

Scenarios, planning and economic outlooks



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Introduction

The London Plan looks forward more than 20 years in order to provide a context and vision for policies on land use and development. A similar perspective is taken to develop an economic vision and to assess the need for the associated transport infrastructure. Consideration of investments needs to take such a long time frame but there are obvious uncertainties and risks.

There is the potential for the world of the future to look different from that of today and there are those who campaign for substantially different outcomes. This report provides an input into an assessment of what is realistic and likely and whether alternative views could be the basis for a sensible Plan.

The **first section** describes the role and function of scenario planning from its genesis in business planning and reports on a seminar held with external speakers to discuss the potential for scenarios to inform the London Plan and other mayoral strategies. This helpfully clarified the different roles scenarios would play during the preparation of a strategic plan. A number of options emerged but there was no consensus or supporting evidence around a particular scenario that should be developed into the kind of detail required for the Plan. Rather there was a sense that a continuing discussion of the range of potential alternatives, possibly with other regions, would be useful background to the development of strategies over time and in particular to assessment of risk.

Some suggested scenarios that were really alternative strategies and outcomes which would be preferable from their perspective. However, there did not appear to be a consensus around any such vision. It was hard to come up with a likely and realistic alternative to the current vision.

It would seem that the ability to debate alternative visions is felt to be important. However, the kind of detailed policy required by a spatial development strategy – which has to provide the degree of certainty necessary to provide a framework for effective coordination and targeting of activities and resources – does not lend itself to this kind of scenario discussion. Nor does the fact that the London Plan is the spatial development strategy of the Mayor (who inevitably has his own policies) lend itself to what would appear to be more of a political debate.

The **second section** is an independent review by Paul Ormerod of the economic assumptions which underlie the current draft replacement London Plan and some of the alternative strategies discussed at the workshop and since. Paul has extensive experience of forecasting models and their strengths and weaknesses. He concludes that the basis of the planning assumptions is robust and that there is potential for both upside and downside risks – largely around the long term prospects for the world economy. A reversal of globalisation could hurt London, but a continued strong global economy, as the new emerging economies continue to grow strongly, would benefit it.

While scenarios try to develop an alternative story, another way of describing options is simply to consider ‘better’ and ‘worse’ results. To help those who want to view the implications of these, we provide in **section three** a ready reckoner of the relationship between employment, output and productivity. Our central view takes growth to be 2.5 per cent per year – this is the Treasury’s assumption – and productivity at 1.8 per cent per year, in line with London’s long-term trend. The result is employment growth averaging 0.7 per cent per year.

Section 1: Developing scenarios

This section covers how scenario planning might assist policy-making in the Greater London Authority group of organisations, with particular reference to the London Plan. It concludes that at least in principle, scenario planning can help to focus the minds of policy makers on planning for the unexpected or on unanticipated effects of policy options, though to do this it has to come at the start of the policy-making cycle.

However (unlike for the oil company example often quoted in the scenario planning literature) it is not easy to construct an alternative scenario to the central one which is both realistic and durable for the 22-year horizon of the Plan and beyond. The central scenario can be characterised as “London continues to be the capital city of a major economy and one of the five most important ‘world cities’”.

A natural disaster – such as a flood – would only be a temporary setback (see the New Orleans example after Hurricane Katrina in 2005¹). There may be times when London exerts less of a pull on financial sector businesses – perhaps following adverse EU regulatory developments – but it is very doubtful that there will be a **permanent** loss of competitiveness of this nature. A return to autarky (that is, self-sufficiency) would lead to a major change in the central outlook but it is hardly a realistic scenario candidate. Almost by definition, it is impossible to plan for the consequences of radical shifts of this kind; a more sensible approach may be to simply draw up a new plan.

This paper shows that use of scenarios should not be seen as an end in itself. It has to be clearly understood what purpose they are intended to fulfil and what part they play in the process of making or testing policy. They are not a substitute for setting a clear strategy, which is the ultimate role of a strategic body like the GLA.

1: What scenario planning is about

‘Scenario planning’ is often confused with ‘policy options’ or ‘variants’.

Michael Porter² defined a scenario as “an internally consistent view of what the future might turn out to be – not a forecast, but one possible future outcome”. Peter Schwartz³ defined scenarios as “a tool for ordering one’s perceptions about alternative future environments in which one’s decisions might be played out”.

‘Policy options’, by contrast, are a set of alternative responses by policymakers to a given outcome, forecast or scenario. Because policy options are typically discretionary and therefore not predictable, they do not themselves form part of the planning or forecasting process, in the sense that they lead to feedbacks onto determined variables. However sometimes automaticity is assumed for policy responses, such as the so-called Taylor Rule for monetary policy (which assumes that a central bank sets interest rates according to the gaps between actual and targeted inflation and between actual and potential output).

‘Variants’ are the outputs from a macroeconomic model when assumptions about exogenous variables – the oil price for example or longevity – are changed.

‘Scenarios’ or ‘variants’ are part of the decision-making tools which economists and planners can provide to policy makers: they add to the comprehensiveness of those aids to decision-making. ‘Policy options’ logically follow on sequentially and are the range of possible responses, either to the scenarios/variants or to real outcomes.

One consequence of the advances in technology which have given faster and more comprehensive access to knowledge is that organisations are faced with an increasing need to respond quickly to a variety of changes. Technology also gives them the ability to respond fast, for example through ‘just-in-time’ inventory management. However that response has to be informed by human judgment and while technology can assist judgment, it cannot supplant it. One way in which it can assist human judgment is through scenario planning.

Scenario planning first emerged in the 1940s, in the RAND Corporation, under Herman Kahn. Then in the mid-1960s Kahn founded the Hudson Institute which specialised in scenario-based planning.

Its use by Royal Dutch Shell in the 1970s arose from a growing dissatisfaction with other approaches to long-term planning. The technique is credited for Shell's good performance after the 1973 Yom Kippur war broke out and oil prices soared. On October 16 OPEC announced a decision to raise the posted price of oil by 70 per cent, to \$5.11 a barrel. The following day, Arab oil Ministers agreed to an oil embargo, a cut in production by 5 per cent and to continue to cut production over time in 5 per cent increments until their economic and political objectives were met. However, Pierre Wack – who headed at the time the business environment division of the Royal Dutch/Shell group planning department – found that “no more than a third of Shell's critical decision centres were really acting on the insights gained through the scenarios”. So the planners at Shell changed tack. They now aimed to produce scenarios which would make the managers “question their own model of reality and change it when necessary”.

This shows that it is hard to establish credible and realistic scenarios, and still harder to develop reasonable responses which are effective.

Scenario planning can perhaps be contrasted with two other approaches. The first could be termed ‘competitive analysis’ – scrutiny of the evidence and assumptions underpinning a particular strategy and seeing whether an alternative better fits the facts. This is the kind of approach that underpins the public examination process in preparing the London Plan. The second is the technique that underpins strategic planning in the United Kingdom summarised as “plan, monitor and manage” – draw up a plan on the basis of the best evidence available, monitor outcomes against these assumptions, and then if necessary either alter the plan to take account of changes or – if things change radically – start again.

2: GLA Economics seminar

The GLA Group often uses scenarios to enrich its planning exercises.

To inform its thinking on the relevance of scenarios, GLA Economics held a seminar on 30 July 2009 with three invited external speakers. The seminar was also particularly intended to inform the review of the London Plan initiated by the Mayor in late 2008.

The invited speakers spoke about sustainability; housing; the South East region; and ‘exploring scenarios’.

