

London Infrastructure Plan 2050

Consultation response

November 2014



Planning Committee Members

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The Mayor’s consultation on the draft London Infrastructure Plan 2050

In the light of the unprecedented levels of London’s forecast growth, the Mayor published the draft London Infrastructure Plan 2050 for consultation. The draft Plan contains a number of consultation questions.

The Plan identifies a number of challenges arising from this growth and sets out the range of infrastructure that the Mayor believes will meet London’s short, medium and long term needs up to 2050.

This response has been co-ordinated by the Assembly’s Planning Committee but contains inputs from the Budget and Performance, Environment, Regeneration and Transport Committees.

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London Infrastructure Plan 2050

Consultation response

The Assembly welcomes the opportunity to comment on the Mayor's draft Infrastructure Plan 2050. This response has been co-ordinated by the Assembly's Planning Committee but contains inputs from the Budget and Performance, Environment, Regeneration and Transport Committees.

We deal with the questions posed in your consultation document but have added additional comments where we believe there are areas that need to be addressed in the final document.

Question 1: Do you agree with the need for an infrastructure plan for the capital? Do you support our approach? If not, why?

There is much to welcome in the Mayor's decision to embark on the production of a long-term infrastructure plan for London. Investing in up-to-date infrastructure is essential if London is to maintain its ability to compete with other world cities in the global economy.

Infrastructure investment must be underpinned by robust forecasting and business cases that capture all the costs and benefits. As the Budget and Performance Committee has seen with the Cycle Hire Scheme, TfL's forecasting and modelling is not always reliable, yet it underpins huge investment decisions.¹

The Assembly notes the extensive suite of supporting documents that accompany the draft Plan. It is vital the evidence establishes the state of London's infrastructure assets, and the demands that growth will place on the system. The Mayor must commit to maintaining the evidence on a continual basis.

The evidence will give political decision makers the awareness of the implications of either delaying investment or, worse, doing nothing.

In the Planning Committee meetings on this issue in late 2013 we noted a proposal that the GLA would create an "asset register" to assess the state of London's infrastructure that was tabled early in the process. This would sit alongside a list of individual infrastructure projects that will be needed to support London's growth. We would welcome clarification on how this commitment is progressing.

In view of the fact that, because of the scale of funding required, it is likely that not all the projects will proceed, the Plan could set out the key priorities until 2050 more clearly.

Furthermore, as noted at the Planning Committee, that simply generating consensus on projects is optimistic, given the radical nature of the Infrastructure Plan. The Plan needs to incorporate an intermediate stage of assessment and negotiation with Government and regulators which is crucial to taking the Plan forward.²

The costs of delaying or not proceeding specific projects should be explicitly identified and factored into the plan.

Furthermore, there should be an implicit assumption that new infrastructure should be capable of fulfilling multiple uses, integrated tasks and have capacity that is capable of meeting increases in demand to avoid being locked in to old technology that is incapable of adaptation.

Question 2: Is any of the infrastructure identified unnecessary – if so why? What (if any) infrastructure do you think London will need in addition to what we have identified? Why?

The Mayor needs to clarify its definition of infrastructure. This should include the hard infrastructure projects “– pipelines, highways, transport, water, sewage and communication systems that provide the foundation of a city’s success, prosperity and well-being – but equally, the whole range of social infrastructure has a major role to play in supporting London’s expected growth

The plan is relatively light in details for the need for supporting social and community infrastructure as well as cultural, health and recreational needs but we note the intention to take into account the findings of the London Health Commission which is welcome.

There is an assessment of the overall need and cost for housing and schools (50,000 new homes a year and 600 new schools and colleges), but the Plan specifies that a key driver for this kind of infrastructure will be the potential to unlock land for new housing and other social and community infrastructure across the capital. The whole range of infrastructure is required to create sustainable neighbourhoods and communities and integration of supporting community infrastructure, health and green infrastructure can all play a part in delivering these objectives.

The London Plan sets out a comprehensive list of social needs which contribute to ensure sustainable development and making an area more than just a place to live and the Mayor needs to ensure his infrastructure plan takes these needs as seriously as those for the big ticket projects such as transport and utilities and the Plan should include the range of social and supporting infrastructure.

It is essential to recognise explicitly the capacity required for social and supporting infrastructure. As the Assembly highlighted at the recent London Plan Examination in Public, many boroughs are now facing pressures on land use choices in relation to increasing housing targets.

For example, while provision is set out across a range of requirements such as open space and children's play space provision, increasing numbers of homes will ultimately impact on the availability and access to these resources. Some inner London boroughs are now being faced with the unenviable scenario of having to choose between providing social infrastructure or open space for increased population simply due to the finite number of potentially available sites in the area.³

The Infrastructure Plan and the London Plan need to be developed with careful co-ordination and be mutually supportive. Until the new London Plan has been revised and approved by around 2020 there is a danger that gaps will appear between future demand (potentially identified by the Infrastructure Plan) and the current standards for supporting infrastructure as set out in the London Plan.

Question 3: We have identified a significant funding gap with regard to the infrastructure that we think London will need. We have also set out a menu of options to help close the gap. Which of these should we pursue and why? Which not and why? Are there other options we haven't considered which you think need to be addressed?

London's success depends on continuous and significant investment, and we therefore welcome the Plan as a positive step forward. But, having agreed on the need for this scale of investment – and the benefits it will bring London and the UK – we must all recognise that it has to be paid for.

Not all the infrastructure in the Plan will be owned, or paid for, by the public sector. Some will be entirely private sectors ventures, paid for by consumers through charges or levies. Some will be publicly-owned and funded, either at the national or regional/local government level. And some will be a hybrid. So, while the public sector may have a role in all

the schemes – in terms of enabling, promoting or regulating – it will only need to fund and deliver some of them, using a range of strategies for raising the funding and delivering the schemes. Where possible, the likely ownership and funding arrangements should therefore be set out in the Plan. As should the ways in which City Hall, where not responsible for delivery, will oversee, monitor and help to facilitate projects viewed as a priority.

In view of the fact that, because of the scale of funding required, it is likely that not all the projects will proceed, the Plan could set out the key priorities until 2050 more clearly.

Infrastructure investment must be underpinned by robust forecasting and business cases that capture all the costs and benefits. As we have seen with the Cycle Hire Scheme, TfL's forecasting and modelling is not always reliable, yet it underpins huge investment decisions.

Budget and Performance Committee notes the significance of fares as a proportion of the plan's proposed funding.⁴ And it would be tempting to increase fares above inflation to plug the funding gap. But fare increases should be kept to a minimum – the Mayor needs to recognise the impact of fares on London's affordability.

There is still a great deal of uncertainty for the Mayor and GLA on many of its income streams e.g. business rates – this needs to be improved. Budget and Performance Committee therefore agrees with the Mayor's goal to take greater control over taxation in London.

