

Jeremy Skinner
Infrastructure Investment Plan Team
Greater London Authority
City Hall
The Queen's Walk
London
SE1 2AA



7 November 2014

Dear Mr Skinner

The Mayor's draft Infrastructure Investment Plan to 2050

I write in response to the Mayor's consultation on the draft Infrastructure Investment Plan to 2050. Given the long timeframe of the plan, and the importance of ensuring that any investment in infrastructure is resilient enough to meet the city's changing needs, London Climate Change Partnership (LCCP) felt that it was important to capture stakeholders' views on the resilience and adaptation considerations of the plan as fully as possible. To this end, LCCP held a workshop event on 7 October 2014 at City Hall, where stakeholders were briefed and then given the opportunity to comment in detail on the plans. The workshop included participants from the GLA to allow for open dialogue with the officers involved in creating the Plan. Please find enclosed LCCP's response, which is a record of comments made at the workshop, which was then circulated to those in attendance, those who expressed an interest but were not able to attend, and LCCP members for additional comments. A full list of participants and those who were consulted can be found at the end of this document.

Please feel free to contact me if you would like clarification on any of these points, and thank you for the opportunity to provide comments.

Yours sincerely

A handwritten signature in black ink that reads "Juliette Daniels". The signature is written in a cursive, flowing style.

Juliette Daniels
Partnership Manager
London Climate Change Partnership

Enc. Record of LCCP comments on Infrastructure Investment Plan

Cross-cutting issues:

- The Plan should mention the impact of climate change throughout the whole document, not only in the flooding section; it is hoped that LCCP can successfully make the case for this.
- Climate change, extreme weather and their impacts do not respect sectoral boundaries, and so it is important that this is acknowledged as a cross-cutting thread.
- The Plan may want to consider future changes in the use of office space, particularly in SMEs - although this is slightly outside the Plan's remit, it will impact on infrastructure needs.
- The Plan should more precisely outline how it will fund what it aims to achieve and how realistic the funding streams highlighted in Chapter 24 are.¹
- It was noted that the GLA would need to ensure that adaptation was included in future housing.² It will also be important to think in terms of mitigation, ie water and energy efficiency, as well as adaptation in domestic buildings.
- The non-domestic sector (commercial buildings) contributes significantly to London's energy demands: why was it not included in the Plan?³
- The benefits of each section of the Plan need to be integrated, in order to avoid silo-thinking and to ensure that there aren't any inadvertent, inherent contradictions between each section. Structural and financing arrangements should allow for, encourage and incentivise cross-section co-funding and delivery wherever possible to maximise long-term gains. The Delivery Board would aim to perform this function by defining overall objectives, but it would be useful to set out this ambition more clearly in the Plan.
- It was raised that more public involvement with the Plan would be beneficial; at the moment they were mainly represented through elected officials and regulators. However, more direct involvement might lead to innovative funding mechanisms such as community energy schemes. Communities may have the potential to invest, as well as taking an interest.
- Specific methods and a roadmap for achieving public engagement need to be included. Examples could include setting up hubs for engagement around the city. For example at Citizen Advice Bureaus, libraries and popular cultural venues. Scheduled events with expert speakers and Q&As will enable people

¹ In the consultation workshop, a GLA representative agreed that more work needed to be done on that point and that the aim was to get funding from both efficiency savings and external sources (very likely from businesses through PPPs). Efficiency savings alone would not close the funding gap. It was noted that measures such as rebanding of Council Tax were also open for consideration.

² GLA representatives responded that they were working with CLG on this issue. Incorporating adaptation into consideration of future housing will require complex decisions around refurbishment and demolition. The cost and performance models here are highly sensitive to a few key assumptions about building lifetime and future energy prices.

³ It was noted that while demand management was critical, the focus of the plan was on the physical aspects of infrastructure (pipes, wires, etc).

to make informed decisions, take responsibility and can also feedback into ongoing plans.