There were three questions posed:

- What do we want scenarios for?
- What kind of scenarios?
- How can we use them in the context of putting together the London Plan and other Mayoral strategies?

The external speakers suggested that scenarios could fulfil a number of purposes:

- Scenario-based approaches could be especially valuable at a time of particular uncertainty given the nature of the current recession and the possibility of things being quite different in the future – particularly, perhaps the likely shortage of public funds for investment in infrastructure.
- They could be used to identify alternative strategies, available for choice by decision-makers.
- They could be used as the basis for rationalisations of assumed trends and possible policy impacts.

The speakers suggested the GLA should run scenarios that enabled it and others to identify and quantify potential risks and to develop policy options. They should be developed on both a top-down and bottom-

up basis, and should help to identify risks and policy options. The speakers felt there was considerable scope for bringing this approach into the work of the GLA and its functional bodies beyond the London Plan, and that GLA Economics had a key role to play in this.

3: What kind of scenarios?

Scenarios suggested by the speakers included:

- Alternative economic scenarios about when and how strongly London's economy would recover from the current downturn, and about the capital's longer-term prospects:
 - What would be the pace of employment growth, and is it likely to be slower in the globally-oriented sectors?
 - Different mixes of economic sectors (including their environmental impacts).
 - Lower growth (looking particularly at unemployment impacts).
 - A changed mix of differently sized enterprises (eg, more small/medium sized ones).
 - Different consumer preferences.
 - The likelihood of increased carbon pricing, with consequent impacts on demand for travel. Planning would have to order market responses rather than trying to reverse them.
 - Much tighter public spending and investment constraints – and how the Plan could deal with this in the absence of evidence about the costs of infrastructure needed to support growth.
 - The effects of UK macroeconomic policy to address structural economic problems, and the effect this might have on London specifically.
 - A shift away from a liberal economic consensus in the UK and abroad, which might disadvantage London.
 - A lack of innovation, inhibiting development of new sectors in the London economy.
 - The effect of any failure to provide sufficient homes for London's growing population.
- Scenarios addressing wider social changes:
 - Different outcomes in terms of inequality, health and well-being.
 - The possibility of major failures of social cohesion blighting London's tolerant reputation.
- Scenarios testing different policy approaches, for example:
 - Approaches to the economy integrating green issues rather than seeing them as a bolt on, focussing on greening the whole economy and not just looking for more green collar jobs.
 - Approaches placing more emphasis on health and well-being, local economies, the informal economy and unpriced/unvalued work, and green/sustainable procurement and supply chains, joining up supply and demand.
 - Impacts of alternative transport networks and investments, and their potential effects on employment.
 - Development hubs in outer London.
 - Alternative distributions of housing provision across the south-east.
 - Simulation of impacts of spatial distribution of jobs and/or mixing of communities on things like worklessness and disadvantage.

Discussion focussed on the resources likely to be available to fund infrastructure in London over the period to 2031, and it was agreed that there was a need to look at the consequences of differing levels. Points were raised about the political acceptability of scenario testing awkward issues – and of maintaining credibility if the GLA does not, and the period that should be looked at – given how long some change took to happen.

It was suggested that scenarios could be used to inform the London Plan revision process (or that for other strategies and plans):

- As a risk management tool, helping to future- or debate-proof the Plan by addressing uncertainty.
- To move away from a false impression of inevitability and what some consider the Plan's implicit role as an investment prospectus.
- To incorporate more recognition of the role of markets and consumer choice.
- To facilitate building of sub-regional (and inter-regional) consensus.
- To encourage realism.
- To open up debate and realistically inform future decisions, for example by holding a structured debate during the public consultation stage, with stakeholder workshops, which could result in changes to the draft Plan in advance of an examination in public.

It was suggested that scenarios could be tested collaboratively by London and the South East and East of England regions, considering demographic, economic and forecasting issues and collaborating on inter-regional corridors and strengthening institutions and mechanisms at both regional and sub-regional scales. In the longer term, this could develop into a joint standing team for London and the SE (not producing plans, but rather, sharing analysis and policy development).

In discussion, it was agreed that the most important role of scenarios was to test risk and evaluate possible alternative policy options. Interestingly, given the range of roles identified for scenarios at the seminar, many of the scenarios put forward were either 'alternative policy variants', or were explicitly intended to inform alternative policies or strategies.

4: The London Plan

Under the 1999 Greater London Authority Act, the Mayor has a statutory responsibility to publish 'a document to be known as the "spatial development strategy"'. This is known as the 'London Plan'. The Mayor is required to keep the Plan under review⁴.

<http://www.london.gov.uk/shaping-london/london-plan/docs/london-plan.pdf>

The London Plan has a number of functions. It is the Mayor's strategy for the development and use of land in London. It also incorporates the spatial (ie, geographical and locational) elements of transport, economic development, environmental and other strategic policies for London, bringing them together in a single, comprehensive framework. It should take an integrated approach, embracing all aspects of physical planning, infrastructure development and other policies affecting or affected by the distribution of activities. By doing so it should help to secure the effective coordination and targeting of activities and resources, and a consistent, holistic approach to the delivery of policy objectives⁵. It also has to provide guidance on the broad location of strategically important development and contain policies and criteria for determining the acceptability of development proposals⁶. Finally, it has to provide a suitable framework for development and investment decisions for a 20-year period⁷.

There is also guidance from the Government Office for London on the formulation of London's spatial development strategy. It must be accompanied by a Sustainability Appraisal which "should allow for a systematic and iterative testing of the emerging proposals... the precise form of the appraisal is a matter for the Mayor".

It is important to bear in mind that the London Plan is the Mayor's spatial development strategy. It follows from his policies and priorities, tested at the ballot box, and he is both formally and politically accountable for it. While the plan-making process emphasises public consultation and involvement in the examination of the Plan, it does not require the Mayor to invite alternative strategies or to consider different policy scenarios outside of the formal plan-making process. He does have to produce a Plan that is 'sound', and scenarios can have a role to play in testing this, but he does not have to test every conceivable variant or possibility.

In the past, different approaches have been taken to the use of scenarios to inform Plan preparation. The first version of the Plan was informed by four scenarios developed for the GLA by consultants EDAW⁸. It included four scenarios reflecting high and low levels of growth, but was criticised for not testing alternative options for spatial distribution of development (for example looking at more 'polycentric' patterns of growth). Account was also taken of different weightings given to availability of development capacity and economic structure in identifying where in London there might be employment growth⁹.

Scenarios were also produced to support the further alterations to the London Plan in 2006 by consultants Berkeley Hanover¹⁰. One was a 'high' scenario, based on the higher of the Government's migration and fertility assumptions and the highest growth scenario in the London Housing Capacity Study. The second was a 'low' scenario, which assumed a population increase constrained by housing capacity, falling household sizes and a lower housing capacity scenario. These scenarios were underpinned by employment assumptions developed on a probability basis.

In practice, these exercises were found to be of limited value. The EDAW scenarios were criticised for not being sufficiently spatial, and for not testing options for different patterns of development. The Berkeley Hanover scenarios identified some consequences of higher or lower levels of growth than those identified in the Plan in the form of "policy vulnerabilities", but many of these did not require elaborate scenario testing to identify (such as the need for more homes if population grew more strongly than projected).

Turning to the current draft replacement London Plan, past experience suggested that more formal scenario work of the kind undertaken in the past would not add sufficient value to be worthwhile. However, this past work, and experience of undertaking it, was drawn upon – in the Integrated Impact Assessment, for example.