The lack of certainty over funding, particularly over the longer term, makes it very difficult to plan effectively. Where longer-term funding has been agreed – for example the six-year capital funding settlement from DfT to TfL – this has made it easier (and potentially cheaper) to plan investment.

Budget and Performance Committee supports the further devolution of suburban rail services – the Overground has proven an effective model to improve services and control costs. There may be opportunities to leverage in private investment in the form of philanthropic donations or commercial sponsorship.

The GLA Group needs to become more commercially-aware to make best use of its assets. TfL is expanding its commercial team to increase these income streams, and we support this approach.

The Mayor must make best use of the GLA's land assets, and there is a case for the Mayor to have a strategic role in managing disposals of all public sector land in London.

One further issue remains to be considered, if not in the Infrastructure Plan, then by the Mayor in his thinking about how to take forward the issue of funding. The Planning Committee heard evidence about the implications of the emerging fiscal devolution debate. Proposals by the London Finance Commission, such as incremental property taxes, and the relationship with key infrastructure priorities over the next 20 years are going to be crucial for delivery.

"Government would be very reluctant to devolve significant additional resources without any connection made to specific infrastructure priorities which otherwise it would fall to central Government to at least partially fund thereafter. How that relationship is established between devolved resources and key infrastructure priorities will be critical to decisions taken on fiscal devolution and taking forward the Infrastructure Plan." ⁵

The Mayor needs to be prepared to make a strong business case to Government for all of the key infrastructure projects identified in the Plan.

Question 4: Will the London Infrastructure Delivery Board be enough to ensure best-practice joined-up delivery of infrastructure in London? What more could the Mayor do?

About 60 per cent of London's infrastructure assets do not sit in public sector hands⁶ and work to their own business needs and funding plans. Some utilities only forecast for about three years ahead in terms of population increase. "Each actor has its own priorities, investment plans and timescales and the level of coordination between policy formulation, economic regulators' decisions and delivery, within and between sectors, is variable."⁷

Bringing all these 'actors' together, getting them to sign up to the Mayor's vision for a sustainable London and to stay on-board for the long-term is going to be a major challenge.

The draft Infrastructure Plan notes the success of the London Olympics in delivering a large scale, complex project to time and within budget. But it also notes the example of Crossrail which, although well on the way to successful delivery, was some 60 years in the planning phase.

One of the crucial tasks of the Infrastructure Board will be to bring together infrastructure providers and regulators to tackle long and short term barriers for integrated planning and investment. The Planning Committee agrees that there should be a strong commercial incentive to participate in the delivery of London's infrastructure⁸ and that long term thinking should be the basis of key decisions made by the Board.

Co-ordination is key, and something the Delivery Board should take on board from the first meeting. The Planning Committee was quoted an example of the failure of co-ordination in terms of the Nine Elms development's approach to water management.

"There are 12 developers all working in Nine Elms and Transport for London ... but there is no joined-up water management plan across the whole of that site. Not all of them can actually take the water that is falling on the site and reuse it in the buildings because a lot of them are quite dense with small profiles. However, if you take that whole site as a catchment, we could manage the water in that area much more effectively. At the moment, there is a big plan for a sewer connection, but it would actually reduce the size of that sewer connection, which reduces the bills to those developers and it goes around."⁹

The Olympic Delivery Authority is an excellent example of how to manage the delivery of complex long term projects. The Planning Committee heard how it planned in flexibility on the basis of providing resilience and in doing so could future proof infrastructure backed with a business case for relatively higher levels of spending than would normally seem economically viable.¹⁰ Specific examples relate to the local energy system that is able to both adapt to the need for increased future demand but also the role it is playing in unlocking the development potential of surrounding sites.

The London Infrastructure Board will also need to overcome the "systemic barriers to successful infrastructure provision, such as organisational siloes and unhelpful regulations."¹¹ These disjointed arrangements require coordinated and strategic approaches if London's infrastructure needs are to be met.

The Mayor needs to establish what levers he needs to achieve this objective and he must take every opportunity to lobby for increased responsibilities and funding whenever there is a chance of devolution of powers to London.¹² The work of the London Finance Commission shows the value of mapping out a clear way forward, but also how an agreed

action plan could set out the key milestones to ensure that the vision can become a reality.

The Planning Committee is concerned that the Infrastructures Delivery Board should have a clear idea of what is needed to be delivered. The next draft of the Infrastructure Plan should provide a much clearer set of priorities for the Board to start work on delivering the short term projects while signalling the medium and longer term priorities for London.

The Delivery Board should ensure that the Infrastructure Plan is a living document and one which is constantly updated and informed by demographic projections, economic trends and technological developments. Specifically in terms of technology it will be important that the Board has effective contacts with bodies such as the Smart London Board to anticipate the potential of technology and to avoid 'lock in' to old, outdated and inefficient infrastructure.

Question 5: Where do you think London's growth would be best accommodated (please explain why)? Are there alternative spatial scenarios we need to analyse?

The draft Infrastructure Plan contains an implicit suggestion that in little more than 10 years the commitment to managing growth within London's boundaries without encroaching on the Green Belt or open spaces may no longer be feasible

The Planning Committee supports development in Opportunity Areas and Intensification Areas as this will relieve pressure on London's current Green Belt boundaries for the foreseeable future, but will require urgent thinking about how to unlock all of London's brownfield sites for sustainable development.

To support targeting future development on brownfield land the Mayor needs to undertake a comprehensive survey of potential sites that identifies land ownership and development constraints in order to assess the infrastructure needed to make the site viable for development. This would complement the infrastructure asset register (see question 1 above).

Maximising the amount of brownfield land that is suitable and viable for sustainable development is therefore crucial if London's growth is to be contained within its boundaries. The Infrastructure Delivery Board needs to make this a priority and to ensure there is full integration with next full revision of the London Plan after 2016.

The Planning Committee supports the alternatives set out in the draft Infrastructure Plan for the intensification of development in town centres, other areas of high public transport accessibility and then generally in suburban London, as long as sufficient supporting infrastructure can be provided to make this development sustainable.

The London Plan notes that in some areas identified for potential development the transport system would not currently support significant levels of growth and developer contributions may be required to underpin enhancements.¹³ The Infrastructure Plan also recognises that some brownfield areas will require transport investment to unlock sites for development. The Planning Committee agrees this is the case but not every area will need substantial investment in fixed transport infrastructure. In many places bus services linking to nearby transport hubs will be sufficient.

At the Examination in Public of the London Plan the Assembly argued that while brownfield development is desirable it must not be at the expense of industrial land (excluding genuinely surplus industrial land).¹⁴ London Plan policy 4.4A adopts an approach to industrial land management to ensure a sufficient stock of land and premises to meet future needs of different types of industrial and related uses however the proposed alterations to the London Plan suggests scope for planned and managed release of surplus industrial land.

