

Appendix A: Cambridge City Council Response to consultation on the Transport Strategy for Cambridge and South Cambridgeshire (TSC&SC)

1.0 General comments on the strategy document

- 1.1 The development of a transport strategy that takes a longer-term view of transport issues in this area, and has been prepared to help deliver the combined sustainable development strategy for Cambridge and South Cambridgeshire is welcomed. The strategy sets out the scale of the impact of growth in Cambridge and South Cambridgeshire to 2031, with 44,000 new jobs and 35,000 new dwellings anticipated. The background papers that accompany this strategy identify the potential for significant development related traffic growth, which is set to rise by up to 41% across the wider sub-region and 39% for the Cambridge and South Cambridgeshire area unless significant intervention and demand management takes place.
- 1.2 The document as a whole is high on aspiration but needs more detail and an action plan identifying how schemes will be delivered. Cambridge City Council recognises that this is due to the early stage of production of the TSCSC and the long timescales being addressed by the document. However the important relationship between the TSCSC and the growth strategies set out in both local plans means this needs to be addressed in greater detail in future iterations of the document. That said the package of schemes presented in the document appears broadly sensible. It is also noted that associated transport modelling work has also been undertaken in relation to the development strategy options for Cambridge and South Cambridgeshire.

General comments in relation to cycling:

- 1.3 The TSC&SC is welcomed and should help support a step change in the provision of facilities and infrastructure for cycling within Cambridge and surrounding South Cambridgeshire. However, the document needs to consider more how public transport, particularly bus provision, and cycling fit together given that the proposals for bus priority are all roads of importance to cyclists, many of which currently have fairly poor cycle facilities. There is no detail how increasing bus numbers can affect cyclists both positively and negatively depending on how this is managed.
- 1.4 The TSC&SC does not mention the provision of a cycle and pedestrian route adjacent to any new busway and the obvious benefits of this on these routes. The section on the reallocation of road space does make clear the potential benefits to cyclists and pedestrians but this is not referred to in the walking and cycling strategy approach section. It would be useful to include some sectional drawings showing examples of how cyclists and buses could be accommodated in bus priority streets and in streets where traffic restrictions are proposed.
- 1.5 The development section should introduce the aim of improving the existing network where development opportunities arise. This is particularly important for small developments with a relationship to an existing route which could be improved if there is an explicit policy referring to them.

- 1.6 Future routes such as those over the A14 linking through from NIAB/Darwin Green to Girton and Impington need to be safeguarded. These routes should be marked on a map in the strategy document or as a supplementary document referred to in the strategy.
- 1.7 Generally the emphasis should be on high quality cycle provision in Cambridge, bringing in Dutch-style segregation along the main radial and orbital roads. Cycling and walking often do go together as modes, particularly as off-road paths are usually also to the benefit of pedestrians. However, these different users often have different needs and priorities and this is somewhat lost by always considering them as one mode.

General comments in relation to air quality, noise and nuisance issues

- 1.8 One challenge that the strategy does not address in detail is how the growth in both districts can be accommodated without detrimental impact on air quality and noise, so that levels of ambient air pollution and noise be minimised avoiding a negative impact on human health.
- 1.9 It is clear that strategy is heavily reliant on increased bus services. Given the road network capacity constraints in the city this is acknowledged as the only way in which growth in journey demand can be accommodated. The strategy is nonetheless ambitious in its aims and the focus on provision of more comprehensive access to high quality passenger transport is something that is strongly supported. The longer term aims to increase the number of local rail stations and the possibility of bringing redundant rail corridors back in to use with increased service frequency planned for the current rail network is also supported.
- 1.10 Issues of nuisance and effects on amenity associated with new transport infrastructure can often be a cause of legitimate concern. Careful planning to mitigate noise and lighting problems will be integral to the success of the strategy in the longer term. Particular attention will need given to new transport interchanges and road / busway enhancements.
- 1.11 Under the Noise Insulation Regulations there is provision for noise insulation works to be carried out or grants to be provided by the Highways Authority to existing residential properties where very high levels of noise result from alterations to the highway or new roads have been constructed. However traffic noise below the regulation threshold can still lead to excessive internal noise levels, above those recommended by the World Health Organisation (WHO) and in BS 8233: 1999 "Sound Insulation and noise reduction for buildings-Code of Practice" in properties where natural ventilation strategies (opening windows) are relied upon. There are very few remedies for residents affected in this way once transport measures have been implemented therefore, such impacts should be comprehensively tackled during the development control phase.