It is worth noting that there are projections and forecasts in the draft Plan, covering the following variables: population; employment; housing (borough housing targets); office space; installed energy capacity generated from renewables (targets); regional BAP (Biodiversity Action Plans) habitat (targets). The draft Plan also takes account of Government climate change projections. These all provide the essential evidence base for the policies it sets out to meet the requirements explained earlier.

But before these projections were made, those writing the London Plan considered the views and scenarios that other organisations were putting forward about what might happen over the period to 2031. What, for example, were the International Energy Agency saying about the outlook for energy investment to 2030, or the Office for National Statistics' National Population Projection Expert Group saying about population trends over the same period? These were drawn upon in commissioning and questioning the projections that were prepared, and the result is shown in Chapter One of the draft Plan, which explains why it is that the projections used are likely to be the most reasonable basis for policy-making (for example paragraph 1.9 examines things that could happen that might invalidate the Plan's population projections, and why they may be unlikely to happen; paragraphs 1.16 and 1.19 do the same for the Plan's employment projections). They were also drawn upon in setting the vision and strategy for the draft replacement Plan.

The Sustainability Appraisal (see above) of the current draft replacement London Plan (called “Integrated Impact Assessment”(IIA))¹¹ was published in October 2009. It describes policy options that were developed to inform the new Plan and to assess the effect of different levels of housing provision and different spatial development patterns in Outer London.

The IIA assesses the Plan against 16 objectives¹². Three ‘strategic spatial development options’ are considered:

- Option 1: Current London Plan
- Option 2: Current London Plan plus enhanced growth in metropolitan town centres
- Option 3: Current London Plan plus enhanced growth in four new Strategic Outer London Development areas

These options, of course, do address alternative patterns of development – something the EDAW scenarios for the first London Plan were criticised for not doing. They are based on detailed modelling carried out by Transport for London to help underpin the draft London Plan and other mayoral strategies.

There are also three options discussed relating to housing targets:

- Option 1: Current Plan Housing Target – 30,500 homes
- Option 2: Increased Housing Target – 33,380 homes
- Option 3: Increased Housing Provision – 41,154 homes

These tested policy variations on the assumptions underpinning the Strategic Housing Land Availability Assessment in the same way as the Berkeley Hanover work drew on the 2005 Housing Capacity Study.

These bear a similar relationship to the Plan as ‘variants’ would to an econometric model except the results are expressed in qualitative rather than quantitative terms.

These exercises have been valuable in showing the effects of different policy options – showing, for, example, how increasing levels of development in Outer London can lead to increased road congestion given higher levels of car use there.

It should be emphasised that the GLA has contingency disaster plans in place – eg for a major terrorist incident or flooding of London – and that these plans are kept constantly under review.

5: How can scenarios be used in developing the London Plan and other strategies?

In economics, running scenarios and variants has long been accepted as a useful tool. The GLA group needs its own economic projections for planning purposes. Many of the areas for which it has responsibility (eg transport, crime, housing, planning, migration/asylum) are impacted by the local and therefore the national economy (and vice versa). GLA Economics publishes its economic forecasts (“London’s Economic Outlook”) and tests its forecasts against the consensus.

Running scenarios can also be a useful tool for planners and other policy-makers and indeed they are used throughout the GLA Group. A current example is TfL’s use of the medium term employment projections. TfL run a ‘spike’ scenario which looks at the implications for the rest of London, if both the Opportunity Area employment aspirations and the GLA’s forecast London totals are both achieved.

The very act of defining scenarios can help policy-makers understand how their forecasts hang together and constructing scenarios helps to challenge conventional wisdom and stimulate discussion. They also enable the policymaker to test the robustness of the predicted central outcome as well as that of various policy interventions. Importantly, they enable policy makers to realise any nonlinearities in their mathematical models.

However, the discussion at the July 2009 GLA Economics seminar underscored the importance of understanding the relevance of scenarios at different stages of the policy process and to supporting the particular needs of policymakers at each of these. It may (as in the Shell case cited under subheading 1) be worth looking at a range of potential futures in setting general policy directions (particularly at a time of very high uncertainty), but this may be less useful later in the process when a more focussed approach is needed to test the strategy or approach decided on. It may also be valuable when a decision-maker has a number of equally valid alternatives to consider, with no strong policy preference between them. But it does have to be borne in mind that scenarios are a tool – they have to be appropriate for the task involved, and designed to produce an output that is useful at a particular stage of the policy process. They are not necessarily good or useful in themselves, and nor are they a substitute for policy-makers making policy.

It is important to understand that the London Plan is not an economic forecast and so is not reducible to a mathematical system. It is not derived from a system of equations. Rather, it is a planning document, *inter alia* intended to give guidance to the boroughs, developers and others who have to make policy and investment decisions on its basis. Its forward-looking content is a mixture of Mayoral policy and aspirations, trend forecasts and targets and an understanding of how different economic, demographic and other social trends have come together to shape the development of London.

An understanding of this nature of the London Plan underlines why scenarios might not be appropriate for all stages of the policy process. The Mayor is required to produce a strategy that all those involved in taking planning, development and investment decisions can apply. To be effective, this means a framework that provides all the relevant stakeholders and actors with a clear framework for action. A plan that incorporated a range of different strategies ready to be taken from the shelf depending on circumstances would not provide this kind of certainty, and is therefore unlikely to be effective – even if it were possible to make this kind of approach work in terms of the legislation and guidance governing the London Plan.

A more satisfactory way of coping with the effect of uncertainty on the London Plan is to keep it under constant review. Indeed that is what the 1999 Greater London Authority Act requires the Mayor to do (Section 339 (1)). The approach taken is based on the planning approach widely known as “plan-monitor-manage”: draw up a plan, monitor how it works and test the assumptions it is based upon, and manage the outcome as things change – from making minor alterations to the plan to deal with smaller changes in circumstances, through to completely rewriting it should there be more fundamental changes in condition. This approach recognises that it is impossible to anticipate every possible future in advance, and even more so to produce a model incorporating every variable and predict the consequences of every change. The best one can do is to make plans based on what seems the most likely environment at the time, and see how they do in the real world. In practice, the London Plan system has enabled the production of alterations and new Plans in time to address changing circumstances – the first iteration of the Plan was published in 2004, there have been three sets of alterations since, and a completely new Plan is at an advanced state of preparation.

There are some more technical reasons why scenarios and variants may not be suitable once the Plan is past the preliminary stage:

- There is no ‘base’ of assumed exogenous variables from which variants can be run. If, say, the oil price was to double and that shock were to be seen by GLA planners as permanent, they may well want to revise some aspects of the Plan. But there is no mathematical ‘mapping’ which says ex ante what the impact would be on housing targets, or the Biodiversity Action Plan, or office space. Running on from that, one of the benefits of running scenarios noted above was the ability they give the planner to uncover any nonlinearities in their mathematical models. But of its nature, the ‘feedback loops’ underlying many of the projections in the London Plan are linear. If the population was to be 10 per cent higher, for example, then housing needs would be up 10 per cent (or around this – depending on the social makeup of the extra 10 per cent).
- And because the economic forecasts in the London Plan are based on past trends and do not attempt to predict the economic cycle, the value of shocking them with variants seems questionable. They are long term projections – out to 2031 – and assume that for example office space provision and employment always return to trend after a shock.

Further – even if the Plan was generated by a mathematical model, it is hard to envisage what variants or scenarios might be appropriate to run. Short term shocks are not appropriate, since the Plan abstracts from the economic cycle. The variants/scenarios would have to be those which have permanent effects.