It is vital that an appropriate balance between the need for new housing sites and industrial land is retained. It is likely however that the requirement for Opportunity Areas to close the gap between housing need and the London Plan's housing targets will make industrial land ever more vulnerable.

Given the proposals from Government (Technical consultation on planning, July 2014) that suggest extending permitted development rights to allow conversion to housing from light industrial and warehouse buildings, the Assembly would advise the Mayor to carefully monitor the release of industrial land for other kinds of development, particularly housing.

Loss of industrial land may affect other necessary pieces of supporting infrastructure, for example the boroughs' ability to manage waste within their area will be affected if industrial sites ear-marked for waste management are lost.

In terms of the Green Belt debate, the Planning Committee heard evidence that by making the Green Belt work harder (to support its original functions) the area can more effectively support development within London's boundaries. For example it could function more effectively for water storage and cleansing, biodiversity and recreation.¹⁵ "The green belt has real value for this city and ... it could do so much more."¹⁶

Question 6: Do you agree that incentives on utility providers should be amended to enable investment costs for growth to be shared more widely? How practically can this be achieved? If not, why?

The Delivery Board will need to be able to demonstrate how the public sector can take on some of the risk to incentivise wider levels of private sector investment on the basis of long term benefits for London.¹⁷ The Planning Committee heard numerous examples of how this approach is necessary alongside changes to the regulatory environment to anticipate future demand, deliver infrastructure ahead of later phases of development and stimulating investment that provides benefits to the range of stakeholders involved.¹⁸

See also our comments on questions 1 and 4 – Overall Approach and London Delivery Board.

Question 7: Regarding technological change, do you agree with the proposed approach? What technological advances should London be taking account of or be leading?

The Infrastructure Plan will necessarily have to set out short, medium and long-term scenarios as to the infrastructure needed and each of these will need regular reviews to match demand to the scale of support they require. It is vitally important that the long-term view is not neglected.

When engaging in long-term forecasting and planning there are challenges to assuming that current trends will continue unchanged and that existing methods of resource use and delivery will continue. Technological developments add to the challenge of developing such long-term infrastructure plans. The potential exists of embarking on major investment that might be obsolete or incapable of adaptation in the future.

The Infrastructure Plan must consider how emerging technologies might make providing services and support to future Londoners easier, more efficient and, in some cases, in a revolutionary way. It must include a regular review of emerging technology as an essential part of the plan. If

we do not build in consideration of the future we risk wasting a huge amount of capital on 'stranded assets'.¹⁹

It will be vitally important that there is expertise on the Infrastructure Delivery Board that can factor in developments in technology and link these to infrastructure provision. We recommend that the Delivery Board includes representation from the Smart London Board and appropriate sections of academia.

See also our comments on question 4 – London Delivery Board.

Question 8: How can we change behaviours to reduce demand for key infrastructure? To what extent could demand side changes affect, for example, our energy needs or over-crowding on London's transport?

Our earlier comments in the answer to question 1 (new infrastructure should be capable of fulfilling multiple uses) introduce further thinking about changes that reduce demand for infrastructure that goes beyond influencing an individual's behaviour.

There are examples where infrastructure can perform a number of complimentary functions – for example in the Netherlands roads are designed with ground heating that melts snow and provides a consistent source of heating to local buildings. In Austria, railway tunnels draw heat from the ground for heating buildings which then cools the tunnel. These innovations can reduce the demand for infrastructure.

Equally, thinking about integrated systems can reduce the need for resources – and so the demand for infrastructure. An example is the issue of London's demand for water. If the demand for clean water, management of waste water and storm water and the issue of flood risk are considered as part of one cycle, then demand can be managed more effectively. "These are often managed in their silos and one of the biggest challenges is how we look at water as a whole water cycle and really understand water cycle management within an urban context."²⁰

Demand could be managed through financial incentives on supply and incentivise a range of different standards. In Denmark taxes on water abstraction have had the effect of making water companies address leakage issues. "If you tax water companies on abstractions, you change their behaviour and push them to reduce the amount that is lost between what they are taxed upon and what they actually supply."²¹

Current infrastructure tends to be designed for peak performance. Technology will increasingly allow techniques to “smooth the flow down and spread some of the loading”.²² Smart control at peak times will reduce the need for infrastructure. Equally the Infrastructure Plan needs to recognise the potential for information collection and sharing to reduce demand. There are global examples of this, for example projects in Hong Kong and Melbourne and “there is immense value from the sharing of the data that is being gathered inexpensively “.²³

Housing

Question 9: Do you have other suggestions for how we could more effectively unlock housing sites with the help of infrastructure?

London’s housing need will be the key driver of the type and scale of infrastructure that London will require in the period covered by the Infrastructure Plan. It is important that the Infrastructure Plan is informed by both the London Plan and the Mayor’s Housing Strategy.

London’s spatial development will be directed by land availability and so it is important that all efforts are made to maximise the amount of land that can be developed sustainably and supported by the range of infrastructure (see above, question 5).

Many potential sites are currently unsuitable for use and need a range of measures that will unlock them so that development can take place. The draft Infrastructure Plan highlights the potential for infrastructure, especially transport (but also new electricity infrastructure), to unlock potential across the capital.

Lessons need to be learned from the Olympic Park where forward thinking in terms of infrastructure planning has enabled sites beyond the core Park to be unlocked in terms of their development viability.

It should be central to the Delivery Board’s thinking that infrastructure requirements are planned and delivered as part of a wider development philosophy, to avoid short-term and site specific solutions if London’s site potential is to be maximised.

Transport

Question 10: Are there any other strategic projects we have not considered?

The final Infrastructure Plan should include more details of projects that will deliver improvements to surface public transport access at London's airports, develop the bus network, and extend the tram network.

The Transport Committee's past work has shown that these are all strategic transport issues. For example, in the report on airport capacity in London (May 2013), it demonstrated that improving public surface transport access at airports could ensure better use of existing airport capacity. In the Committee's report on bus services in London (October 2013), it highlighted the need for a strategy for the future development of the bus network to help ensure it met rising demand.

When the Transport Committee considered the proposal for a cross-river tram (May 2008), it noted that previous TfL strategic planning documents, such as Transport 2025, identified a role for more light rail schemes, including trams, in supporting regeneration and improving public transport capacity across the capital. Recently the Transport Committee heard orbital tram schemes could be cheaper and easier to deliver than new heavy-rail links.

Question 11: Given funding constraints, what projects do you think we need to prioritise?

In the first instance, the final Infrastructure Plan should prioritise public transport projects that already feature in TfL's Business Plan including delivery of the Tube upgrades, Crossrail 2, the extension of the Bakerloo line south and the extension of London Overground to Barking Riverside.

The final Infrastructure Plan should make clear the criteria used for prioritising any other transport projects, which should include the project's clear link to the vision of London in 2050, its potential economic benefits, any wider social benefits for Londoners, and its viability in terms of costs and delivery.

