Response to Glasgow City Council's City Centre Transport Strategy Consultation

28 May 2013

Friends of the Earth Scotland is Scotland's leading environmental campaign organisation. We are an independent Scottish charity with a network of thousands of supporters and active local groups across Scotland, including an active local group in Glasgow.

We are working to clean up Scotland's air because air pollution remains poor in many of Scotland's urban areas, putting people's health and the environment at risk and exacerbating social inequality. We are working towards this end by engaging on air quality and transport issues, with specific regional focuses on Glasgow and Edinburgh, which have some of the worst air quality problems in Scotland.

We appreciate the time officials from the Council have put into meeting us and discussing the issues we raise in this response.

In our Consultation response *firstly* we argue that this Transport Strategy must address Glasgow's air quality issues. *Secondly*, we recommend that, to ensure this, the Strategy should:

(1) Include an objective to bring Air Quality to within Scottish regulatory standards by a designated time;

(2) Model or aim to quantify what measures need to be taken by the strategy to ensure air quality standards are met, and include these answers within a final Transport Strategy;

(3) Have a double-pronged approach of reducing the contribution of traffic to air pollution by (a) introducing a target for traffic reduction and crucially, (b) bringing forward the development of a city centre Low Emission Zone.

Finally, we comment on the measures contained within the Strategy and welcome the concept of Avenues, measures for new cycle routes, 20mph speed limits, and new bus gates.

I. Glasgow's air quality issues and the connection between tackling air pollution and transport planning

Glasgow has a serious air pollution problem which has, in recent years, become an urgent priority to tackle.

Scottish Regulatory Standards exist to control air quality. Glasgow City Council has declared four Air Quality Management Areas, i.e. areas where air quality standards set down in Scottish regulation are not being met.[1] The two pollutants of concern are Nitrogen Dioxide and Small Particles. These standards were supposed to be met at the end of 2005 (Nitrogen Dioxide) and 2010 (Small Particles) so we are coming up to 4 and 8 years behind schedule on meeting the targets.[2] Scottish standards are based on World Health Organisation

[1] Glasgow City Council, "Air Quality Progress Report for Glasgow City Council" (June 2013), Section 1.5, http://www.glasgow.gov.uk/CHttpHandler.ashx?id=17264&p=0

[2] For NO2, The Air Quality (Scotland) Regulations 2000, Schedule; For PM10: The Air Quality (Scotland) Amendment Regulations 2002, Reg 2(4)(d)

recommendations which have been set to protect public health.[3] However, there is an emerging body of evidence which shows that adverse health impacts are seen even at levels below WHO recommended guidelines.[4]

European Law also exists and enforces legally binding limits on air quality for all Member States. These legal limits are not being met in Glasgow for Nitrogen Dioxide. In February this year the European Commission began legal action against the United Kingdom for failing to bring levels of Nitrogen Dioxide to within legally binding EU limits which were supposed to be achieved at the start of 2010 in several local authority areas across the UK including in Glasgow.[5] The Commission considers it unacceptable that Glasgow's Nitrogen Dioxide problem is only expected to be fixed by 2020. In April of this year, the European Commissioner confirmed that it is a real possibility that heavy fines could be handed down to the United Kingdom as a result of this lawsuit.[6]

Aside from the legal duty in respect of air pollution, there are the effects of air pollution on health. Air pollution has both morbidity and mortality effects: it is known to worsen asthma and emphysema, it increases the risk of having a heart attack or suffering a stroke, and the World Health Organisation considers it to be the leading cause of cancer worldwide.[7] Adverse health effects are seen even where people are only exposed to air pollution for short periods of time.[8] Public Health England recently published figures which show that over 300 deaths in Glasgow each year are attributable to just one pollutant alone, fine particles ($PM_{2.5}$).[9] Mortality and morbidity effects are shown even at levels which are much lower than Scottish standards.[10] Health impacts occur from exposure to both Particulates (PM_{10} and $PM_{2.5}$) *and* Nitrogen Dioxide. Air pollution impacts on the most vulnerable in our society: the young, the elderly and those with other health problems, which often corresponds with people affected by poverty. But what sets air pollution apart from other top health threats in Scotland is that people have limited personal choice over tackling it; they cannot choose the air they breathe in, so government and local authority are responsible for introducing policies and strategies which can tackle it.