6: Conclusion

In principle, scenario planning is a useful tool. In particular it can help to focus the minds of policy makers on planning for the unexpected and allow for ‘sensitivity testing’ of particular strategies or policies. But it is not good in isolation, and nor is it a substitute for policy-makers taking the decisions they are elected to take and for which they are accountable. In the context of the London Plan, scenarios have some value in testing the strategy and policies in the Plan.

In debating these points, it is important to be clear about the terms being used, and particularly about the distinction between use of scenarios to support policy-making (or to advocate different policies) and to test policies, and between scenarios and ‘competitive analysis’ and the pragmatic ‘plan, monitor, manage’ approach traditionally used in strategic planning. All of these things have value when used at the right time and for the right purpose. But the opposite is equally true – as past experience with the London Plan has shown.

As noted, in practice, it is hard to think of a scenario for London that is both realistic and that will change the outlook to the 2031 London Plan horizon and beyond. And even if a radical change did take place, the “plan, monitor, manage” approach would be a more flexible and effective way of adapting policies to meet changing circumstances.



Section 2: Evaluation of scenarios by Paul Ormerod

I have been asked to comment on the economic content of the plan and the potential for scenarios. I

have not been involved in the preparation of either the London Plan or other Mayoral strategies, so I am giving my perspective as an outsider.

consider first the central scenario, and the potential alternatives.

I began my professional career in 1973, after reading economics at Cambridge and the MPhil in economics at Oxford, as a macro-economic modeller and forecaster at the National Institute of Economic and Social Research. I have been involved with modelling, forecasting and commenting on the macro economy for nearly 40 years. In 2009, the University of Durham awarded me an honorary Doctor of Science for my contributions to economics.

The London Plan

A key assumption of the medium term employment forecasts included in the Plan is that the sustainable growth rate for Gross Value Added (GVA) in the long-term is 2.5 per cent¹³.

In the 2006 Pre-Budget report, HM Treasury raised their estimate of trend output growth for the UK as a whole from 2.5 per cent a year to 2.75 per cent a year. However, for making fiscal projections, a growth rate of 0.25 per cent less was used, explicitly on the grounds of caution. This rate of 2.5 per cent has since been certified as reasonable by the National Audit Office (see, for example, *Audit of Assumptions for the 2006 Pre-Budget Report*).

The NAO's report on the 2008 Pre-Budget report notes that this continues to be reasonable looking forward, after allowing for the effects of the recession: 'The Treasury's 2008 Pre-Budget trend growth rate assumption therefore appears on current information to have been reasonable within the latitude arising from the uncertainties in making estimates of trend growth' (para.36).

Regardless of one's own opinion, it is very sensible for a major public body to use the same long-term planning assumption on GVA average annual growth as the Treasury, moreover one which has passed scrutiny by the National Audit Office.

Further, it seems reasonable to believe that the trend rate of growth of GVA in the London economy will be at least equal to that of the rest of the UK.

Especially in the current circumstances, there is considerable uncertainty around the long-term growth rate of the economy (*inter alia*). But we have to bear in mind that the Plan is over a 20-year horizon, and over such time scales the evidence is strong that recessions have little bearing on the average growth rate which is experienced. Over any such period, we can expect years in which growth is considerably above trend and years in which growth is considerably below trend. Just as the experience of the years leading up to the 2008/09 recessions led many people into a belief that recessions had been abolished – i.e. they were over-optimistic – the recent recession can induce a degree of short-sightedness in longer term projections.

Additionally, if we take each 20-year period in the UK since 1948 (as far back as the Office for National Statistics goes with GVA data) and calculate the average annual growth rate over each of these periods, 2.5 per cent is very close to the actual average of these. In other words, we calculate annual average growth 1948-1968, 1949-1969 and so on up to and including 1990-2009. The average of these 20 periods of growth is just over 2.4 per cent, very similar to the 2.5 per cent long-term growth rate for fiscal planning used by the Treasury and used as the central estimate in the London Plan.

Given this assumption on growth, the employment projections in the Plan are entirely reasonable. By definition, GVA growth minus the growth in productivity equals employment growth. This is an arithmetic identity.

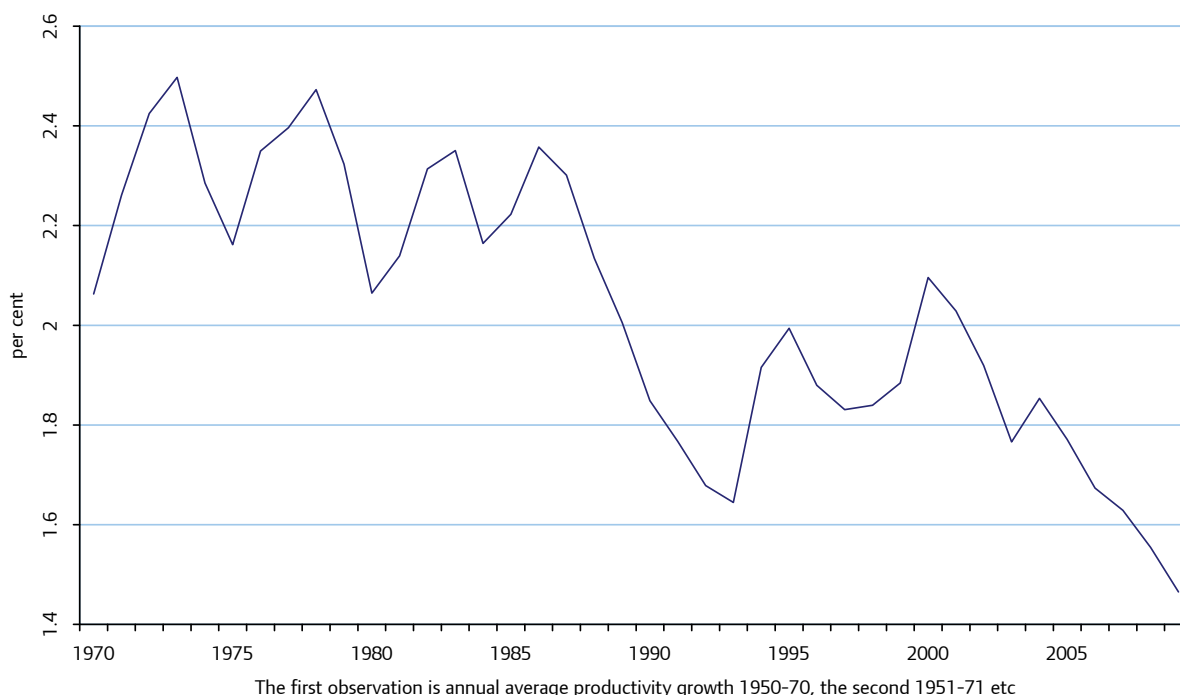
The London Plan envisages as a central scenario a long-term rate of growth of productivity of 1.8 per cent a year, output growth of 2.5 per cent a year and as a consequence employment growth of 0.7 per cent a year.

The average growth of productivity over the successive 20-year periods from 1948-68 onwards for the UK is 2.0 per cent, implying an increase in employment of 0.5 per cent a year for an output growth rate of 2.5 per cent, below the 0.7 per cent a year in the Plan.

However, as developed economies – including the UK and London – become more and more oriented towards services rather than manufacturing, productivity gains become harder to achieve. Manufacturing is more capital intensive than services, and so there is more scope for productivity growth from new and more efficient capital stock.

Figure 1 plots the average annual productivity growth rate in the UK over successive 20-year periods from 1950¹⁴. In other words, the first observation in the chart is the average for the period 1950-1970, the second for 1951-71, and so on.