It is vital for Londoners that the transport projects already underway or now being developed are delivered in full. These include the Tube upgrades, Crossrail 2, extending the Bakerloo line south and extending London Overground to Barking Riverside. In the Transport Committee's work on Crossrail 2, it stressed that this project is necessary to provide high quality rail capacity and that it could generate economic benefits

worth £49 billion. However, the Transport Committee does not want Crossrail 2 to result in a loss of existing rail services in London. The Committee would expect Crossrail 2 to deliver additional services to stations in the areas it covers in order that passengers genuinely benefit from the project. Similarly the Transport Committee supports the proposed extension of the Bakerloo line south to increase public transport capacity and wants it to deliver additional services for Londoners.

Beyond prioritising these existing transport projects, the Transport Committee welcomes a prioritisation of transport projects based on a clear set of criteria. The Committee has heard of a number of factors that should be considered when prioritising transport projects. First, the prioritisation should clearly relate to the vision for London in 2050. On this basis, the stated aspiration to increase the share of journeys made by foot and bike by 2050 may not obviously fit with a proposal to spend £15-25 billion on a new orbital road tunnel that will provide for journeys by car. Second, the transport projects should have clear economic benefits to help make the case for receiving funding. Third, the wider social benefits of the projects should be considered. The Transport Committee has heard that schemes promoting walking and cycling have scope to generate notable health benefits for Londoners. Fourth, the Committee considers it vital to ensure the prioritisation of projects that are realistic. The Transport Committee has heard some doubts about the likelihood of being able to fund and deliver some huge transport infrastructure projects such as a new inner orbital road tunnel which would be extremely expensive and take many years to build.

Question 12: Which transport innovations do you think will have the most impact and why? How can we encourage their development?

The final Infrastructure Plan should include more details on how TfL will encourage the development of existing technologies that may improve transport users' experiences through the provision of more real-time travel information.

The final Infrastructure Plan should make clear how TfL will keep informed of developments in autonomous vehicle technology so it can take advantage of this technology in future and ensure it does not result in negative effects such as greater car use.

The Transport Committee heard that, in the immediate future, the focus should be on developing existing technologies that use transport data to improve journeys or realise modal shift. To this end, TfL should continue

to share its data with third-party developers who can generate new IT systems and apps for transport users that allow them to use information to make informed travel choices. The Committee heard that such developments can also improve freight journeys in the capital. Companies can plan deliveries more effectively when they have real-time information about traffic levels. The Transport Committee's current work on taxi and private hire services has also shown that using technology to obtain data can help to inform decisions about the supply of services so it matches demand.

In addition to supporting information systems, TfL should continue to focus on encouraging technologies that could improve other aspects of the passenger experience e.g. the development of better air-cooling systems for the Tube and buses or technology that may provide for more people to work from home and/or adopt more flexible working patterns. More mobile and remote working enabled by technology could reduce and/or shift demand for public transport thereby helping to reduce overcrowding and congestion, especially at peak times.

The Transport Committee notes that autonomous vehicle technology may have the potential to revolutionise our transport system in the long-term but there are many issues to address. There remain considerable concerns about the safety of this technology and there will be numerous legal and policy issues to resolve before driverless cars could be commonplace on London's roads. However, it is important for TfL to keep abreast of developments with this technology. TfL needs to ensure new roads infrastructure might easily accommodate autonomous vehicles at a later date. TfL also needs to be able to try and shape how this technology is used to ensure it delivers benefits and does not result in any disadvantages such as increased congestion on London's roads. Similarly the Transport Committee notes that solar highways and kinetic pavements are relative new technologies that may offer advantages in future. TfL will need to keep abreast of developments in these technologies too.

Question 13: How clear is our approach to tackling road congestion? How significant do you think promoting walking and cycling could be as part of the solution?

The majority of the Transport Committee want the final Infrastructure Plan to include further measures to tackle road congestion including details of the level of congestion that will trigger consideration of road user charging.

The final Infrastructure Plan should include enhanced proposals for walking infrastructure alongside the proposals for new cycling infrastructure to ensure both walking and cycling can play greater roles in reducing congestion.

The majority of the Transport Committee is concerned that the approach to tackling road congestion in the draft Infrastructure Plan does not go far enough. It is concerned that road congestion might not be addressed effectively by 2050 simply by developing signal technology, enhancing predictive traffic management, redesigning major traffic junctions, and possibly creating a new inner orbital road tunnel which is a hugely ambitious proposal.

In the Transport Committee's past work on road congestion, the majority of the Committee concluded that, as traffic volumes rise, other actions will be needed to manage road congestion. These may include the reinstatement of a hierarchy of road users to help ensure transport planners prioritise sustainable and public transport schemes, as well as economically essential services, over private car use. The majority of the Committee, with the exception of the Conservative Group Members who oppose all additional road user charging, also wanted greater clarity on when road user charging might be implemented. While reference to the potential long-term opportunities from road pricing has been included in the transport supporting paper for the draft Infrastructure Plan, the Committee is concerned about the lack of any specific timings for this measure. The Transport Committee wanted to see details of the level of increase in congestion necessary to trigger a consideration of further road user charging.²⁴

The Transport Committee welcomes acknowledgement in the transport supporting paper for the draft Infrastructure Plan that a major challenge will be reducing levels of car ownership and usage while maintaining good access for people to jobs, services and opportunities across London. It notes the supporting paper highlights that if car ownership remains the same as today, then the projected growth in population to 2050 would result in nearly one million additional cars in London, requiring space for parking equivalent to Richmond Park. The Committee supports the position set out in the supporting paper that there may be opportunities (and imperatives) to promote sustainable travel patterns as areas across the city change and densify, providing scope for significant increases in walking and cycling relative to population growth.

The Transport Committee thinks walking and cycling could play a significant role in reducing car ownership and thus traffic congestion. However, for this to happen, there may need to be a step change in the current proposals, especially for walking schemes. The Committee heard that the draft Infrastructure Plan is lacking visionary, transformative proposals for pedestrians that may result in many more journeys being made by foot. The proposed expenditure of £2-4 billion on a comprehensive network of high quality cycle and pedestrian routes is small in comparison to the proposal to spend £15-25 billion on a new orbital road tunnel. While the Committee welcomes the proposal for more investment in cycling, it wants to see exploration of such options as match funding in order to further increase investment and help achieve even more significant growth in cycling. It would also welcome the development of more than 200 kilometres of new Dutch-style cycle routes by 2050. The Committee considers providing more segregated cycling space to be key infrastructure, and we also want more investment in cycling in outer London boroughs. Alongside this focus on cycling, there should be more investment in pedestrian infrastructure.

Question 14: What do you think of the vision for increasing step-free access on public transport?

The final Infrastructure Plan should set out a vision to make 100 per cent of journeys on the Tube and rail network step-free by 2050 and include more details of the full range of measures that will be taken to improve accessibility at Tube and rail stations.