These recent advances in our knowledge are driving the need to tackle this silent killer up the political agenda. At the national level the Scottish Government is in the early stages of consulting on a national Low Emission Strategy which will include measures aimed at bringing air pollution to within Scottish standards.[11] The centrepiece of this is expected to be a National Framework for Low Emission Zones.

Traffic is the key cause of air pollution in Glasgow. Although of course there are other sources of air pollution which affect Glasgow at different times (e.g. background pollution blowing in from other parts of the country and Europe), the vast majority of air pollution from Nitrogen Dioxide comes from traffic in Glasgow. There is also a dominant contribution to PM_{10} from transport. According to the European Environment Agency, out of all European cities, Glasgow is the city in Europe which has the largest contribution to PM_{10} coming from urban and local transport.[12] Although background sources might be outwith the Council's control to

[3] World Health Organisation, "Air Quality Guidelines - Global Update 2005", available at http://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/
[4] World Health Organisation, "Review of evidence on health aspects of air pollution – REVIHAAP: First Results" (2013), p 8, available at http://www.euro.who.int/__data/assets/pdf_file/0020/182432/e96762-final.pdf
[5] European Commission Press Release, "Environment: Commission takes action against UK for persistent air pollution problems" (20 February 2014), available at http://europa.eu/rapid/press-release_IP-14-154_en.htm
[6] Joe Hennon, European Commission spokesperson, speaking on BBC Radio 4 "World at One" on 2 April 2014
[7] International Agency for Cancer Research Press Release, "IARC: Outdoor air pollution a leading environmental cause of cancer deaths" (17 October 2013), http://www.iarc.fr/en/media-centre/pr/2013/pdfs/pr221_E.pdf
[8] See note 4, p 6
[9] Public Health England, "Estimating Local Mortality Burdens associated with Particulate Air Pollution" (April 2014), http://www.hpa.org.uk/Publications/Environment/PHECRCEReportSeries/PHECRCE010/
[10] British Medical Journal, "Long term exposure to ambient air pollution and incidence of acute coronary events: prospective cohort study and meta-analysis in 11 European cohorts from the ESCAPE Project" January 2014, http://www.bmj.com/content/348/bmj.f7412
[11] Scottish Parliamentary Debate on Air Quality, 12 March 2014, Transcript Available at http://www.scottish.parliament.uk/parliamentarybusiness/28862.aspx?r=9016
[12] European Environment Agency, "The contribution of transport to air quality" (2012), http://www.eea.europa.eu/publications/transport-and-air-quality-term-2012, p 33. The EEA estimates that the contribution of urban and local traffic to PM_{10} concentration in Glasgow is 61%.

tackle, it can and therefore should take more decisive action to tackle emissions from traffic.

Against this backdrop, it is logical for transport planning and in this case the City Centre Transport Strategy to tackle air pollution. Indeed, there is a moral imperative for it to do so.

II. How air quality imperatives could be better woven into the Transport Strategy

There are a number of initiatives in the Transport Strategy which may have a beneficial overall impact on air quality: Avenues, Cycle Routes, 20mph zones, bus gates (discussed in more detail below).

However, it is unclear through the Strategy whether they will actually achieve enough reductions in air pollution to bring air quality down to within the European and the more stringent Scottish standards. Air pollution therefore needs to be afforded a much greater prominence throughout the Strategy. We would recommend the following:

(1) Tighten up Transport Aim & Objective Number 4

This Objective, which currently is to "Reduce harmful traffic emissions" should be strengthened so that it commits to meeting European legal limits and Scottish standards on air quality, preferably by a specified deadline, bearing in mind that the UK is currently being sued for the fact that European air quality standards are promised to be achieved by 2020. We point out that Edinburgh's Local Transport Strategy, approved in January this year contains the objective "To reduce pollutant emissions *in order that the city meets statutory Scottish air quality standards*." Traffic and air quality modelling of the impact of the measures in the plan would allow a date or dates to be attached to this commitment.