- Measures of success should not only be economic but also include well-being aspects; ideally NHS and social infrastructure should be taken into account, but it has been highlighted that this issue is too wide to be tackled by this Plan. Nevertheless participants felt that it would be relevant to consider infrastructure issues within the context of vulnerability aspects, in order to take a better account of well-being issues. This might also include community cohesion (social capital) impacts which can affect local economies, individual health, crime rates and other factors which can mitigate vulnerability. There may also be other criteria for success, such as improved energy efficiency, reduced energy consumption, or reduced carbon emissions.
- NHS representatives should have sight of LCCP's consultation response and be given the opportunity to provide feedback.⁴
- A question raised about limited transport facilities in the face of London's growing population: would more extreme measures be considered, such as reducing traffic by allowing alternating number plates access to the city on certain days as was recently trialled in Paris?⁵
- More emphasis would be welcomed on how the provision will be made for a greater uptake in cycling. In addition, what further will be done to encourage uptake?
- Social and behaviour change aspects, such as moves towards home working, have been highlighted as particularly difficult to predict. How will scenario planning account for this?
- Need to find a way of recording and learning from unintended consequences of decisions and measures: a 'museum of failed products' would be very valuable.
- It is important to keep the relationship between climate change and air pollution in mind so that measures to reduce climate change emissions do not disregard air pollution issues, as has been seen with the dieselification of the transport system, for example. At the same time it is more likely that actions to reduce climate change emissions will also have benefits through improving air quality and therefore multiplying the benefits from tackling both issues.

Comments on Chapters (provided by breakout group discussion and follow up additions in writing):

Digital

1. Key impacts of climate change on this sector
Climate change (with increased temperatures and extreme events occurring) could threaten internet service provision.

⁴ This was done via email, through LCCP's membership.

⁵ GLA representatives said that they would take that question away for consideration, but noted that there had been a lot of consideration of outer London 'town centres' to decentralise the flow of commuting.

Connectivity is vital to cope with situations resulting from climate change, such as working from home facilities in case of extreme snow events or informing Londoners.

Our use of internet connectivity has changed, and it is increasingly considered as a utility: it is vital for our resilience to understand our reliance on it for public services and emergency response. Currently it is not regulated like a utility, which leaves us exposed.

2. What is missing/should be considered in the Plan in order to tackle the related infrastructure?

Digital performance is not just about competitiveness; it is also about our increasing reliance on connectivity, which presents an increasing risk if this connectivity goes off. More consideration needs to be paid to this issue.

We need to consider how to incentivise the private sector providers so that they build in resilience in their networks; this question is not tackled in the current Plan.

We need to be mindful of reaching isolated individuals (older people don't necessarily get informed via Twitter) – will isolation / exclusion increase for some groups as a result of 'digital by default' communication strategies?

3. Recommendations

An impact assessment should be produced in order to assess the connectivity networks; resilience; the question is 'are cost-benefits flexible enough to allow for network repairs'?

Regulation may help incentivise the private sector providers so that they build in resilience in their networks

We may want to consider an emergency service network; resilience scenario planning needs to incorporate connectivity disruptions.

Green infrastructure

1. Key impacts of climate change on this sector

It is welcome that green infrastructure is in the plan, not only because it can increase London's resilience to climate change impact but also because it informs about other types of infrastructure.

Green spaces and parks can help to address air pollution and mitigate against likely future temperature rises. It is likely that, as the impacts of climate change intensify, reconfiguration of existing infrastructures to provide green spaces to reduce heat and mitigate other impacts will be necessary.

Green infrastructure also has a key role in addressing water scarcity and flooding, both of which are likely to increase.

2. What is missing/should be considered in the Plan in order to tackle the related infrastructure?

The Plan doesn't take into account the impact of drought on vegetation. We need to consider how to use rainwater to feed into green infrastructure.

The Plan should recognise the growing issue of preventing stormwater runoff, for which green infrastructure will be a crucial adaptation measure as the intensity of storm events (particularly in summer) increases. Any water that goes into a drain in central London is mixed with sewage so needs to be pumped back out and treated through our wastewater treatment plants, which is very energy intensive. The benefits in managing stormwater are therefore likely to outweigh any potential problems from die-off during drought.

There is no mention of ensuring resilient plants/ habitats are created, but this will be an important aspect for adaptation to climate change.

Cost-benefits analyses have been done about green spaces, but we should also look at the social and human aspects (including wellbeing and health (including mental health)) of green infrastructure, which is not done in the Plan (though it is understood it's not exactly its purpose). Effects of the presence of accessible, quality green spaces can also affect social cohesion and community well-being, promoting a sense of stakeholding in the local community, promoting inter-cultural interaction and reducing segregation and mis-trust between communities. The benefits of green gyms, and for biodiversity and wildlife, should also be considered.

Consideration of green infrastructure in the Plan should recognize its multiple benefits, including for urban drainage and adaptation, as well as recreation and wellbeing.

The Plan should be apolitical and look at long-term issues, considering change in use of streets. It should at least inform future work on infrastructure beyond 2050.

3. Recommendations

We need additional research about the impact of drought on vegetation (and the benefits it provides).