The Transport Committee is disappointed that the draft Infrastructure Plan does not have the ambition to make 100 per cent of journeys on the rail and Tube network step-free by 2050. It would welcome clarity on how the stated vision – to make 40 per cent of these journeys step-free by around 2040 and around two-thirds by 2050 – could be developed to ensure all journeys are step-free.

Following the recent announcement of a £75 million fund to speed up the delivery of step-free access at some stations, the Transport Committee now wants to see enhanced plans for improving accessibility across the transport network by 2050. It notes that the £75 million fund will be used to match contributions from local authorities and property developers for improvements to step-free access at a number of priority locations. It therefore welcomes details of the scope for further match funding in future to deliver more improvements. The Committee heard that there should be no excuses from transport operators for the lack of step-free access and that to realise additional improvements will require more

innovation from them and possibly more acceptance of incremental changes in accessibility. In the Committee's past work, it stressed the importance of installing lifts at more rail and Tube stations but has also promoted other changes to enhance accessibility. For example, following the 2012 Games, the Transport Committee found accessibility could be improved through the installation of more platform humps at Tube stations.

General transport related comments on the draft Infrastructure Plan 2050

Overall the Transport Committee supports the publication of the draft Infrastructure Plan 2050 as follow up to the Mayor's 2020 Vision. When it explored the 2020 Vision document at a meeting on 3 September 2013, it heard concerns that it lacked credibility because it did not provide sufficient detail about the implementation and financing of the proposed projects. The Infrastructure Plan represents an opportunity to address these gaps.

However, the Committee is concerned that the draft Infrastructure Plan does not fully address some important transport issues and contains some contradictions. In particular, it is concerned about some of the assumptions underpinning the Infrastructure Plan and the lack of details on funding sources for the proposed transport schemes.

The assumption that more radial transport links are needed in London

The final Infrastructure Plan 2050 should include more details on transport schemes that will develop outer London town centres as well as the Central Activity Zone to provide for more polycentric employment and population growth in London.

The Transport Committee is disappointed that the draft Infrastructure Plan is so heavily focused on developing more radial transport links. While it notes that these proposed links are to support the growth of London's Central Activity Zone (CAZ) because it is considered more economically productive than other parts of London, high-capacity radial transport links can be costly and difficult to build. Moreover, as it has already seen in London, radial transport links can often become overcrowded and congested very quickly as more and more people seek to travel from outer London to the centre.

The Transport Committee considers there may be scope for greater choice in how to grow London in future and to use transport to help

shape this growth. It should be possible to plan new transport schemes that can generate and support more employment opportunities outside of the CAZ, and can influence population growth elsewhere in the capital. The Committee heard that by having good all-round transport links to other economic centres in the capital, such as Croydon, the attractiveness of these areas increases. It wants to see more focus on developing orbital transport links to promote the growth of London's outer town centres.

The assumption of a new four-runway hub airport in the Thames Estuary

The final Infrastructure Plan 2050 should take account of the Airports Commission decision not to consider the proposal for a new four-runway airport in the Thames Estuary and make clear how this changes the assumptions within the Plan.

The Transport Committee notes that the Airports Commission has not short-listed a new four-runway hub airport in the Thames Estuary as an option for further consideration yet the draft Infrastructure Plan is based on the assumption that this new airport will be built by 2029. The Transport Committee is also concerned that in focusing so much on the proposal for a new airport in the Thames Estuary, the draft Infrastructure Plan contains few proposals for improving surface public transport access at London's existing airports. The final Infrastructure Plan should take account of the current work of the Airports Commission and, in so doing, include proposals for improvements to surface public transport access at London's existing airports.

The lack of funding for the transport proposals within the draft Infrastructure Plan 2050

The final Infrastructure Plan 2050 should make clear how the proposed doubling of annual capital expenditure on transport by 2021 will be funded.

The Transport Committee notes that to deliver the transport proposals within the draft Infrastructure Plan will require a doubling in annual capital expenditure on transport by 2021. Given this is just seven years away, it is concerned at the lack of specific details for realising this increase in expenditure. While the draft Infrastructure Plan and accompanying documents set out possible ways to raise funding, many of these mechanisms are not certain and thus not quick to implement. Moreover, in the case of any devolution of tax raising powers, this may be accompanied by corresponding reductions in government grant and thus, in the short term at least, be fiscally neutral and do little to help close the

funding gap. Over the longer term, however, the Transport Committee notes the scope for fiscal devolution to lead to greater levels of funding as London's tax base grows and there is opportunity to determine tax rates locally.

Green infrastructure

Question 15: Are there strategic green infrastructure objectives that should be prioritised? If so, are there any specific initiatives needed?

We would agree that it is important for Londoners to have access to high-quality green spaces even as the city increases in density, and that green spaces offer a range of additional benefits, including mitigating flood risk, improving air quality, cooling the urban environment and enhancing biodiversity and ecological resilience.

The Environment Committee's past work on flooding identified that exceptionally heavy downpour over London as a major risk, with likely loss of life and property damage in the order of tens of billions. Air pollution is responsible for thousands of additional deaths in London annually, and heatwaves can kill hundreds of vulnerable people. Therefore reducing water runoff, air pollution and the urban heat island are essential goals in designing the urban environment. As well as in 'green spaces', planting and unpaved surfaces can be integrated into new and existing developments at all scales and this approach should inform plans for all infrastructure.

The Infrastructure Plan also needs to seriously consider the role of Sustainable Urban Drainage. The Planning Committee heard that Thames Water's next asset management programme period "does not seem to put much weight on it. Sustainable drainage systems are only mentioned three times in its new business plan... I do not know if it is geared up to be fast enough to be able to deliver the aspirations necessarily in the draft Infrastructure Plan."²⁵

It is clear that green infrastructure needs to be considered at the start of any development project and that it should be incorporated into the public realm with the objective of performing a number of functions that support development sustainably. The Olympic Village is an excellent example of this.²⁶ In water service and design of the Village, the water companies were engaged early and were encouraged to support effective water management and drainage functions.²⁷

We would encourage the Mayor to consider the concepts being explored in Imperial College's Blue-Green Dream project. This is about combining the management of water and green spaces in urban environments to better complement each other, reducing the need for more expensive grey infrastructure, while improving local environmental conditions and better preparing towns and cities to adapt to the challenges of climate change.²⁸

Question 16: What are the key issues that the proposed Green Infrastructure Task Force need to consider?

A 2013 survey carried out by the Environment Committee (targeted at Londoners involved in nature and wildlife conservation, 'Friends of parks' groups, conservation volunteers and local societies) highlighted the strong interest in this issue and the high value placed on London's green areas and wildlife habitats. Some were concerned that biodiversity could be marginalised, or suffer as a result of green infrastructure policies aimed at other functions. The Environment Committee welcomes the Mayor's plans for a Green Infrastructure Task Force. The Task Force should give biodiversity sufficient weight among the benefits of green infrastructure.