(We would also recommend that in the "Summary of Transport Issues in the City" air pollution be included as a key transport issue in the City in its own right. Poor air quality is mentioned as an issue for pedestrians but of course it affects pedestrians, cyclists, public transport users and car users.)

(2) Model what needs to be done to achieve enough reductions in air pollution in order for the Scottish air quality standards to be met

It is likely that some elements of the Strategy may lead to improvements in air quality (such as the cycle routes, the Avenues, the 20mph speed limits and new bus gates) – but it is impossible to project this with any degree of certainty without detailed modelling.

Modelling could help ensure a greater connectivity between the Strategy's proposed action and the air quality Standards. A model could be applied to look at traffic emissions values and devise a range of measures which would give an output of emissions which would be low enough to achieve the standards. This range of measures should go out to further public consultation for comment on which suite of measures could be introduced. To conduct this modelling only after the finalisation of the Strategy would be the wrong way round.

(3) Have a double-pronged approach to reducing air pollution: reduce traffic volumes through a traffic reduction target and reduce emissions from traffic through a Low Emission Zone.

If it is not possible to conduct accurate modelling of the City Centre in order to find out what measures need to be implemented to achieve air quality standards, then at the very least to ensure some reduction in air pollution, the Strategy should introduce measures which are a combination of both:

(a) tackling traffic *levels*
(b) tackling *emissions* from vehicles

These cannot be done in isolation of each other; if we have less traffic in Glasgow city centre but vehicles with poor emissions standards, we will still have high levels of Nitrogen Dioxide and Particulate Matter. Likewise, if vehicle emissions are introduced without an overall strategy to reduce traffic levels, we can expect that there will still be significant pollution.

This double-pronged approach would also help deliver on the Strategy's "Key Concept 2" to "minimise the impact of private cars". We feel that in general the Strategy currently shows a good and ambitious delivery on Concept 1 (Priority for Pedestrians, Cyclists and Public Transport) but is weak on delivering on Concept 2, so these two measures would also help achieve that.

(a) Tackle traffic levels through a traffic reduction target (and consideration of congestion charging)

It is disappointing that the City Centre Transport Strategy does not include a traffic reduction target. Although traffic volumes have fallen slightly from 2008 in the City Centre, [13] this is probably due to the economic recession and so this trend may reverse if left unchecked by the Strategy.

Indeed, the Strategy envisages traffic increases on certain peripheral roads named on p 57.

More traffic invariably means more pollution in those areas, and there are air pollution problems recorded on/near a number of the roads which have increased traffic projected. There are full details of air pollution monitoring of Nitrogen Dioxide using diffusion tubes, with results from 2008-2012 displayed in Glasgow City Council's 2013 Air Quality Progress Report, in Table 2.7.[14] We outline some concerns here:

- High Street/Saltmarket Loan: Glasgow City Council's 2013 Air Quality Progress Report shows that the NO_2 diffusion tube monitor on High Street has consistently recorded levels of NO_2 which are breaking European Legal limits. Though levels have dropped gradually since 2008, they remain too high. With regards to the Saltmarket Loan diffusion tube monitor, this monitor was just below the European legal limit for NO_2 in 2012 but failed it in 2008, 2009, 2010 and 2011, so it is very possible that it will fail it again if traffic increases on this road.

- Broomielaw: The diffusion tube readings from Broomielaw show that the European legal limit for NO_2 was breached in 2008, 2009 and 2010 and was only just achieved in 2011.

- Cathedral St: There is a diffusion tube near the junction of Cathedral Street and Castle Street which was on the brink of failing the European legal limit in 2008 and 2010.

- Cowcadden's Road: There is a diffusion tube near the junction of Cowcadden's Road and N Hanover Street (called St Mungo Avenue) which failed the European legal limit in 2010.

- Newton Street: There is an automatic monitoring station which lies to the West of Newton Street just over the M8, at Anderston Road. This site recorded 42 exceedences of the short term Nitrogen Dioxide European legal limit (over twice the number of permitted short term exceedences) in 2013. Newton St lies downwind of this site and the M8 runs between the two, so there is good reason to believe that there is a NO_2 problem on this Street and the Council should certainly investigate NO_2 levels at this site before making allowances for increased traffic on that road.