More work needs to be done in order to quantify/value the benefits of green infrastructure, on a long-term perspective and in a broad sense. Effort should be taken to quantify and monetise wherever possible the many "intangibles" produced by quality urban green spaces, which produce short- but especially long-term economic effects across a variety of areas, including health, well-being, reduced crime, employment, and others.

It would be helpful to establish standards for urban green spaces (in terms of thresholds around provision, quality, accessibility, etc.) as a crucial part of urban infrastructure. London Parks and Green Spaces Forum (part of the GLA) conducts yearly "benchmarking" surveys of London's green spaces which may provide guidance.

Green infrastructure should be considered as a central plank of the infrastructure plan, with commitments to increasing green infrastructure wherever possible, particularly in highly residential areas. New opportunities to develop urban green infrastructure beyond parks and into the built environment should be explored for under-utilised cost-effective green infrastructure expansion.

It will be important to determine how to account for the multiple benefits of green infrastructure, and to identify who should be responsible for the costs of construction and maintenance. This will require consulting water companies, developers and local flood authorities is a key challenge for planning and policy in this area. Encouraging PPPs as well as collaboration across government departments and into the third sector will be vital for maximising opportunity for cost-effective green infrastructure development.

Transport

1. Key impacts of climate change on this sector

Increasing temperatures will have an impact on well-being in London's transport infrastructure. This includes how increasing temperatures will exacerbate air pollution smog events in the summer, which will result in greater negative health impacts.

Air temperature and air quality will impact upon the uptake of cycling and walking, as well as changes in weather patterns – this interaction needs to be considered.

Air temperature and quality may also have an impact on schools, which may lead to new timetables.

2. What is missing/should be considered in the Plan in order to tackle the related infrastructure?

More connectivity with other types of infrastructure: cross-cutting issues.

The Plan should consider visionary, transformative policies for pedestrians and other human-powered forms of mobility, to make a 'step change' in provision over the period to 2050.

This could include large scale pedestrianisation, but also infrastructure to serve or prioritise other human propelled modes of transport (such as bicycles including cargo bikes and pedicab taxis), wheelchairs, and small wheeled modes (such as in-line skates, skateboards, scooters). Whilst some of these modes are more unconventional and a small proportion of vehicles now, they could have an important role to play in increasing affordable, healthy and environmentally friendly modes of transport and reducing carbon emission from transport.

Climate change mitigation and climate resilience need to be addressed further in the transport chapter. In terms of mitigation – how transport projects could reduce carbon emissions and climate change. In terms of resilience there is currently nothing said about the reliability / and durability of the those existing / new transport schemes/ infrastructure. Planning for climate change and extreme weather events (not just flooding) but wind, snow, ice, temperature and ensuring reliability in the face of these types of weather should be addressed. Also Interdependencies are not currently mentioned.

3. Recommendations

Rising air quality issues may lead to the creation of low emission zones; this should aim to change behaviours in regard to freight and the use of cars.

Electric cars should be promoted, the technology should allow more car sharing and low emission vehicles, and generally the use of cars should be reduced; in which case we should consider how to best use freed parking space.

Road planning should provide more space for cycling and walking; though rising temperatures may have an impact on Londoners' walking and cycling habits.

The Plan will need to consider synergies between complementary policies to enable walking and other low-carbon forms of transport, especially the use of low-cost behaviour change techniques and messaging/comms strategies. Critical mass will be important.

Water

1. Key impacts of climate change on this sector

There is a lack of awareness in the general public about water security as an issue, whereas water is the greatest climate risk (both in terms of flooding and drought).

Climate change is not only having an impact on flood risk only: for example, the long term impacts of climate change also include extreme droughts, and rising temperatures will have an impact on water use.

2. What is missing/should be considered in the Plan in order to tackle the related infrastructure?

Water companies may be underplaying climate change related risks.

They are not enough incentives for innovation on the long term (for example: what's the future of water-mains?)

Most adaptation options (such as cooling and desalination) are energy intensive, so we need to look for low-carbon solutions.

What are the data and privacy implications of smart meters over the long term? Has this been properly considered?

3. Recommendations

The water chapter should include the latest climate allowances in headroom, using statistics from the Adaptation Sub Committee and the Environment Agency modelling.

We need a more diverse water supply in order to be resilient; black water⁶ is an option but it needs to be cost-effective, which is not the case at the moment

Smarter data analysis is needed and it should be demonstrated how this data is being used. Water metering is critical.

⁶ Defined as waste water and sewage from toilets, as opposed to grey water, which is waste water from relatively clean sources such as sinks and baths.