In response to the Environment Committee's work, the Mayor agreed to prepare and publish a supplement to his outdated Biodiversity Strategy, in partnership with the organisations that participated in the Committee's investigation. Publication for the supplement is expected in spring and we recommend that the contents be closely considered by the Task Force.

Digital

Question 17: What else can we do to ensure we achieve universal digital connectivity?

We welcome the Infrastructure Plan's emphasis on improving digital infrastructure and broadly support the measures outlined in the Infrastructure Plan to enhance digital connectivity, however we would like to see a number of changes reflecting the priority and urgency that the Mayor must place on upgrading digital connectivity as London's essential fourth utility.

The Regeneration Committee support the Infrastructure Plan's emphasis on enhancing digital connectivity (rather than a narrow focus on broadband), given the fast-moving nature of connectivity technology which will require London to facilitate investment in a range of modes.

As the Committee highlighted in its letter to the Mayor in March,²⁹ improving a range of digital connectivity modes is particularly key for London's small and medium enterprises.

The Regeneration Committee backs the Mayor's decision to establish a Connectivity Advisory Group to work with the London Infrastructure Delivery Board (LIDB). It thinks that the Mayor's plans for the Group could be strengthened by establishing a timetable for the city-wide mapping exercise proposed in the Plan. Given the urgency of London's need for better connectivity, the Committee suggests that the Advisory Group should be established in early 2015 and complete the mapping exercise by the end of December 2015.

Furthermore, the Regeneration Committee would encourage the Mayor to involve Ofcom as a key stakeholder in the Connectivity Advisory Group. As set out in the Committee's letter to the Mayor in March, the Mayor should invite the regulator to examine the incentives facing suppliers, and to investigate the scope for addressing any factors which disincentivise private investment.

Equally, the Regeneration Committee would like to see the Mayor establish a lead digital champion to implement the recommendations of the Connectivity Advisory Group. Currently, it is unclear who is responsible for spearheading improved digital connectivity. The Infrastructure Plan should commit the Mayor to nominate a Mayoral lead to provide accountability for delivering the step change in digital connectivity that London needs.

At the Examination in Public of the London Plan the Assembly argued that broadband infrastructure at the development construction phase can no longer be considered desirable, but it is an essential utility alongside water, electricity, and gas. It further argued that the London Plan is not sufficiently robust to ensure this is a requirement.³⁰ The Infrastructure Plan needs to review what can be done to encourage connectivity to all homes and businesses in London.³¹

The digital discussion tends to be around broadband capacity and mobile capacity, focused on the elements and the provision of that. One additional aspect that is worth highlighting in the Infrastructure Plan is the opportunity that might arise by making the data provided by city management investments more available. The work Arup is doing in Christchurch, New Zealand, where it is developing what is called the 'Sensing City' requires every private sector provider and every public

sector provider of infrastructure to invest in sensing equipment from which the data is shared and the city is then managed in a more efficient manner by overlapping all of that information and looking at how it relates.³²

The Infrastructure Plan needs to consider how greater sharing of information with small businesses across the city might be used to bolster the burgeoning tech industries that can both reduce the need for infrastructure and also make management of the city more effective.

In the wider consideration of the contribution from 'digital' we do need to satisfy ourselves that we have adequately addressed the full range of likely scenarios London will be facing. "It is about... are those assumptions being questioned, what are the what-if questions that are being asked? It may not actually change things at all, but at least we have gone through the process of asking them."³³

Long-term plans need to consider the potential role of emerging technology or 'disruptive innovation' as an essential part of scenario planning. Disruptive innovation creates a new market by applying a different set of values, which ultimately, and unexpectedly, overtakes an existing market. Examples of disruptive innovation, that are now essential to our lives, include:

- E-mail that replaced postal mail because it can be sent from one place to another place in milliseconds, without using paper or spending money for stamps.
- Light emitting diodes (LED) replacing light bulbs and have developed enough to be used for indoor lighting and street lights.
- Digital photography replacing chemical photography – memory cards and portable storage hold thousands of pictures that do not need developing.'

These technological developments add to the challenge of developing such long-term infrastructure plans. The potential exists of embarking on major investment that might be obsolete or incapable of adaptation in the future. There are many 'known unknowns' but we should not stop that from hampering our planning for the future.

The Mayor's Infrastructure should consider how emerging technologies might make providing services and support to future Londoners easier, more efficient or in some cases in a revolutionary way. It should include a regular review of emerging technology as an essential part of the plan. If

we do not build in consideration of the future we risk wasting a huge amount of capital on “stranded assets”.³⁴

We must avoid being locked-in to the wrong infrastructure by not being aware of the direction of future technology and peoples’ behaviour. “Building in obsolescence is what we have to avoid.”³⁵

Question 18: Are you able to suggest examples of alternative ways of providing digital connectivity to local areas with poor or no broadband provision?

We welcome the Mayor’s objective to prioritise digital connectivity in new developments, and in particular in Opportunity Areas. Gathering evidence in January 2014, the Regeneration Committee heard that new developments often lack effective connectivity, largely because individual sites are not linked to arterial broadband infrastructure. We strongly support the Mayor’s aim to charge the LIDB to explore how communications providers and developers can work together to prioritise digital connectivity at an early stage in planning Opportunity Areas.

Energy

Question 19L: Do you agree with our approach in stimulating locally produced energy? If not, why?

The Environment Committee agrees that producing energy more locally will have a significant role to play in carbon reduction and energy security. London has the potential for many types of energy generation including solar, combined heat and power and ground source.

Evidence to the Environment Committee from the government Committee on Climate Change emphasised that to achieve the 80 per cent carbon reduction target, energy supply would have to be very largely de-carbonised by 2050 (especially if the aviation sector is to maintain its current emissions). This would have implications for the optimal mix of new generation capacity, and for the future of domestic gas combustion.

Evidence collected by the Environment Committee notes the lack of commercially viable co-operative or community-led projects for decentralised energy, and the need for mechanisms that could provide working capital to this sector. An example would be Brixton Energy, a not-for-profit solar energy co-operative that also seeks to raise awareness about energy efficiency and fuel poverty.

The Planning Committee heard of the benefits that local energy networks have brought to the Olympic Park where system has been designed to grow extensively. “The system designed in the Olympic Park is designed to grow and to deliver energy to up to around 12,000 new homes. The likelihood is that that demand will never be met, but it does then give us additional capacity to extend the network into neighbourhoods adjacent to the Olympic Park, to promote development and to provide servicing of sites in some of the regeneration areas that sit outside the Olympic Park. Indeed, that foresight planned into the Olympics back in around about 2006 is now being realised. The legacy company is extending that network in collaboration with Cofely, the provider, into Hackney Wick and into Fish Island, adjacent areas to the energy centre.”³⁶

Moreover, the flexibility and the resilience built into the local energy network has improved the viability of adjacent sites because there is a certainty that developers can draw upon around a resilient energy supply and, more importantly, a resilient heat supply that is provided locally.³⁷

At its recent meetings, the Environment Committee heard that a lack of strategic focus on solar energy meant a lost opportunity to generate energy from new and existing roofs, on both domestic and industrial properties. The Infrastructure Plan should seek to maximise solar energy use, particularly in cooperation with local communities and initiatives.