General comments in relation to Waste Collection/Management issues

- 1.12 All new roads should be adopted, or where this is not possible built to adoptable standards. Where developers use permeable paving to fulfil SUDS requirements and the roads remain unadopted the regular use by refuse and similar sized vehicles needs to be considered in any maintenance regime.

- 1.13 It should be noted that Cambridge is in the second phase of the DEFRA noise mapping project and that this should help inform network development. Future transport provision should be considered during the Noise Action Planning that forms part of LTP3.

2.0 Comments on the Executive Summary:

- 2.1 In Cambridge and its fringes: This section states that “to enable priority to be given to passenger transport, road space will need to be reallocated from general vehicular traffic” and then goes on to say “the strategy will focus on overcoming pinch points on the passenger transport network as well as creating a comprehensive and coherent cycle and pedestrian network”. The reallocation of road space has the potential to provide significant benefits to cyclists and other road users. These two issues should not be considered separately but in tandem and in a comprehensive manner, as opportunities to improve one part of the network could lead to further opportunities in different areas. Although this is mentioned with regard to some roads it is not given enough emphasis nor is it included in the cycle section.

Section 2. The strategy approach

- 2.2 2-7- challenges to be addressed by the strategy: The section on accessibility should refer to removing barriers to cycling and walking by providing safe and convenient crossing points for pedestrians at junctions and providing for cyclists at difficult junctions either with segregated off-road facilities or with innovative on-road provision such as separate signals or advanced green lights. Reference should also be made to increasing bus patronage and increasing bus priority measures whilst ensuring that existing cycle routes are not negatively affected as a minimum, and improved wherever possible. Another challenge that should be included in this section is managing increasing demand for space on off-road cycle routes. As cycling increases its mode share and as the city grows the inadequate width of many of the city’s off-road paths is likely to become more of a problem, particularly for pedestrians. This should be included as a weakness in the analysis of current strengths, weaknesses, opportunities and threats in the city table on p5-2.
- 2.3 Para 2 – 10 of the strategy recognises that improvements to the A14 should take account of local circumstances, local opportunities and local impacts. This needs to include the relationship between the growth of Cambridge and questions of local funding for the current A14 scheme. The potential impact of an improved A14 on traffic flows on roads within Cambridge also needs to be carefully considered.
- 2.4 The approach in Cambridge (2-8) section is supported but should include reference to the aim of providing more high quality Dutch-style segregated cycle facilities in the city. The approach in South Cambridgeshire could make more explicit the role of safe cycle routes providing an alternative to conventional bus services for links between villages and towards Cambridge. In relation to road safety, the challenge is to increase cycling in Cambridge and South Cambridgeshire and not increase the numbers of accidents.
- 2.5 The inclusion of Air Quality as one of the Key Challenges to be addressed by the strategy (2-7) and its inclusion as one of the eight strategy objectives (2-8) is welcomed.