Figure 1: 20-year annual average of UK productivity growth, per cent 1950-2009



Note: The values on the Y axis are 20 year rolling moving averages of productivity growth rates up to the year in question

There is a clear downward trend in the rolling 20-year average annual growth rate of productivity, a principal reason for which is the switch in the structure of the economy away from manufacturing and into services.

So although the productivity growth rate assumption in the London Plan of 1.8 per cent is slightly lower than the average for the UK over the whole of the post-war period, the trend in this latter variable suggests that the assumption made in the Plan for the next 20 years is reasonable.

The Plan assumes a continued shift towards services, and this is amply supported by the evidence. It would require a dramatic reversal of trends which have been established for 40-50 years for this assumption to be invalidated.

Overall, then, both the GVA projection and the employment projections seem reasonable.

The key point here is not that the projections in the Plan for employment will necessarily prove to be correct, for there is inevitably a large amount of uncertainty surrounding economic developments over a 20-year horizon. It is that there is a sound basis for the reasoning used to obtain the projections.

Indeed, given the GVA projection, a case could be made that the employment outturn may be higher than that envisaged in the Plan.

Are there risks that GVA growth and hence employment growth will be lower? There is evidence that lower GDP growth is associated with lower productivity growth (there is not a complete offset), so employment would continue to exhibit reasonable growth even if GDP growth were slightly less than 2.5 per cent a year.

The Plan does not need globalisation to increase, but merely that the current level of openness of the world economy continues. This seems entirely reasonable, given that the entire trend in the world economy since the Second World War has been to more openness.

It is conceivable that the world will revert to a more protectionist environment such as occurred in the inter-war period. Any such protectionism would arise in the West, especially in the US. But if the world economy continues to revive following the 2008/09 recession, such pressures will become less likely. Further, there are strong pressures to maintain the open nature of the world economy, from which the newly industrialising economies have benefited particularly.

In addition, and from a different perspective, it is certainly possible to argue that the world economy as a whole will experience more rapid growth over the next 20 years than it has over the previous 20. In addition to the continuing development of the BRIC economies, there are now positive signs about the development of Africa. Perhaps more fundamentally, the past decade or so has seen major technological innovations in communications, and the full effects of these are far from having been played out.

An implicit assumption of the Plan is that London retains its status as a global city. Changes in perceptions and status of cities do take place over time and there is no guarantee that London will retain its current global status. But the question is whether it is reasonable to take the view that over a 20-year time horizon London will continue to be a major global city. It would require a rather dramatic shift for London not to continue with this status over the next 20 years. This is not the same as saying that it will necessarily remain number 1, merely that it will continue to be a major world city which is attractive to live and work in.

Given the continued attraction of cities across the world, and the fact that London has a considerably younger age profile than the rest of the UK, the assumption of continued population growth is again reasonable.

In the light of the overall set of assumptions behind the Plan, proper consideration is taken of the implications for both spatial development and housing. For example, the Plan is not contingent on employment growth being concentrated in Central London, but envisages a range of potential spatial outcomes.

A final alternative to consider in this note is whether a scenario is likely in which growth is either abandoned or downgraded severely as a policy target, and the outcome is one of much lower or even zero growth. Such a scenario would arise, for example, from concerns about the environment.

It is not a legitimate criticism of the Plan in this context to say that its focus on economic growth is not desirable. This is a decision which is properly taken democratically. If the electorate could be persuaded to downgrade rises in material living standards, such an alternative would become more likely.

The Plan has to consider what is reasonable as a potential outcome. Over a period of 20 years, public opinion may very well change. But at present, the evidence suggests that it is very hard to secure a political settlement around a 'zero growth' set of policies. An obvious way of encouraging energy savings is to bring in large tax increases on the consumption of energy, but any such tax has proved politically unpopular.

It is important in a Plan not to confuse the outcome which one might desire with the outcome which seems most likely.

Many alternative scenarios could be considered. **But a Plan has to be based upon which, out of all the potential outcomes, seems the most likely. This is not necessarily the same thing as saying that the assumptions behind the Plan are themselves very likely to happen, but that they are more likely than any alternative.**

Overall, the assumptions and scenarios taken into account in the Plan seem to me to be reasonable.

Paul Ormerod



Section 3: Employment, output and productivity

The methodology behind the employment projections in the London Plan is set out in GLA Economics Working Papers 38 and 39¹⁵. Employment in sectors and boroughs in London out to 2031 is first forecast on the basis of trends identified in the data from 1971 to 2007. These forecasts are then compared with plans for new buildings and new transport infrastructure and adjusted where necessary to give the “triangulated” borough employment projections used in the London Plan and for all GLA group planning purposes.

The key assumption that is needed to make the employment projections is the future rate of growth of London's output (more accurately, 'Gross Value Added'). The stronger the forecast growth rate, the more people will be needed to produce the output. We use a growth rate of 2.5 per cent which has broadly been the average growth rate in the UK since the end of the Second World War. Another key parameter that needs to be fixed is what weight to give to each year's realised growth in productivity over the 1971-2007 period, for the purposes of projecting productivity growth forward. The larger the weight put on years of strong productivity growth, the fewer people will be needed to produce the output in the projection.

It was decided to use only the long-term historic trend (average productivity growth of 1.8 per cent per annum) to forecast employment. In fact the medium-term trend (starting in 1994) gave a very similar average productivity outcome. A 2.5 per cent trend GVA growth rate with a 1.8 per cent trend productivity growth rate implies 0.7 per cent trend annual employment growth. Table 1 shows the average employment growth which would result from different assumptions, using a range of average annual productivity growth assumptions from 1.5 per cent to 2.0 per cent and a range of average annual growth forecast assumptions from 3.0 per cent to 2.5 per cent. In fact, year-on-year productivity growth for London has ranged from a surge of 5.8 per cent in 1973 to a fall of 2.4 per cent in 1980; the GVA growth rate has ranged from 6.6 per cent in 2000 to -3.4 per cent in 1991. (Note that these are one year results and not averages over 20 years which the projections are providing; the range of averages is much narrower).

Table 1: Projected annual employment growth with various annual GVA and productivity growth assumptions (per cent):

GVA	Productivity	Employment
3.0	1.5	1.5
2.9	1.6	1.3
2.8	1.7	1.1
2.7	1.8	0.9
2.6	1.9	0.7
2.5	2.0	0.5
Used in the draft replacement London Plan:		
2.5	1.8	0.7

Source: GLA Economics

Another way we assess the credibility of our forecasts and the assumptions upon which they are based is to look at their implications for the subregions of London. Table 2 and Figure 2 show the employment forecasts (per cent, 2031 compared with 2007) in the draft replacement London Plan by planning sub-regions:

Table 2: Forecast employment growth in London's sub-regions, 2007-31 (per cent)

Region	Trend	Capacity	Accessibility	Triangulated	Comment
North	11.6	8.5	8.2	12.2	Triangulated similar to trend
East	22.6	39.2	12.3	19.6	Very strong growth in capacity
South	7.8	6.9	1.3	4.7	Relative fall in accessibility
West	15.2	12.5	6.3	12.4	Balanced
Central	18.5	13.0	30.2	22.2	Strong growth in accessibility outstrips that in capacity