Businesses may have a role to play to invest in reducing flood premiums and in innovation for the long term.

Climate change should be considered throughout all the Plan's chapters.

The planning system is a good process for managing flood risk; green infrastructure complementing hard infrastructure is an efficient way to manage flood risk. We need to plan for better rainwater storage.

There should be more cooperation between housing associations and water companies in regard to investment in water infrastructure maintenance.

We need to better plan for unintended consequences through a pathway approach, of which the implementation should be monitored and recorded.

Water efficiency should be considered in all designs for new buildings and in refurbishment. Retrofitting SUDS and other green infrastructure onto existing housing estates could deliver key benefits for water management and communities: lower bills for residences and improved management of storm water using green infrastructure to tackle runoff.

Energy and Waste

1. Key impacts of climate change on this sector

The impact of rising temperatures will be key to consideration of energy saving retrofitting and new build standards. Building passive cooling measures in where possible is important.

Resilience of infrastructure for move to electric vehicles needs to be considered

2. What is missing/should be considered in the Plan in order to tackle the related infrastructure?

The circular economy should be inclusive and look at all types of energy, including energy from waste.

The circular economy should include the reuse/renting of facilities; this would reduce costs to consumers and will have a direct impact on Londoners' behaviour change

Refurbishment of existing buildings is the best way to reduce waste (avoiding demolition and reducing the impacts of transport, landfill, recycling and manufacture of new materials).

The greatest impacts on global warming are likely to be through energy consumption and emissions of buildings during their lifetime.

3. Recommendations

We need to model the overheating impact on energy use (mainly cooling demand); this should be taken into account while retrofitting buildings.

We should assess the impact of an increased number of charging points (needed for electric vehicles) on London's energy demand.

We should harmonise the different types of waste collection across London and integrate recycling facilities into building design and retrofit: adaptive planning is crucial.

Buildings and retrofits need to be designed with the next retrofit in mind: adaptability is important not just now but also in the future.

It is also important to be aware of the potential unintended consequences of retrofitting to mitigate these.

Retrofitting to improve energy efficiency such as alternative fuel sources, education on energy use in the home, and more efficient appliances, should be prioritised.

Appendix: Delegate list

List of people registered to the workshop, and those who provided comments by email:

Surname	First Name	Organisation
Barmaki	Ieman	London Borough of Barking & Dagenham
Barnett	Tom	Trucost
Bellanger	Nathalie	LCCP
Bridge	Daniel	GLA Housing
Bulla	Larissa	GLA Energy & Waste
Chaytor	Sarah	UCL
Choudhury	Abdul	RICS
Cole	Steve	National Housing Federation
Conner	Cynthia	Foreign and Commonwealth Office
Daniels	Juliette	LCCP
Daothong	Jennifer	London Legacy
Davies	Mike	University College London
Davis	Leah	GLA Energy & Waste
Dear	Matthew	London Resilience
D'Souza	Bernadette	Independent
Elmi	Mohamed	Independent
Fitzsimons	Pat	Thames Estuary Partnership
Frith	Mathew	London Wildlife Trust
Gidlow	Miles	Department for Transport
Grimmond	Sue	University of Reading
Hall	Robert	London First
Heath	Samantha	LSx
Hill	Ian	Open Reach
Johnstone	Kay	Environment Agency
Kalaugher	Margaret	GLA Transport
Kelly	Sara	GLA Digital
Lee	Andrea	Client Earth

Lupo	Richard	Sustainable Homes
Massini	Peter	GLA Green Infrastructure
Mills	Simon	City of London Corporation
Nickson	Alex	GLA Water
Paskins	James	University College London
Patel	Meg	Defra
Pilcher	Sam	Citi Group
Rapley	Chris	LCCP
Reeder	Tim	Environment Agency
Russell-Croucher	Martin	RICS
Scholfield	Jenny	Environment Agency
Siddiqi	Arefa	HS2
Sivess	Andrew	London Borough of Barking & Dagenham
Smith	Henry	GLA Housing
Street	Roger B	UKCIP
Taylor	Stephen	GLA Transport
Thompson	Guy	The Concrete Centre
Toogood	Elaine	The Concrete Centre
Turner	Briony	Kings College London
Vallejo	Lola	Committee on Climate Change
Walczak	Agata`	Access Europe
Walker	Alison	HS2
Ward	Bob	Grantham Institute
Wheeler	nicola	Groundwork
Winbeck	Katharina	London Councils
Woodger	Chris	Transport for London
Woolston	Helen	Transport for London