- 2.6 However, subsequent sections relating to Air Quality are less ambitious and point to what has already been achieved or the existing fairly short term plans aimed at current issues. Whilst the successes of the past are worthy of note, particularly the Core Scheme, the Joint Air Quality Strategy and Quality Bus Partnership, they will not ensure continued improvement in air quality when faced with the growth challenges ahead. There is little in the way of actual quantified measures aimed at improving air quality in the strategy area.
- 2.7 The proposed measures relating to increased bus mileage will have a major impact. Increased bus mileage, even if car mileage remains at current levels over the course of the strategy, has the potential to worsen air quality. Even with the current modernised fleet, diesel buses remain the largest single source of transport related emissions within the Cambridge Air Quality Management Area (AQMA). This strategy aims to curb growth in private car mileage largely with an increase in bus services. Whilst we acknowledge and strongly support this way forward, in order to avoid significant worsening of an already unacceptable air quality situation in certain areas of the City, a comprehensive, long-term strategy to significantly reduce individual bus emissions as part of the strategy is essential.
- 2.8 Currently the 'Cambridge Bus Emission Reduction Commitment' is in operation. It was adopted by local bus operators through a 'Quality Bus Partnership' agreement and will run to 2015. This scheme has a target of reducing bus emissions in the city centre by 50% between 2008 and 2015 by maintaining an annually reducing calculated emission envelope for oxides of Nitrogen (NO_x) in a specified central area of Cambridge. The scheme has been successful seeing a reduction in notional bus emissions through fleet renewal, a small rationalisation of services, some re-routing and a drop in service frequency on some routes. This has led to a drop in emissions per distance travelled and a reduction in overall bus mileage in the central area.
- 2.9 Improvements in pollutant levels have been realised but are modest and exceedances of the European and UK health based objectives for Nitrogen Dioxide (NO₂) remain in the city centre, the station area and at junctions on the inner ring road. Thus the current AQMA is still appropriate. An increase in the number of services and their frequency will lead to significantly increased emissions and poor air quality as a result. Without very strong policy measures to reduce bus emissions and ensure very high levels of occupancy in buses operating there will be no air quality benefit over and above the equivalent journeys being made by private car.
- 2.10 Whilst we acknowledge that due to network capacity issues it is impossible to accommodate the number of private cars required for the forecast population and employment it is worth noting the relative emissions for cars and buses to illustrate the scale of the problem.
- 2.11 The table below shows the observed average emissions of NO_x per Km for different vehicle types and gives a stark indication of how many passengers need to be on board a bus to achieve an improved emission result over and above the same number of passenger journeys by single occupancy car.

Table 1 - Emission comparison EU4 Bus / Car and Hybrid Bus - Oxides of Nitrogen¹

¹ Emission Data presented at IAPSC 13/12/10 Dr David Carslaw, ERG, Kings College London except

Vehicle Type	NOx g/km	Number of passengers required for emission parity with single occupancy Diesel car	Number of passengers required for emission parity with single occupancy Petrol car
EU4 Double Decker Diesel Bus	11	22	110 *More than capacity
EU4 Diesel Car	0.5 (0.35-0.825)	1	5
EU4 Petrol Car	0.1	0.2	1
'Boris Bus' (Wrightbus Diesel Electric hybrid)	2.048²	5	21

2.12 Noting the figures shown above it is perhaps surprising that a standard diesel double decker bus cannot outperform single occupancy petrol cars in terms of emissions of NOx per passenger mile even when fully occupied. As seen from Table 1, the New Wrightbus (Hybrid) currently in service in London shows one example of current best available technology and leads to potential emission reductions.

Possible Solutions

2.13 The County Council's Local Transport Plans have included an indicator to monitor the level of traffic entering Cambridge (cordon and river crossing), with the aim of keeping traffic levels constant. This will ensure that congestion does not worsen and originally it was considered that air quality would improve as a result as vehicle emissions standards improved. Given recent research on the effectiveness of improved Euro engine standards this is unlikely to be enough to ensure the status quo in terms of air quality. The required health based standards in Cambridge are not currently met in some areas. The Quality Bus Partnership runs until 2015; no formal agreements beyond this date have been agreed or discussed.