We would strongly agree that there is a need to reduce energy demand. Demand reduction closes the energy gap as much as increased supply, but without losses in transmission and without further straining distribution infrastructure. It also reduces household and business costs and reduces carbon emissions. Increasing the energy efficiency of the building stock is an essential element of demand reduction.

Question 20: What else should we consider to ensure London’s energy supply is affordable, sustainable and secure?

A smart grid could in future help to spread peaks in demand and respond to variability in supply from different sources. The Environment Committee’s report “Plugging the Energy Gap” discussed these issues.³⁸

Water

Question 21: What else could help manage the expected deficit in water supply?

The Environment Committee has examined water supply and demand in its report “Water Matters”.³⁹ The Environment Committee strongly

supported leakage reduction and water metering, and would broadly support the methods outlined in the Infrastructure Investment Plan for keeping water demand in line with availability.

The Environment Committee has also strongly supported sustainable drainage and river restoration in a number of publications including “For a Rainy Day”,⁴⁰ its report on flood risk. As well as reducing the vulnerability of a city to heavy rainfall, these measures promote river water quality. Rainwater harvesting within the urban environment also offers a source of relatively clean water to meet demand, which could be easier to use than waste water.

We support strategic action on flood risk, based on catchment areas and involving all necessary partners. These strategies should take into account the potential effects of climate change, using modelling and monitoring of trends in rainfall, its patterns and variability. We would support calls for London to have a risk-based share of investment in flood prevention.

Our comments on reducing demand, incentivising utilities, technological change and energy in the questions above are all relevant to managing the forecast water supply deficit.

Waste

Question 22: Do you think the name ‘circular economy’ is best to describe the approach or will it confuse consumers and businesses? Can you suggest other names?

By 2050, the Mayor’s aim is that very little waste will require disposal, the economic benefits of which will include savings of up to £5 billion, a growing economic sector with new employment opportunities, reduced exposure to volatile global commodity prices and less toxic waste. We support this objective.

The Infrastructure Plan discusses how enabling this so-called ‘circular-economy’ will require investment in around 40 new facilities, in addition to London’s existing capacity, for the reuse, repair and remanufacture of materials. Questions have to be raised as to whether these new sites are really additional or include some of the already identified waste treatment sites.

The Planning Committee heard, however, that the concept of a ‘circular economy’ should be considered in a far broader framework and one that

should encompass replacing the horizontal flow of resources with more vertical elements. “It is very important and it is broader than just recycling”.⁴¹ Moreover, the Infrastructure Plan needs to consider the circular economy with a number of other fundamental economic changes, such as the shift to more localised and collective consumption.⁴²

Question 24: How can we incentive businesses and households to reuse and recycle more?

In line with national and European targets, and considering that, London’s landfill capacity is projected to be exhausted by 2021, the Mayor should aim for ‘zero waste’ by 2050 and focus on investing in recycling and reprocessing facilities.

We agree that waste authorities will need to introduce more consistent collection and recycling to achieve this goal, and want to highlight the importance of separate collection streams, including food and other organic waste. In addition to the cost, landfilling biodegradable waste, of which food comprises a large proportion, is especially harmful to the environment because of methane and carbon dioxide emissions. London needs better food waste and other recycling services, particularly in its high density housing. This is particularly important in light of Defra’s decision to reduce support for local authorities on improving waste services and to scale back work on developing anaerobic digestion plants to handle food waste.

The Environment Committee will publish the results of its investigation into the management of domestic food waste in London later in the year and the Mayor should ensure the Infrastructure Plan reflects its findings.

According to a study by Imperial College London, London needs additional treatment plants to process approximately one million tonnes of food and green waste infrastructure. SITA UK, a recycling and waste management company, estimates that for every one million tonnes of waste diverted from landfill, 10 to 20 new treatment facilities would have to be built.

While there would appear to be significant opportunity for development, apart from the planned ReFood plant in the London SIP, and the existing undeveloped but consented SITA UK anaerobic digestion proposal in Sutton, there are no other well developed anaerobic digestion proposals within London.

In order to ensure that the required number of waste treatment facilities are delivered – especially in relation to organic and biodegradable waste – the Infrastructure Plan needs to address the following issues:

- High land values in London, compared with those outside its borders, may incentivise the development of treatment facilities near but not within the capital;
- Markets for digestate and compost are more limited, compared with rural areas, or need to take into account the geographic distance to end users; and,
- Difficulties in securing suitable locations for anaerobic digestion plants.

Recent meetings held by the Assembly’s Environment Committee heard that waste treatment providers often opt to build new facilities outside London to avoid such issues and to be nearer potential end users of products such as compost or energy. This is a serious consideration in light of the Mayor’s aim to manage much of London’s waste within London.

The Mayor expects incineration to play a decreasing role in the management of London’s waste as recycling performance increases and emerging more efficient thermal technologies including anaerobic digestion and gasification come to market.⁴³ In order to achieve this, the Plan should offer more encouragement for infrastructure to support green energy sources and additional incentives to businesses and households to reuse and recycle more.

We welcome the Mayor’s approach towards a ‘circular economy’ and would hope to see a decreasing emphasis on energy from waste from incineration, as this is incompatible with a future based on reuse and resource efficiency, the secondary materials economy and materials innovation.

Additional comments

Time frame

We appreciate that there is a debate about the time frame covered by the plan. Our view is that the period to 2050 would be a good end point, but the precise end date of the plan is relatively unimportant. Different pieces of infrastructure have different life cycles. Different providers of infrastructure have variable planning cycles, and new pieces of infrastructure will be required to support major new developments as they are built.

The plan therefore must set out a clear sense of direction and must be specific about the phasing of the different pieces of infrastructure needed to support growth.

Establishing the evidence base

At the Planning Committee in November 2013 we heard the case for new infrastructure to be based on a sound and widely accepted evidence base.⁴⁴ The evidence needs to establish the state of London's infrastructure assets, and the demands that growth will place on the system. This evidence is needed to give political decision makers the awareness of the implications of either delaying investment or, worse, doing nothing.

A decentralised and modular London

In planning for the future we should not neglect to remember the past and the context for how London is today. London remains a city of villages, and there must be merit in considering how this modular nature – one world city made up of thousands of communities – might be used as a basis for infrastructure provision in the future.

We need to think very hard and long about what does need to be done centrally and what can be done locally. This is very important and it is positive that the GLA is addressing, albeit at an early stage, looking at the future in terms of scenarios that might lead to more decentralised systems.

