affected if at all.</i></li> </ul>
<p>4. To protect and enhance the natural, physical environment, including biodiversity, flora and fauna through planning and operations.</p> <p>5. To protect and enhance greenscapes, riverscapes and waterways through planning and operations.</p>	<p>—</p>	<ul style="list-style-type: none"> <li>• The impact on the greenscapes and biodiversity within the Extension Zone, and more broadly across London, has been assessed as <b>not significant</b>.</li> </ul> <p><i>Impacts specific to the Extension Zone, during operating hours:</i></p> <ul style="list-style-type: none"> <li>• <i>Pollutant emissions to air will increase within the Extension Zone, as noted above, but the impact on greenscapes and biodiversity within the Extension Zone is not considered to be significant.</i></li> <li>• <i>It is desirable, however, that designated sites of historical or biodiversity importance are monitored on an ongoing basis, to confirm that there are no adverse impacts arising from the removal of WEZ.</i></li> </ul>



#### 4.6 Summary of Impacts across London as a whole

- 4.6.1 The primary objective of WEZ is to reduce traffic congestion in a geographically specific area of London. Whilst WEZ has had, and continues to have, other effects, for example on the environment, this is secondary to the central aim of reducing congestion.
- 4.6.2 The geographically specific and limited area within which WEZ operates, militates against it having any significant magnitude of traffic impact beyond that experienced within the Extension Zone itself and the surrounding area. Thus, the central impacts of removing WEZ are on congestion within and surrounding the Extension Zone, and the wider or indirect effects of that congestion (or its reduction) on social, economic and environmental factors. In this context, the overall impact to London is anticipated to be marginal in terms of realised benefits and disbenefits.
- 4.6.3 As the proposal to remove WEZ forms part of a much larger suite of policies and proposals within the Draft Revised MTS which aim to promote sustainable transport, the assessed magnitude of its relative impact will be progressively reduced as these policies and proposals are implemented.
- 4.6.4 It is recognised, however, that the removal of WEZ would result in a loss of the revenue which TfL currently generates through the operation of the WEZ; current estimates suggest that the net loss would amount to some £55 million per annum. The proposal to remove WEZ will therefore directly reduce TfL funds; in the context of TfL's overall budget, this is a relatively small sum.
- 4.6.5 In the context of overall economic impact, the loss of operational income to TfL is counterbalanced by the gain to those formerly paying the charge; the loss of aggregate benefits through money available to invest in the transport network versus the direct benefits to individuals.
- 4.6.6 Overall, taking into account the relatively limited impact of WEZ across London as a whole, in combination with the wider policies and proposals set out in the Draft Revised MTS, the assessment has scored this proposal as neutral and not significant.

#### 4.7 Summary of Impacts within the Extension Zone

- 4.7.1 The nature and magnitude of impact within the Extension Zone itself has both anticipated benefits and disbenefits in terms of socio-economic impacts and some limited environmental disbenefits.
- 4.7.2 Social benefits are expected to be positive with the removal of WEZ, particularly for lower income households who find the charge difficult to afford, for visits by non residents, including carers, to friends and family within the Extension Zone, and for key workers within the Extension Zone.
- 4.7.3 With respect to environmental disbenefits, it is expected that the implementation of the suite of policies and proposals in the Draft Revised MTS and other Mayoral strategies, including specific mitigation measures in the Extension Zone, should help offset over time the negative impacts in terms of emissions to air. The extent and timing of these wider Draft Revised MTS measures specifically in the Extension Zone, however, cannot yet be quantified. It is

also possible that some elements of the effects of the introduction of WEZ in stimulating a modal shift away from car use may also remain; the adaptations made by some people during the operation of the scheme, for example making some shorter car trips on foot, may have health, economic or environmental benefits they wish to retain.