2.14 The following measures should be targeted in the strategy document alongside the other ambitious changes proposed:

- that the current Cambridge Core Area traffic management scheme be extended to the extent of the AQMA or equivalent practical boundary, and is upgraded to a formal Low Emissions Zone.
- The current emissions envelope calculations that form part of the Quality Bus Partnership should be widened spatially to match the new restricted zone and should also include all modes of transport.
- A new agreement with bus operators will be needed to ensure a transition to best available, low emission transport technologies, potentially including Hybrid, Electric, hydrogen or fuel-cell buses. This must be realistic and planned over the

² Data published by TFL Transport for London - <http://www.tfl.gov.uk/corporate/media/newscentre/archive/27746.aspx>

medium to long term to allow for operator investment cycles and must acknowledge the investment already made by the bus operating companies. If it is coupled with a consequent improvement in bus infrastructure, priority and publicity then economically beneficial delivery of the key objectives should be achievable.

- Access to the central areas of Cambridge (other than car parks) should be restricted to low-emitting vehicles which are either Passenger Transport, Taxis, Delivery, Service or resident's vehicles at least during peak hours.
- Measures for increased Walking and Cycling provision must be maximised (see below).

Carbon Emissions

2.15 Road transport is a major source of carbon emissions in Cambridge City accounting for 19% of total Carbon emitted nationally³. Whilst the impact is not as marked as for polluting emissions, buses require a good level of occupancy before they are more carbon efficient than single occupancy cars:

Table 2 - Vehicle Type / Occupancy / Equivalent Carbon Emissions

Vehicle Type	CO ₂ g/km	Number of passengers required for emission parity or better with single occupancy car
Double Decker Diesel Bus (London fleet average) ²	1295	9
Fleet Average Car ⁴	159 (80-300+)	1
'Boris Bus' (Wrightbus Diesel Electric hybrid) ²	690	5

2.16 Clearly the argument for bus transport is much stronger for Carbon than it is for polluting emissions but this needs to be quantified and articulated within the strategy document. Currently references to carbon emissions are infrequent (two mentions) and not quantified. Any Comprehensive transport strategy needs to include explicit consideration of Carbon issues.

4. The Transport strategy

2.17 A. Passenger transport: This section could make more reference (based upon survey evidence) to the benefits to cycling of shared use routes alongside additional guided busways such as linking Waterbeach to Cambridge. The provision of a shared use route along the guided bus way between Cambridge and St Ives has significantly boosted the number of cyclists entering and exiting St Ives, and has proved that the provision of a direct and high quality infrastructure encourages cycle

³ Source: National Atmospheric Emissions Inventory (NAEI)

⁴ http://ec.europa.eu/clima/policies/transport/vehicles/cars/index_en.htm

journeys from longer distances into Cambridge. It is considered appropriate to explicitly mention this as part of the Bus and Guided Bus network section (4-5). New direct, high quality cycle routes should be considered when other guided bus facilities are constructed, furthermore similar facilities could be considered along key roads and routes in Cambridge and South Cambridgeshire. Encouraging higher take up of long distance cycling could reduce pressure on the road network from commuting traffic and provide facilities for local journeys with associated health and well-being benefits.