Source: GLA Economics

Note: 1. See GLA Economics Working Paper 39 for more details

2. Planning definitions of sub-regions:

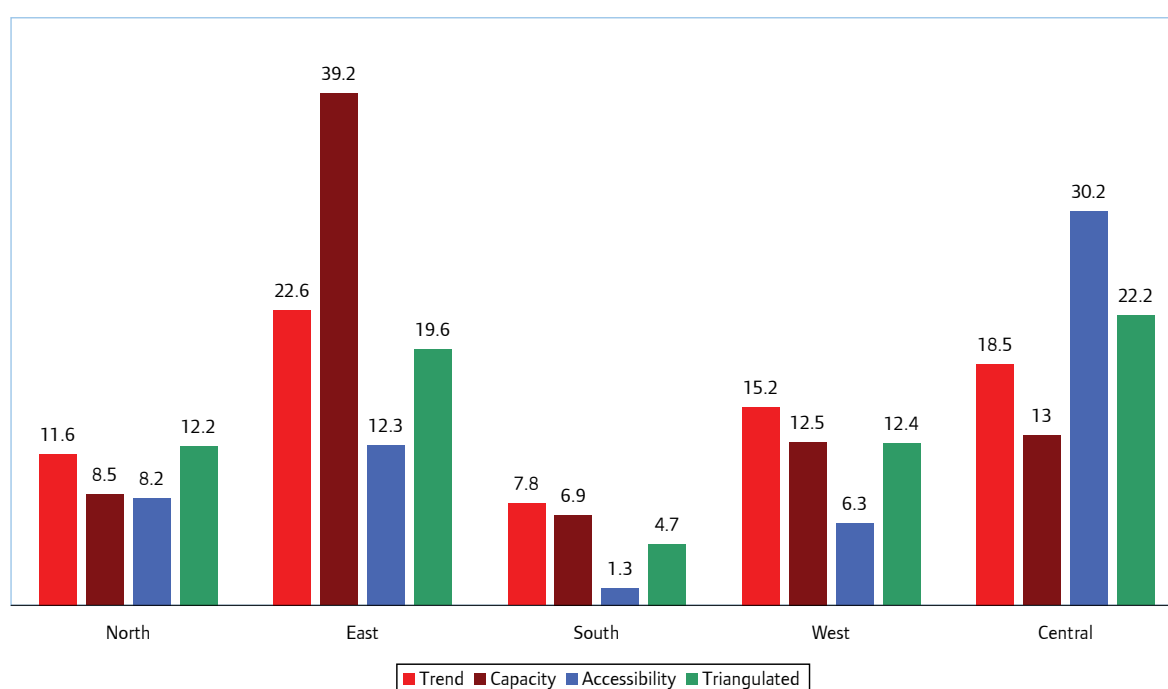
North: Barnet, Enfield, Haringey

East: Barking & Dagenham, Bexley, Greenwich, Hackney, Havering, Lewisham, Newham, Redbridge, Tower Hamlets, Waltham Forest

South: Bromley, Croydon, Kingston, Merton, Richmond, Sutton, Wandsworth

West: Brent, Ealing, Hammersmith and Fulham, Harrow, Hillingdon, Hounslow

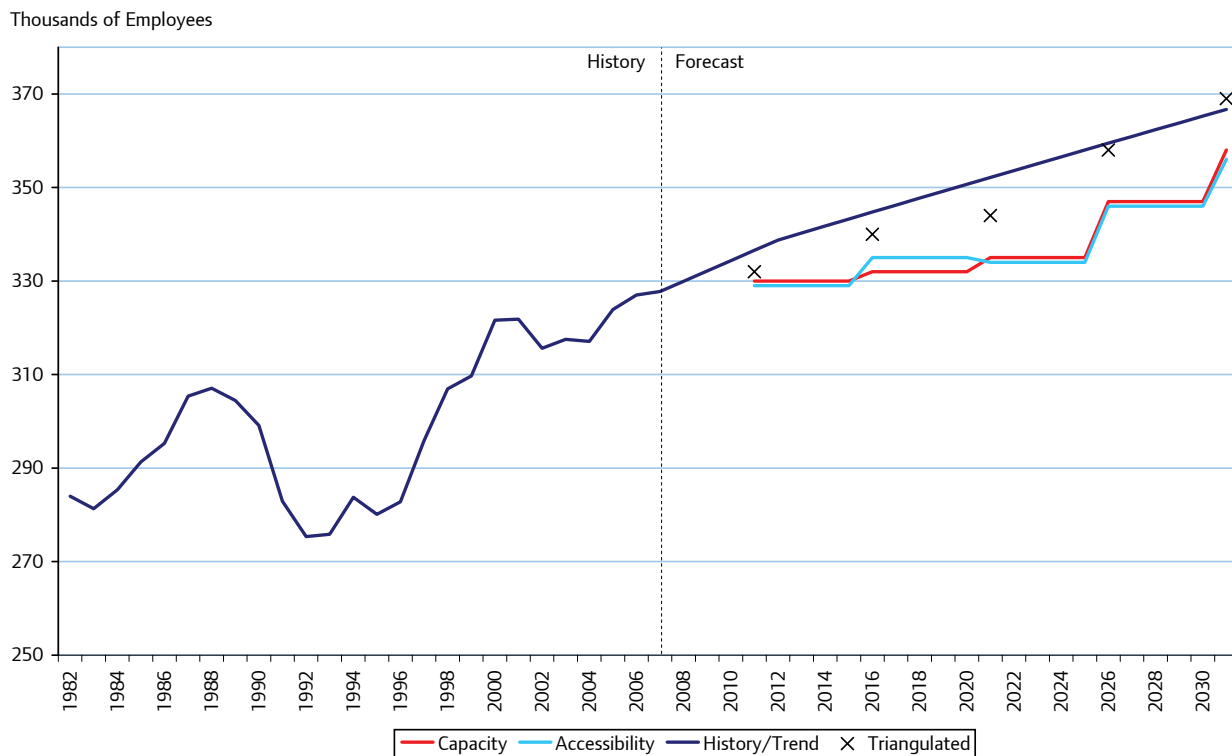
Central: Camden, City, Islington, Kensington and Chelsea, Lambeth, Southwark, Westminster.