Linking to the London Plan

The long-term Infrastructure Plan should function as an overview and baseline of strategic infrastructure requirements, one that is regularly reviewed over time in light of actual change and demand for supporting services.

However, it is vital that the infrastructure plan is closely integrated with the London Plan. Once the magnitude of growth is quantified, the location of this growth is an important factor in understanding the scale and way infrastructure can be planned and provided.

The London Plan must be a key consideration in the development of the infrastructure plan as it has the benefits of being based on evidence, proven policy robustness in terms of sustainability and also is regularly subject to public comment and revision. All of these characteristics should be reflected in the infrastructure plan and so the Infrastructure Plan should be spatially driven as well as investment focussed.

Forging and maintaining a political consensus

Infrastructure planning and funding is high risk and long term. It necessarily is hostage to changes in political direction over time. But somebody has to make a decision and building an enduring political consensus in London for what London needs in terms of infrastructure is the first challenge. The Assembly has already given indications that it recognises this and is willing to tackle such a challenge.⁴⁵

On production of the first draft of the Plan, we would urge the Mayor to use this to start generating a political consensus that is capable of enduring across the next ten or so Mayoral terms that it will take to implement his plan.

Engaging London's existing population

The Infrastructure Plan obviously looks forward in how to support a growing London population, but it is vital that the Infrastructure Plan also engages the existing population and persuades them that the Plan will meet their needs too. The Planning Committee heard suggestions that one of the biggest single issues regarding new infrastructure investment is the need for local public support.

“If you are going to sell this to the population of London, it needs to demonstrate that there is a benefit to the population of London that comes from it, not just a benefit to the new population of London that might come in the future, if you like. There are tremendous benefits from what it describes, but they are not necessarily articulated in the strongest fashion in the way in which it is presented. There is a narrative that is required in order for it to be more positively publicly received perhaps.”⁴⁶

Endnotes

¹

<http://www.london.gov.uk/sites/default/files/London%20Assembly%20Report%20TfL%20Sponsorship%20Policy%20170212.pdf>

² Lord Andrew Adonis, Planning Committee 14 October 2014

³ <http://www.london.gov.uk/moderngov/documents/s39757/Appendix%201%20-%20Submissions%20to%20Examination%20in%20Public.pdf>

⁴ p183

<http://www.london.gov.uk/sites/default/files/The%20cost%20of%20London%27s%20long-term%20infrastructure%20by%20Arup.pdf>

⁵ Lord Adonis, Planning Committee 14 October 2014

⁶ The Armit Review: An independent review of long term infrastructure planning, November 2013 <http://www.armittreview.org/>

⁷ World class infrastructure for a world city, London First, November 2010 http://londonfirst.co.uk/wp-content/uploads/2012/09/London_First_Infrastructure_Commission_report_-_EMBARGOED.pdf

⁸ Jeremy Skinner, Planning Committee 14 October 2014

⁹ Michael Henderson, Associate Director – Sustainability, AECOM, Planning Committee 14 October 2014

¹⁰ Jerome Frost, Arup, Planning Committee, 14 October 2014

¹¹ London Infrastructure Plan 2050 page 26

¹² For example the current Communities and Local Government select committee inquiry on fiscal devolution to cities and city regions which will examine whether and how fiscal and financial powers could be devolved to London and English cities

¹³ Draft Further Alterations to the London Plan, January 2014 Annex 1

¹⁴ http://www.london.gov.uk/sites/default/files/3_LondonAssembly_Session6.pdf

¹⁵ Michael Henderson, Associate Director – Sustainability, AECOM, Planning Committee 14 October 2014

¹⁶ Noel Farrer, President, Landscape Institute, Planning Committee, 14 October 2014

¹⁷ Jerome Frost, Arup, Planning Committee, 14 October 2014

¹⁸ See transcript of Planning Committee 14 October 2014 <http://www.london.gov.uk/moderngov/ieListMeetings.aspx?Committeed=258>

¹⁹ James Goodman, Director, Futures, Forum for the Future, Planning Committee, 28 November 2013

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- ²⁰ Michael Henderson, Associate Director – Sustainability, AECOM, Planning Committee 14 October 2014
- ²¹ Dominic Hogg, Chairman, Eunomia Research & Consulting, Planning Committee 14 October 2014
- ²² Michael Henderson, Associate Director – Sustainability, AECOM, Planning Committee 14 October 2014
- ²³ Jerome Frost, Arup, Planning Committee 14 October 2014
- ²⁴ The Conservative Group dissented from this conclusion and recommendation in the Future of Road Congestion report (June 2010)
- ²⁵ Michael Henderson, Associate Director – Sustainability, AECOM, Planning Committee 14 October 2014
- ²⁶ Jerome Frost, Arup, Planning Committee 14 October 2014
- ²⁷ Michael Henderson, Associate Director – Sustainability, AECOM, Planning Committee 14 October 2014
- ²⁸ Cedo Maksimovic, Imperial College London, Planning Committee 14 October 2014
- ²⁹ Letter from the Regeneration Committee to the Mayor, 4 March 2014
- ³⁰ http://www.london.gov.uk/sites/default/files/3_LondonAssembly_Session6.pdf
- ³¹ The City of London Corporation also argued that the Mayor’s London Plan should address the need for improved connectivity for all businesses, including small businesses and tech/info start-ups, as the business models of the major broadband suppliers are often unaffordable for SMEs.
- ³² Jerome Frost, Arup, Planning Committee 14 October 2014
- ³³ James Goodman, Director, Futures, Forum for the Future, Planning Committee, 28 November 2013
- ³⁴ James Goodman, Director, Futures, Forum for the Future, Planning Committee, 28 November 2013
- ³⁵ Finlay Kelly, Future Cities Catapult, Planning Committee 14 October 2014
- ³⁶ Jerome Frost, Arup, Planning Committee 14 October 2014
- ³⁷ Ibid
- ³⁸ <http://www.london.gov.uk/sites/default/files/Plugging%20the%20Energy%20Gap.pdf>
- ³⁹ <http://www.london.gov.uk/sites/default/files/Water%20management%20report%20pdf.pdf>
- ⁴⁰ <http://www.london.gov.uk/sites/default/files/For%20a%20Rainy%20Day%20-Draft%207%20Final.pdf>
- ⁴¹ Cedo Maksimovic, Imperial College London, Planning Committee 14 October 2014
- ⁴² Michael Henderson, Associate Director – Sustainability, AECOM, Planning Committee 14 October 2014
- ⁴³ MQT 11 September 2013 Reference: Question 2013/3111
- ⁴⁴ Sir John Armitt, Planning Committee, 28 November 2013

⁴⁵ GLA Oversight Committee, 10 September 2013

⁴⁶ Jerome Frost, Arup, Planning Committee 14 October 2014

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