- 2.18 The strategy should better consider how different modes of transport can be integrated so as to encourage sustainable methods of transport by different modes. For example trains and busses should better be able to accommodate bicycles; reference should be made to this on pages 3-1 and 4-8.
- 2.19 Taxis: Access, Provision and Priority: Given the focus on high quality passenger transport the document is light on plans for taxi provision. In the high functioning multi modal transport network proposed with considerably reduced private vehicle use per resident across the strategy region it is likely that reliance on private hire and hackney carriages will be significantly higher.
- 2.20 This raises a number of issues about vehicle priority, access and rank provision. The focus on high capacity passenger transport means that this key element of the public transport picture is not given the strategic importance it deserves. The restrictions on provision in the city centre posed by limited physical road space are acknowledged, however effective planning for appropriate taxi provision is vital to the success of the transport strategy proposed.
- 2.21 Taxis and private hire vehicles offer an important and, in some cases, vital provision, particularly for elderly, disabled and infirm people, which enables them to access the city in a way which other modes of transport do not. They also fulfill a significant role in supporting the night-time economy of the city, when buses are not available.
- 2.22 Emissions: The provision to improve vehicle specification is welcomed and this should be considered within the same measures outlined in the air quality section. The use of cleaner fuels is certainly a beneficial option, which needs to be assessed and prioritised.
- 2.23 However the indications illustrated by Table 1 above are that a change to petrol or Petrol Electric hybrid vehicles in particular would minimise the polluting impact of taxis. Taxi emissions of key pollutants remain at least 1 order of magnitude below those of bus services.
- 2.24 As a point of correction (page 4-40), although the 2009 Air Quality Action Plan refers to the Cambridge City Council 8 Year Age limit policy, this has now been updated (2012) and a more directed policy, which requires:
- all existing taxi vehicle licence renewals to meet the Euro IV emission standard and
 - all new taxi Vehicles to be licensed must meet the Euro V emissions standard
 - No taxi licence will be renewed if it is nine years or older.
- 2.25 This combination of policies has allowed Euro 3 vehicles to be excluded from the fleet earlier than under the 8 year rule whilst maintaining continuous improvement.

C. Walking and cycling

- 2.26 The overall approach for walking and cycling is stated as “to create networks for pedestrians and cyclists that provide routes and infrastructure linking together all the major area in Cambridge”. This network already exists but quality varies and there are gaps where cyclists have to negotiate difficult junctions, share the road with high volumes of vehicular traffic or share narrow, poorly maintained, paths with pedestrians. For pedestrians the issue is of poorly maintained footways and lack of safe crossings, particularly at junctions. Rather than an aim of creating networks it should therefore be one of bringing the existing network up to a high quality, filling the gaps and expanding it when opportunities arise.
- 2.27 The level of detail for cycling and walking appears unbalanced as considerably more detail is presented for other modes. Cycling and walking are important modes of transport within Cambridge and the wider area that do not have any negative air quality impact; they need to be integral to the transport strategy.

Fig 4.10

- 2.28 Reducing the speed limit to 50mph on all but major routes is unlikely to make any difference to safety concerns and is therefore unlikely to encourage more cycling. Perhaps consideration of 20mph on roads in villages/market towns could be added under the Walking and Cycling element of the TSCSC (Fig 4.10) to promote these modes. This could also feature under road safety (4-32). Encouraging cycling in villages and enabling more trips to be taken by bicycle within South Cambridgeshire will help people become more confident cyclists and allow them to consider taking longer trips by bicycle (e.g. into Cambridge).
- 2.29 A major barrier to walking is the lack of pedestrian crossing facilities, particularly at some junctions. Providing additional pedestrian crossing facilities in appropriate crossing points should be included in the measures to address this barrier.

In Cambridge

- 2.30 As well as the points included in this section the cycling and walking strategy for Cambridge should emphasize the provision of a high quality network with:
- Dutch-style provision along main radial and orbital corridors where space allows.
 - Bus/cycle lanes which are wide enough for a bus to overtake a cyclist without leaving the lane.
 - High quality cycle and pedestrian paths adjacent to any new busway
 - Cycle safety measures at major junctions which could include innovative solutions such as, but not limited to, separate signals for cyclists.
 - Safe and convenient crossings for pedestrians. All main junctions should include a pedestrian phase and zebra crossings should be considered as the first option elsewhere as they provide genuine priority for pedestrians.

In rural areas:

- 2.31 As above the reduction in speed limit to 50mph is easy to achieve but is unlikely to have any significant effect, certainly not on encouraging cycling or walking. Speed limits of 50mph may improve road safety for motorised vehicles, but it does nothing for cyclist and pedestrians, either to their perception of safety or their reality. This is not an alternative to a segregated route. Changing the speed limit to 50mph should

not be considered to have assisted cyclists or pedestrians, and real measures to help them should be considered.