- 4.7.4 Of significance are the economic impacts of the proposal within the Extension Zone; this centres on the balance of the financial impacts of not having to pay the charge versus the economic impacts of congestion. WEZ introduced a cost which was viewed as adversely impacting business and its customer base, though quantification of the exact impacts of this has been difficult. It is recognised that some individual businesses perceive WEZ as significantly negatively impacting upon their profitability, the issue here being primarily one of business confidence. The proposal to remove WEZ is therefore likely to generate enhanced confidence amongst such businesses.
- 4.7.5 Conversely, WEZ removal has the potential to increase traffic congestion and journey times and to decrease journey time reliability, all of which have an economic impact. The extent to which wider policies and proposals in the Draft Revised MTS will mitigate these effects, specifically within the Extension Zone, is hard to quantify at this stage.
- 4.7.6 The overall conclusion is that the proposal to remove WEZ will result in a mixture of benefits and disbenefits with respect to the Extension Zone. In this context, the extent to which mitigation and enhancement measures can influence the overall sustainability impact of implementing this proposal in the Extension Zone is the principal issue. The question is: to what extent can measures mitigate the impacts of potentially increased congestion?
- 4.7.7 The mitigation identified for WEZ specifically, but also embedded mitigation (explained further in Chapter 5) within the wider suite of policies and proposals within the Draft Revised MTS should over time partially offset the negative impacts. The assessment, however, concludes that there will remain some residual adverse local congestion impacts from the removal of WEZ.

### 4.8 Implications for Congestion Charging

- 4.8.1 The IIA has assessed this proposal from the wider perspective of sustainability, taking into account the range of economic, social and environmental conditions to come to a conclusion on the balance of impact of the removal of WEZ as a whole.
- 4.8.2 The fact that the removal of WEZ has been assessed as 'neutral' for London as a whole is not a reflection of the importance of the role which congestion charging, centralised or local, and wider demand management measures can play. Congestion charging or demand management can be useful in economic terms through reducing congestion and increasing efficiency, and can also generate environmental, economic and social benefit. The extent to which this is realised is in large part dependent upon the area to which it has been applied and the wider factors which govern its operation.
- 4.8.3 The IIA has assessed only the impact of the removal of WEZ and identified that it has both benefits and disbenefits, elements of which could be mitigated or enhanced, as appropriate, through mitigation measures. The potential for future congestion charging schemes to be introduced in London remains a part of the Draft Revised MTS.

# 5 Recommended Measures for Mitigation & Enhancement

## 5.1 Introduction

- 5.1.1 The SEA Regulations<sup>44</sup> require the assessment to put forward 'measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects' identified. The assessment of impacts outlined in Section 4 concluded that, overall, the impact of the removal of the WEZ within the context of London as a whole was predicted to be neutral on balance. This takes into account the implementation of the suite of Draft Revised MTS policies and proposals within which it is set out and has due regard to the nature and scale of benefits and disbenefits identified.
- 5.1.2 The impacts of the proposal are more pronounced within the Extension Zone itself, where the proposal will take effect; London more generally is only marginally impacted by what is or is not occurring within the Extension Zone. In terms of the nature and magnitude of impact within the Extension Zone, there are both benefits and disbenefits, as previously noted.
- 5.1.3 This Section addresses measures aimed at offsetting or mitigating such adverse impact, taking into account the impacts on the Extension Zone itself and wider London factors. These measures are set out for consideration by the Mayor, noting the need for further analysis on their practicality and financial viability.

## 5.2 Embedded Mitigation in the Draft Revised MTS

- 5.2.1 A range of other measures has already been identified and incorporated within the policies and proposals of the Draft Revised MTS that collectively aim to improve air quality through reducing emissions from road transport. These measures are commonly referred to as 'embedded mitigation'. The emerging Draft MAQS will also provide a strategic policy basis for improving air quality in London. It will contain a set of proposals that will likely lead over time to some off-setting of the local increases in pollutant emissions caused by the removal of the WEZ. There is, however, likely to be some residual adverse air quality impact, albeit very small.
- 5.2.2 As noted in the assessment, the scale of adverse impacts in terms of emissions to air in the context of emissions across London brought about by removal of the WEZ is marginal. Within the Extension Zone itself, it is of slightly greater magnitude, but is not considered likely to have a measurable effect on air quality.
- 5.2.3 Within the Draft Revised MTS, there are also a range of measures aimed at encouraging more 'active travel', which has some potential to help to minimise the likely increase in travel by car within the Extension Zone should the proposal to remove WEZ be implemented, although it is likely that many people who switched from their cars because of the charge would revert to driving in the absence of the charge.