It is very possible that these sites will fail the European legal limits and Scottish standards for NO_2 if traffic levels increase.

Therefore, projected increases in traffic on these roads are inconsistent with the UK's legal obligation to reduce NO_2 in Glasgow which is subject to current legal action, and with Glasgow City Council's own obligation to meet the Scottish Air Quality Standards.

A target to reduce traffic, included as an overall aim and objective in the Transport Strategy

[13] Transport Scotland, "Scottish Transport Statistics No 32" (2013), http://www.transportscotland.gov.uk/strategy-and-research/publications-and-consultations/j285663-00.htm
[14] See note 1, Table 2.7

would lead to more strategic plans on how to ensure that over time congestion on those named streets would definitely fall rather than on simply hoping that congestion would balance itself out over time.

There is already support for such a target. The Sustainable Glasgow initiative recommended back in 2010 that the Council set a traffic reduction target for the city centre – and in particular a reduction target for the most polluting vehicles. That report noted that whilst the Local Transport Strategy had an aim for traffic reduction across the city, this was lacking for the city *centre.*[15] This Strategy therefore presents a perfect opportunity for such an ambition.

Although it might be suggested that a city centre traffic reduction target might lead to heavier traffic in other parts of the city, we think that the opposite could be possible. If there is less traffic in the city by encouraging a modal shift away from the private car and towards active travel and public transport, this will have a knock on positive impact for the rest of the city.

We do consider it to be very positive that the Strategy places an emphasis on cycling and walking through the introduction of new cycle routes and Avenues; but we feel that this in and of itself may not lead to enough reduction in traffic and solve air pollution. To take Copenhagen as an example, cycling and walking rates there are among the highest in the world, but the city still has an air pollution problem which it is tackling through continually upgrading its Low Emission Zone.[16]

In terms of implementing traffic reduction, the Strategy could also consider a feasibility study on a Congestion Charge which would charge vehicles passing through the City Centre at peak times. Local authorities across Scotland often wince at the mention of Congestion Charging because of the rejection of a Congestion Charge in Edinburgh in 2005, but this was a long time ago (in terms of mortality, 18000 people in Scotland have since died from poor air quality[17]). The Sustainable Glasgow report found that two-thirds of residents would support some form of congestion charging.[18]

(b) Tackle emissions from traffic through turning the City Centre into a Low Emission Zone

A Low Emission Zone (LEZ) is a designated area where vehicles, or selected vehicles (for example, buses and HGVs) must meet certain emissions standards or pay a penalty. The result is that it removes the most polluting vehicles from streets with air quality problems. Revenue from fines is used to fund the implementation of the zone.

LEZs can be enforced in a few ways: through cameras and automatic number plate recognition technology (as in London), or through a sticker system, where all vehicles affected by the LEZ must carry a sticker which specifies the emissions standard of that vehicle. Owners of vehicles found in the LEZ without stickers are issued a fine, and this is done through police patrols (as in Germany).

Glasgow City Council commissioned a LEZ Feasibility Study to be undertaken in 2010. It concluded that there was potential that an LEZ could work, however there were concerns over the technology at the time, and it recommended that further research and trials were undertaken by the Council working with the Scottish Government:

> "The results of this study indicate that a Euro 4 emission standard for buses is predicted to result in substantial benefits in terms of annual mean NO2 concentrations in the Parkhead Cross AQMA, and in terms of annual mean NO2 and PM10 concentrations in the City Centre AQMA. These results suggest that LEZs with a Euro 4 emission standard should be pursued by Glasgow City Council in these areas. However it is also noted that a 60% Euro 3, 40% Euro 4 emissions standard for buses is predicted to have a moderate beneficial impact on annual mean NO2 concentrations in the City Centre AQMA, which could be pursued as a less effective alternative.