2.32 Improving links from villages to employment centres and secondary schools is strongly supported. In rural areas coverage is more important than quality at this stage in trying to achieve a network linking schools, employment sites etc. and so it is recommended that a set of guiding principles be applied depending on likely usage and location. These guiding principles could form an appendix or supplementary guidance to the strategy document.

2.33 Leisure cycling to visitor sites should also be encouraged as well as travel by foot.

4-31. Core Traffic Scheme extension:

2.34 This section is very much supported as such closures would have a significant beneficial effect on cycle safety and the attractiveness of these routes to new cyclists (rather than an effect on journey time as stated in this and following sections). It would also benefit pedestrians with an improved environment and better air quality.

E. Freight movements and servicing:

2.35 This section is also very much supported. The reduction of large delivery vehicles in the city centre will greatly improve safety for cyclists.

5. The High Level Programme

2.36 List of interventions in Cambridge: Many of these should also include improvements for cyclists and pedestrians, for example:

- Cambridge Science Park Station with high quality cycle and pedestrian links and cycle parking.
- P&R sites – to include covered cycle parking and improved cycle and pedestrian links to the site.
- Bus priority schemes – should state that these would provide an improved provision for on-road cycling.
- Busway – should include provision of a high quality cycle & pedestrian path.
- City Centre Improvements – this should include the aim of re-routing buses away from Bridge Street to improve the environment for pedestrians and cyclists.
- Provision of a third City Centre cycle park – could be an extension of the existing cycle park in Grand Arcade so change to “Provision of a third City Centre cycle park or extension of one or both of the existing parks”.

Walking and Cycling

2.37 The provision of the Chisholm Trail is strongly supported, subject to full appraisal and consultation on the detailed impact in sensitive locations such as where crossing the river or the commons. It would make more sense to distinguish between cycling and walking as modes here. For cycling it is recommended that interventions include:

- Improving the main radial routes into the city with the aim being to provide Dutch-style segregation where possible.

- Improving the safety of the main junctions along these radial routes with remodelling of roundabouts and re-phasing signalled junctions to include cycle only signals where appropriate.
- Improving the main orbital routes around the city such as East Road – Lensfield Road -Fen Causeway, Queen Edith’s Way – Long Road and Brooks Rd – Mowbray Rd – Fendon Rd.
- Improving the safety of the main junctions along these routes, particularly the remodelling of the Coldham’s Lane/Brooks Road/Barnwell Rd roundabout (the proposed remodelling of the Elizabeth Way/East Road/Newmarket Rd roundabout and improvements to the Fen Causeway/Trumpington Road junction in the City Centre section are strongly supported).
- Remodelling of the Maids Causeway/Victoria Avenue roundabout with a reduction of traffic lanes and incorporating improved crossing points.
- Consider the removal of car parking in order to improve the city cycle network on roads such as Lensfield Road, Davy Road and Coleridge Road.
- Widen and improve the surface of off-road paths with priority given to NCN routes and across Coldham’s Common.
- Improvement to the NCN51 crossing of Ditton Lane.
- Consider the replacement of the bridge and ramps along the Tins path to better accommodate cyclists and pedestrians.
- Improvement of the links to the busway at Trumpington
- Declassifying Victoria Road so that its function as a major through-route is changed to one that is more cycle and pedestrian friendly.

For pedestrians it is recommended that interventions include:

- Pedestrian phase added to the Castle Street/Chesterton Road junction
- Pedestrian phase added to the Coldham’s Lane/Newmarket Road junction
- Pedestrian phase added to the Lady Margaret Road/Madingley Road junction
- Add and improve crossings in the Maids Causeway roundabout area to facilitate access to the bus stops