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<sup>44</sup> Schedule 2 (7) of The Environmental Assessment of Plans and Programmes Regulations 2004 (Statutory Instrument 2004 No.1633)

### 5.3 Specific Mitigation for the Extension Zone

5.3.1 TfL has identified a number of mitigation measures specifically aimed at minimising the potential for adverse impacts arising from this proposal. The impact of these measures will primarily be London-wide, but there are specific measures identified for the Extension Zone. These measures are principally aimed at trying to manage and improve the efficiency of the road network. The measures, which will continue to be developed and refined, include:

- iBUS technology and proactive scheduling and routing of bus services to address known congestion areas/peaks;
- Smoothing Traffic initiatives<sup>45</sup>, including SCOOT technology to automatically adapt traffic signal timings to changes in traffic demand;
- Improve CCTV coverage to aid rapid response to congestion points; and
- Street works controlled through the London Permit Scheme

In addition, measures aimed at promoting sustainable mode choice include:

- Smarter Travel initiatives and the promotion of public transport, cycling and walking; and
- The London cycle hire scheme will have approximately a quarter of its sites located within WEZ which should encourage a modal shift to bicycle.

5.3.2 As part of the Smarter Travel initiatives, school travel plans and workplace travel plans are being used by schools and businesses located within WEZ which will also contribute to reduced car dependency. In addition, both Westminster and Kensington & Chelsea have a number of car club spaces available on streets within WEZ, encouraging residents to car-share rather than own their own cars. It is important that people are encouraged to retain their participation in such schemes in the event that WEZ is removed.

### 5.4 Wider Mitigation and Enhancement Recommendations

5.4.1 Compensatory or mitigation measures following the removal of the WEZ should allow for a quantifiable reduction in emissions to a comparable extent that WEZ has delivered. The proposals in the Draft MAQS and Draft Revised MTS would appear to have the potential to achieve this.

5.4.2 With respect to reducing the potential for increased congestion, the implementation of measures aimed at more efficient management of the road network, will be important, as well as specific measures to try to ensure journey time reliability for buses. Increasing effective road capacity will also assist in reducing potential economic disbenefits arising from increased traffic as a result of WEZ removal.

5.4.3 Traffic Management Plans will assume a role in ensuring traffic around designated and non-designated sites of historic and archaeological importance does not negatively impact upon such sites. In the context of the proposal to remove WEZ, TfL must also be alert to the need to monitor how such assets are affected by the removal.

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<sup>45</sup> Smoothing Traffic Flow has been defined by the Mayor as delivering improvements to journey time reliability and predictability, including tackling stop-start driving conditions. It also extends to improving conditions for pedestrians.

## 5 Recommended Measures for Mitigation & Enhancement

- 5.4.4 Engagement and ongoing liaison with stakeholders and the public will be desirable in ensuring that there is not only good communication and understanding of what is being proposed but also, in the interests of easing the transition to the changed traffic conditions emerging following the removal of the WEZ.



## 6 Monitoring Provision

### 6.1 Introduction

- 6.1.1 Monitoring of any predicted significant impacts arising from a strategy, plan or programme, is an important element of impact assessment, to evaluate the effectiveness of mitigation measures and identify whether further measures are required. The assessment has shown that a number of mitigation measures are required to offset a modal shift back towards car use and to reduce congestion following removal of WEZ in 2010.

### 6.2 Monitoring

- 6.2.1 It will be essential to monitor the impact of WEZ removal so that further mitigation of adverse effects can be put in place if there are significant unexpected disbenefits following the removal of the charge. The need to assess the impact of WEZ removal may also be used to feed into further policy decisions by TfL.
- 6.2.2 In the context of the potential impacts predicted to arise under the current proposal, such monitoring could focus on assessing the extent to which a modal shift to car use occurs following the removal of WEZ, changes in road speed and congestion levels, and any associated changes in air quality.
- 6.2.3 For the introduction of WEZ, TfL developed an extensive monitoring programme examining traffic patterns, congestion, public transport, road traffic collisions, air quality, travel behaviour, social impacts and business and economic impacts. The findings from this monitoring programme can be used as the baseline for further monitoring to understand the impact of WEZ removal.

### 6.3 Indicators to monitor the effect of WEZ Removal

- 6.3.1 WEZ impact monitoring studies should focus on the immediate effects after removal; in particular the following indicators could be used to monitor the impacts:
- Average daytime congestion levels inside WEZ and on the boundary route during the weekday charging hours and during the night-time (this is to understand whether there has been a change in uncongested traffic speeds resulting from an increase in network capacity);
  - Volumes of vehicles entering and circulating within WEZ by vehicle type and time period;
  - Road traffic collisions by area (inside WEZ and on boundary route), time (charging hours, outside charging hours), severity (fatal, serious, slight) and mode;
  - Air quality statistics (CO<sub>2</sub>, PM<sub>10</sub>, NO<sub>x</sub>) by area (inside WEZ and on boundary route); and
  - Business performance in WEZ (business turnover and profitability, retail footfall).