Figure 2: Forecast employment growth 2007-31, per cent


Source: GLA Economics

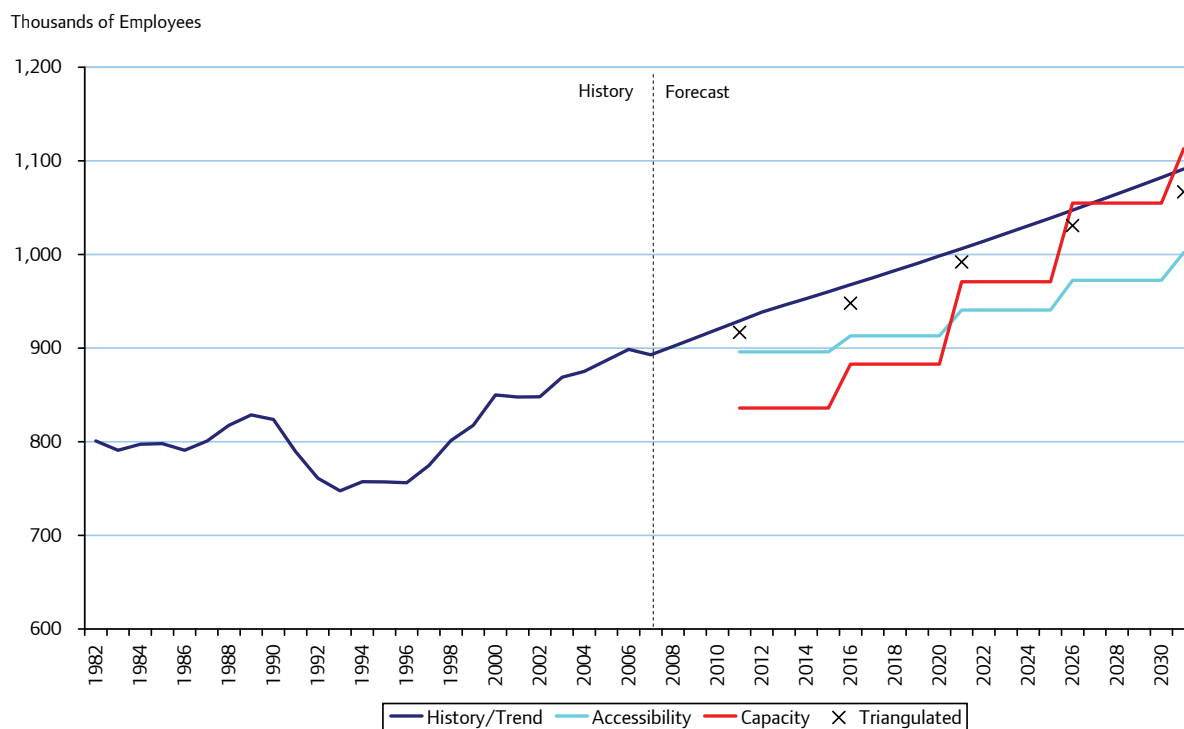
Figures 3-7 show these employment forecasts, along with the history. There are two things in particular to note. First, North London (for the subregion definitions, see the note to Table 2) in 2031 has higher employment than indicated by all of the trend, capacity and accessibility. This seems counterintuitive but can happen because for any year, the methodology constrains the triangulated borough employment totals to add to the trend totals for London. This can necessitate a proportional addition for each borough. Second, there is a dip in accessibility for South London in 2016-2025. The measure of 'accessibility' used in this exercise is a relative - not an absolute - concept (see Working Paper 39, op cit). The opening of Crossrail will benefit other areas of London more than South London; hence the fall in relative accessibility for South London.