[15] Sustainable Glasgow Report (2010), pp 16, 84, http://www.glasgow.gov.uk/CHttpHandler.ashx?id=10159&p=0,
[16] The Danish Ecological Council, "Clean Air Copenhagen: Air quality challenges and solutions" (January 2014), http://www.cleanair-europe.org/fileadmin/user_upload/redaktion/downloads/The_Danish_Ecocouncil/Clean_air_CPH_2014_UK.pdf
[17] Based on Public Health England's finding that 2094 deaths in Scotland each year are attributable to fine particles ($PM_{2.5}$)
[18] See note 15, p 82

> Emission standards for buses in the Byres Road / Dumbarton Road AQMA or for taxis are unlikely to have a significant beneficial impact.
>
> There is however concern across Europe that the Euro emissions standards are not delivering the expected reductions in NOX emissions under urban driving conditions, i.e. at low speeds.
>
> *It is therefore recommended that that further research is undertaken regarding the issues described above and consultation undertaken with representatives of the Scottish Government, prior to implementing LEZs in Glasgow, to ensure that the emission standard and abatement equipment specified are appropriate. A trial of emissions abatement equipment in an area or areas of Glasgow may be one way in which the effectiveness of such systems could be gauged."*[19]

The feasibility study was completed four years ago, and we would argue that the political agenda and advances in technology have progressed significantly. We would also argue that not implementing the LEZ has not resulted in improvements in air quality quickly enough so it is time to revisit the Low Emission Zone option.

In terms of technology, since the 2010 study, we can now be confident that the technology has progressed to allow us to reduce emissions of both pollutants which are a problem for Glasgow: NO_2 and Particulates. SCR technology is more sophisticated now and there are mechanisms which can allow it to work at low speeds (i.e. in City conditions). Studies show that new SCR technology can be fitted onto vehicles which remove 80-90% of NO_2 from exhausts.[20] Closed particle filters can be fitted and remove over 90% of Particulates, from PM_{10} right down to ultrafine particles ($PM_{0.1}$). The forthcoming Euro 6 standards will also require a substantial reduction in NOx emissions from light vehicles.[21]

In terms of politics, Glasgow City Councillors unanimously passed a motion at the end of 2012 highlighting the urgent need to tackle air pollution and calling for LEZs to become a national priority.[22]

At a Parliamentary debate on Air Quality this March (the first since 2005, when air quality was debated in the context of Glasgow's air pollution problem) the Government committed to introducing a Low Emissions Strategy which it will launch for consultation this year. [23] Initial consultations on this Strategy take place from 28th May 2014. It is expected that a core part of the Strategy will be a framework for LEZs to ensure that different LEZs in different local authorities across Scotland would operate in similar ways to ensure synchronicity of different systems.

Against that backdrop it is surprising and disappointing that Low Emission Zones are considered as a long-term measure ("over 5 years" away) for the Strategy and are not fleshed out in any detail.

We understand that the Council may be hesitant to introduce a LEZ in advance of the National Framework. But at the very least, the Strategy should commit to looking at the idea in the near future once the National Framework is available. This is particularly important in the context of two legal actions, including one by the European Commission against the UK in which it argues that a commitment to NO_2 meeting European legal limits by 2020 in Glasgow is not rapid enough.

III. Other issues covered by the Strategy

In this section we comment on specific measures which are mentioned within the Strategy.

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[19] AECOM Environment on behalf of Glasgow City Council, "Glasgow LEZ Feasibility Study - Phase 2" (July 2010), available at http://www.glasgow.gov.uk/CHttpHandler.ashx?id=19394&p=0

[20] See, for example, the Danish Ecological Council, "Clean Air Copenhagen – Air quality challenges and solutions", Technical Solutions section from p 12, available at http://www.cleanair-europe.org/fileadmin/user_upload/redaktion/downloads/The_Danish_Ecocouncil/Clean_air_CPH_2014_UK.pdf

[21] EUROPA website, Environment: Air Pollution: Reduction of pollutant emissions from light vehicles, http://europa.eu/legislation_summaries/environment/air_pollution/l28186_en.htm

[22] Motion of 13 September 2012, Minutes of Glasgow City Council 2012/2013 Print 3, p 325, http://www.glasgow.gov.uk/CHttpHandler.ashx?id=14060&p=0

[23] See note 11

(1) The Transport Hierarchy
We agree that car/motorcycles should be at the bottom of a transport hierarchy, but believe that cyclists should feature above public transport together with pedestrians rather than being grouped with freight, and that public transport should not include taxis within its definition. So we would like a hierarchy which looked like this:

1. Pedestrians & cyclists
2. Public transport (excluding taxis)
3. Taxis
4. Freight

(2) Avenues
We support the concept of avenues and believe that they could contribute to the delivery of a much more pleasant city centre which invites people out onto the streets and enables them to enjoy spending time outside. They could contribute to a shift in behaviour which encourages a greater uptake of walking and cycling and we also believe that there could be knock on positive impacts for local businesses. However, we would like to see avenues more clearly defined, with a guarantee that they will include the following features: removal of on-street parking, wider pavements, fewer traffic lanes, dedicated cycle routes, and trees. The concept of Avenues is explained in the overarching City Centre Strategy but even that Strategy does not contain explicit detail on the definition of an Avenue.

(3) Pedestrian Infrastructure
We welcome moves to improve pedestrian infrastructure with emphasis on key locations where problems have been identified. It would be good to have a bit more specific detail, i.e. an assurance that dropped kerbs will be of good quality; and a guarantee that the road level will be increased at all lanes to afford greater priority for pedestrians on lanes.

(4) Recommendation: turn Broomielaw/Cydle Street into an Avenue
We are concerned that the Strategy projects there to be traffic increases on Broomielaw/Clyde Street (as well as on other peripheral routes, mentioned above). Aside from air pollution issues, the river needs to be retained as an integral part of the City Centre and examples from other European cities show that successful regeneration can be achieved by avoiding cutting off the River. Increased traffic flows here would result in further pedestrian severance. We would instead recommend turning this section into an Avenue.

(5) Cycle routes
We strongly welcome the introduction of the network of cycle routes – the network looks like a huge improvement. We would like to see more clarity on what these cycle routes entail – on p 34 the Strategy says that the “key” cycle routes will be two-way, segregated and located on one side of the road and it is unclear whether this means all the routes indicated on the map at p 43.

We support the proposal to remove on street parking to provide the space and hope that for *all* the cycle routes the same applies, i.e. that the routes are segregated, linked in with each other in one continuous network, and that the necessary space is created by removing space from the road rather than the pavement.

(6) Supporting cycle infrastructure
We welcome other improvements to other infrastructure, but again would like a bit more detail. The Strategy mentions improvements will be to “fill in any local gaps in the city centre cycling network”. This should involve linking all the existing routes together with segregated cycle lanes which do not share space with on street parking or other users. We welcome the rollout of cycle storage at transport hubs, and again, would welcome a bit more detail about where and how many new hubs and cycle parking facilities there will be.

(7) Access to peripheral car parks
There is far too much cheap parking in the City Centre which serves to encourage people to drive in. We are hopeful that the introduction of more bus corridors will encourage people to

park at the periphery of the City Centre. We would like to see much more city centre on-street parking which is controlled by the Council removed to encourage people to use alternative modes of transport into the centre, but retaining access for blue badge holders.

(8) 20mph Limit
We welcome the plans for 20mph speed limits across the majority of the City, and hope that this can be extended across the entirety of the City Centre. We would be interested in the detail of how the speed limit will be enforced.

(9) Bus gates
We welcome the introduction of new bus gates in the City. We hope that this will lead to the removal of on-street parking and would request more information on this.

(10) Emissions from buses
We welcome plans to spread out bus routes and encourage buses to use alternative routes across the city to spread out emissions. (We would add that in terms of rerouting buses from Argyle Street, we would encourage options which do not involve having to depedestrianise roads.) However, it is still important to regulate emissions from buses and understand that this has met with only limited success so far. We feel that this issue provides additional support for the need for a Low Emission Zone as this would make emissions standards compulsory for buses.

(11) Taxis
We feel that the Transport Strategy could take stronger action on requiring certain emission standards from taxis; again this would be achievable through the intruoduction of a Low Emission Zone.

(12) Freight
Emissions from freight are a significant contributor to air pollution in Glasgow City Centre, yet freight traffic is entirely unaddressed by the City Centre Transport Strategy. The final version should have a plan for minimising the impact of freight vehicles on traffic and emissions.