Figure 3: North London employment projections



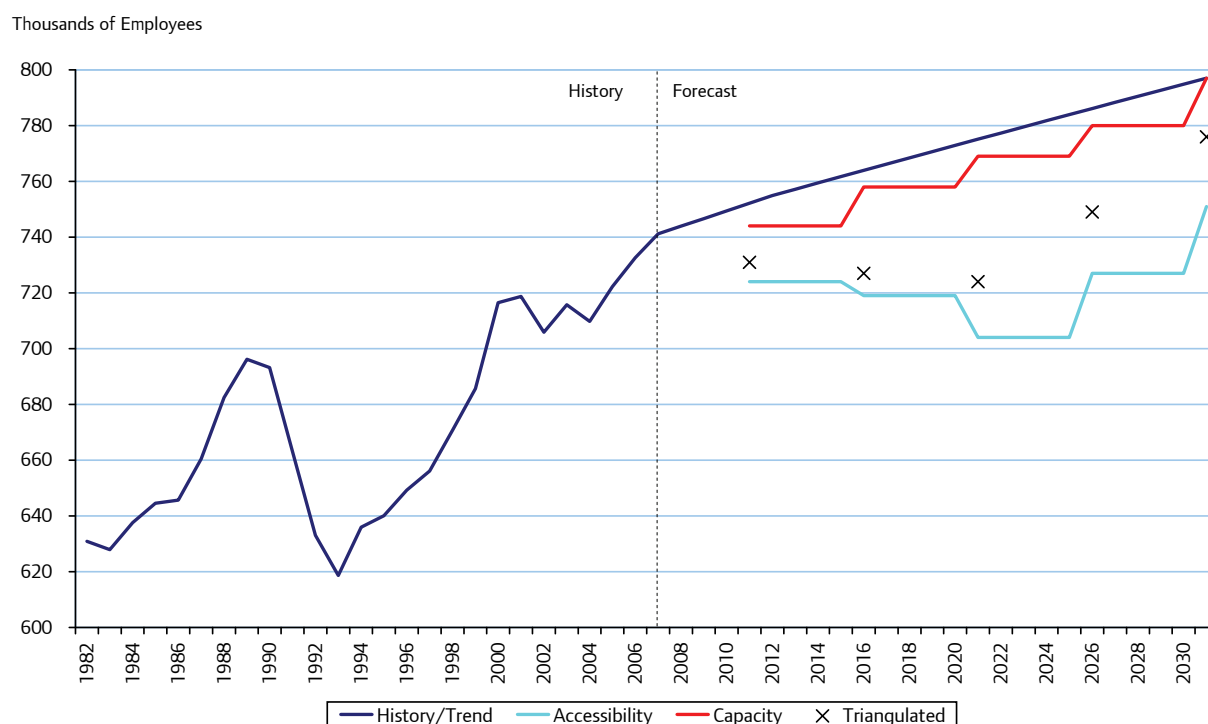
Source: GLA Economics

Figure 4: East London employment projections

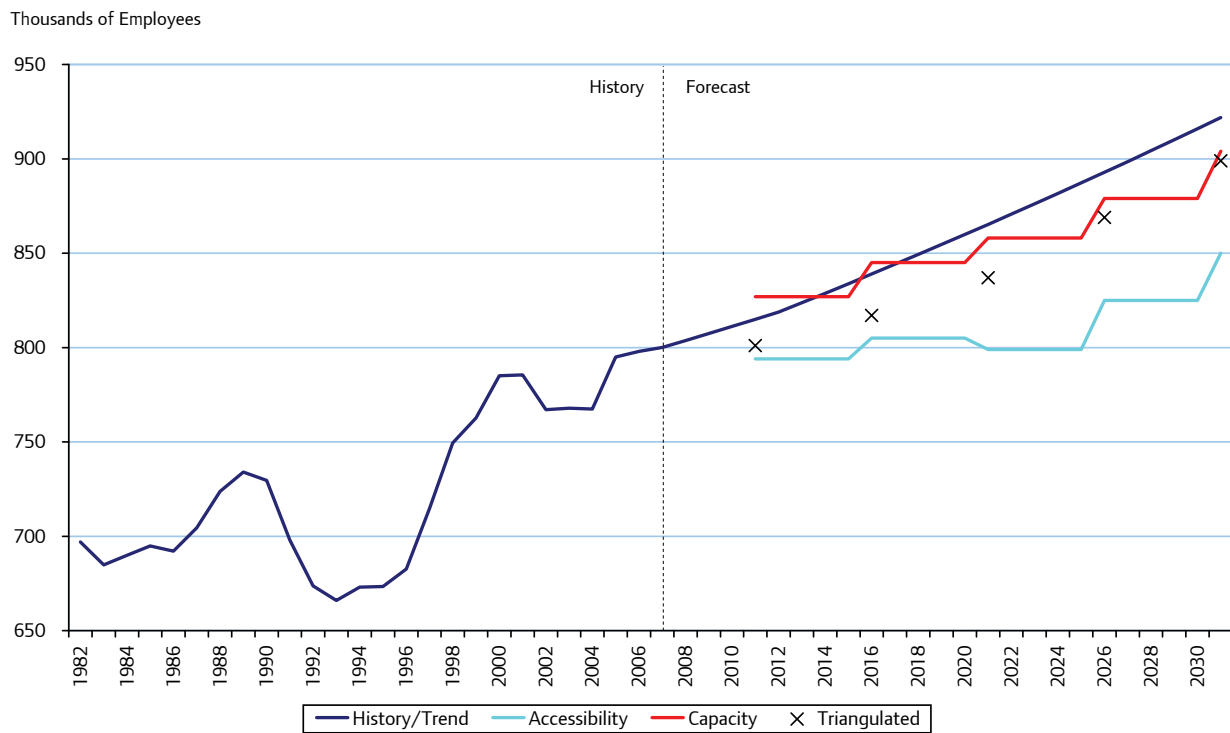


Source: GLA Economics

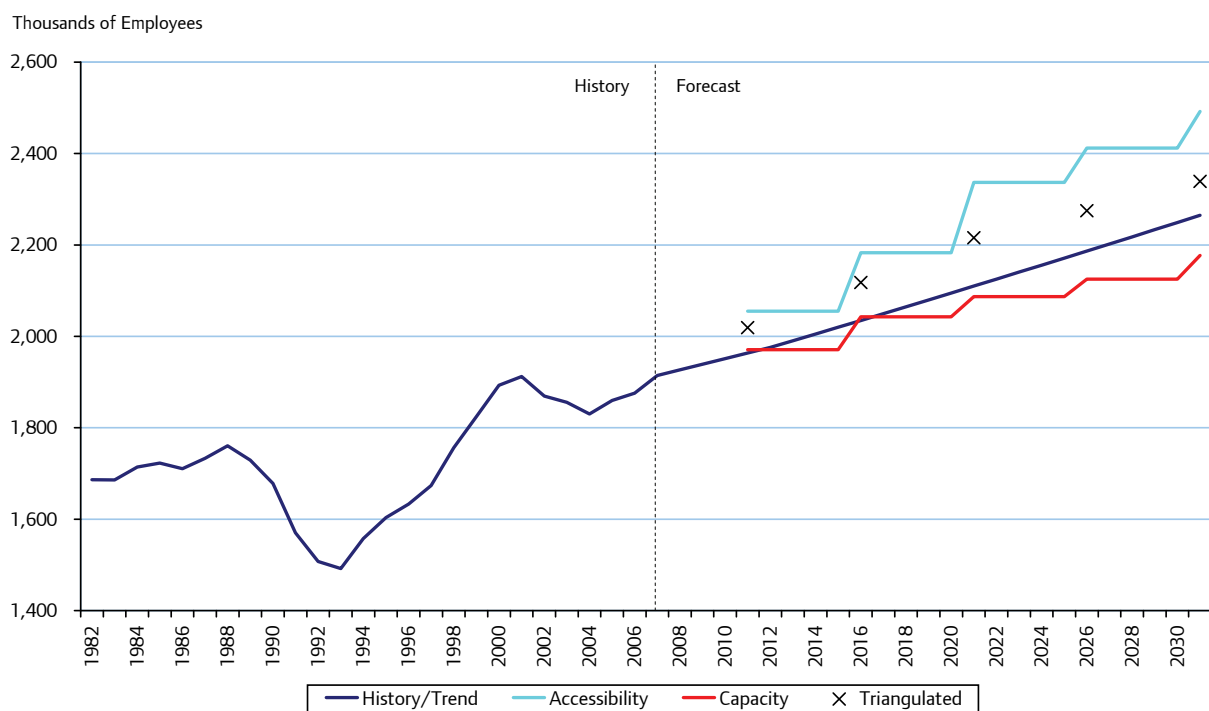
Figure 5: South London employment projections



Source: GLA Economics

Figure 6: West London employment projections

Source: GLA Economics

Figure 7: Central London employment projections

Source: GLA Economics

Endnotes and references

Endnotes

- 1 Little more than a year after Katrina, the New Orleans Saints were back at the New Orleans Superdome playing their first football game since the hurricane. A comprehensive contingency plan is in place in the event of London flooding; the same holds true for a major terrorist incident.
- 2 Porter, M. *Competitive Advantage* (New York: Free Press, 1985).
- 3 Schwartz, P. *The Art of the Long View* (New York: Doubleday, 1991).
- 4 Under the 1999 and 2007 Acts, the Mayor is also required to produce strategies on the following subjects: spatial development, transport, London Development Agency, municipal waste management, air quality, ambient noise, biodiversity action plan, culture, health inequalities, housing, climate change mitigation and energy, adaptation to climate change.
- 5 Government Office for London Circular 1/2008, paragraph 2.2
- 6 *ibid*, paragraph 2.3
- 7 *ibid*, paragraph 2.4
- 8 Mayor of London, *Spatial Development Strategy Scenario Testing*, August 2002
- 9 Roger Tym and Partners, *Demand and Supply of Business Space in London*, August 2002
- 10 Berkeley Hanover Consulting Ltd, *Scenario Testing for the Further Alterations to the London Plan*, October 2006
- 11 Integrated Impact Assessment (GLA); commissioned from Enterc UK Ltd
- 12 Regeneration and land-use; biodiversity; health and well-being; equalities; housing; employment; stable economy; flood risk and climate change adaptation; climate change mitigation and energy; water quality and water resources; waste; accessibility and mobility; built and historic environment; liveability and place; open space; air quality.
- 13 J Hoffman, J Ram and E Smart, *Working Paper 38: Employment projections for London by sector and trend-based projections by borough*, GLA Economics, November 2009.
- 14 GVA data for the UK is available from 1948 onwards, but employment data only for 1950.
- 15 <http://www.london.gov.uk/who-runs-london/mayor/publications/business-and-economy/employment-projections-2031>

References

A Review of Scenario Planning Literature – Thomas J Chernak, Susan A Lynham and Wendy E A Ruona (Future Research Quarterly, Summer 2001)

Scenarios: Uncharted Waters Ahead – Pierre Wack, Harvard Business Review, September-October 1985

Scenarios: Shooting the Rapids – Pierre Wack, Harvard Business Review, November-December 1985



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Vietnamese

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Greek

Αν θέλετε να αποκτήσετε αντίγραφο του παρόντος εγγράφου στη δική σας γλώσσα, παρακαλείστε να επικοινωνήσετε τηλεφωνικά στον αριθμό αυτό ή ταχυδρομικά στην παρακάτω διεύθυνση.

Turkish

Bu belgenin kendi dilinizde hazırlanmış bir nüshasını edinmek için, lütfen aşağıdaki telefon numarasını arayınız veya adrese başvurunuz.

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਸ ਦਸਤਾਵੇਜ਼ ਦੀ ਕਾਪੀ ਤੁਹਾਡੀ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਚਾਹੀਦੀ ਹੈ, ਤਾਂ ਹੇਠ ਲਿਖੇ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ ਹੇਠ ਲਿਖੇ ਪਤੇ 'ਤੇ ਰਾਬਤਾ ਕਰੋ:

Hindi

यदि आप इस दस्तावेज की प्रति अपनी भाषा में चाहते हैं, तो कृपया निम्नलिखित नंबर पर फोन करें अथवा नीचे दिये गये पते पर संपर्क करें

Bengali

আপনি যদি আপনার ভাষায় এই দলিলের প্রতিলিপি (কপি) চান, তা হলে নীচের ফোন নম্বরে বা ঠিকানায় অনুগ্রহ করে যোগাযোগ করুন।

Urdu

اگر آپ اس دستاویز کی نقل اپنی زبان میں چاہتے ہیں، تو براہ کرم نیچے دئے گئے نمبر پر فون کریں یا دیئے گئے پتے پر رابطہ کریں

Arabic

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Gujarati

જો તમને આ દસ્તાવેજની નકલ તમારી ભાષામાં જોઈતી હોય તો, કૃપા કરી આપેલ નંબર ઉપર ફોન કરો અથવા નીચેના સરનામે સંપર્ક સાધો.

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