MAYOR OF LONDON

Infrastructure & Development Coordination Business Case

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Greater London Authority
City Hall
The Queen's Walk
More London
London SE1 2AA
www.london.gov.uk
enquiries oscar.watkins@london.gov.uk & andrew.mcmunnigall@london.gov.uk

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Glossary

Coordination Preferred Approach (PA): the preferred option for management, funding and procurement of the new GLA resource. As outlined in this document, the preferred approach is the option assessed to offer the best overall balance between service delivery, meeting strategic objectives and meeting Key Success and Delivery Factors. Based on this assessment, a 'scalable' approach is recommended (see pp.19-24).

Development: residential or commercial property development.

Infrastructure: 'hard' Infrastructure, including transport, utilities, telecommunications, public amenities, green and blue infrastructure.

Key Success and Delivery Factors (KSDFs): the list of factors which together will inform the success and deliverability of the business case, outlined on p.18.

Road works: works carried out to repair or improve the highway including footways, pavements and street lighting.

Street works: works carried out to install, renew or replace infrastructure assets that are located under the highway.

Telcos: providers of telecommunications infrastructure.

Utilities: regulated providers of distribution and transmission networks for gas, water and electricity.

Context, purpose and scope of the business case

Context

In recognition of, and in response to, the immense scale of infrastructure and development works underway and anticipated in London, the GLA continues to work to improve the planning and delivery of infrastructure to the benefit of London's communities and businesses. Improved infrastructure and development coordination has been identified as one of the key avenues for achieving such benefits.

In 2017, the GLA embarked on a period of consultation with the infrastructure and development community which established a consensus on the need for and perceived value of improved infrastructure and development coordination.

This was communicated in a submission to the Mayor's Infrastructure High Level Group (IHLG)[1] in December 2017 along with an indication of a possible coordination approach that might be adopted.

The GLA envisages that there will be an initial 2-year "proof of concept" period of operation of any chosen coordination approach, referred to as Phase 1, over which the benefits and value provided by the services it delivers can be considered and evaluated. It is for this initial period that the immediate requirement to identify the approach to longer term delivery and funding is critical.

It is also recognised however, that there will be benefits associated with services that the chosen coordination approach delivers, that are likely to emerge beyond this period. These factors have influenced the structure and scope of the business case described below.

Purpose

The purpose of this business case is to evidence the need for a London coordinating body, to demonstrate that the benefits outweigh the costs of establishing such an entity and to recommend a funding strategy in line with the IHLG's ambition that this initiative should be self-funding. The intent is for the IHLG to approve the business case and funding approach at its next meeting at end April 2018.

The current status of the project and business case development

Developing the business case has involved conceptual design of coordination entities, and this, along with the body of available data, has provided the foundation and established the bounds of the business case analysis presented. Further work will be required to develop a coordination proposition for delivery and this is reflected in the approach and scope of the business case discussed below.

Approach and scope of the business case

This business case has been prepared to demonstrate the strategic and economic case for the implementation of a coordination approach to address the challenges, and present a considered view on options for how it could be funded and delivered.

[1] The IHLG has been established by the Mayor to oversee development in London. Representatives from across sectors will come together to: support a long-term infrastructure strategy for London; coordinate to ensure that high-impact projects proceed efficiently, using best practices, particularly in areas expected to see high growth and lead on a common lobbying programme for investment.

The business case presents a structure and scope that is broadly consistent with HM Treasury Green Book guidance on business cases for public sector development and delivery – the "5 case" model. The business case structure and scope is described below.

A. The Strategic Case presenting:

- The drivers and need for coordination change;
- The consequent focus for coordination change and potential scope of service delivery (outputs);
- The consequent strategic coordination objectives and outcomes (benefits) sought;
- The critical delivery and success factors;
- The strategic alignment with wider stakeholder policy and objectives; and
- Options for coordination intervention and their strategic assessment, culminating in identification of a Coordination Preferred Approach (PA).

B. The Economic (Value for Money) Case presenting:

- An indicative forecast of the potential scale of economic benefits (social and commercial) that could potentially be realised from the Coordination PA. The forecast is based on a high level assessment of the monetary value of a subset of benefits, considered over 10 and 20-year periods to provide an understanding of the potential impacts of coordination, beyond Phase 1.
- A summary of the wider range of potential impacts, not allocated monetary value at this stage.
- An indication of the attribution of benefits to the general public, private sector (particularly utilities and developers) and public sector.
- An estimate of the direct and indirect costs of delivering the Coordination PA.
- An estimate of the overall balance between costs and benefits, providing a preliminary economic CBA and assessment of the overall value for money of the Coordination PA.

C. The Commercial (Procurement) Case presenting:

- An articulation of the functional specification and resources required for the Coordination PA, focused on delivery and operation for the 2 years of Phase 1; and
- A consideration and assessment of alternative procurement/resourcing routes for the PA, culminating in a perspective on an emerging preferred route to procurement/resourcing.

D. The Financial (Funding) Case presenting:

- The potential costs of delivering the functional and resource requirements associated with the emerging Coordination PA, focused on the delivery and operation of Phase 1;
- Consideration of potential funding avenues and mechanisms for the Coordination PA and a strategic assessment of their viability; and
- The emerging perspective on a viable, preferred funding approach.

E. The Management (Delivery) Case presenting:

- The proposed management approach and plan for delivery of the Coordination PA, focused on delivery of Phase 1 but also preparing for Phase 2, with a particular focus on:
    - the target programme of activity to delivery;
    - risk management; and
    - benefits realisation and evaluation.

The Strategic Case

Summary – Strategic Case

- London is expected to grow in the next three decades, with a significant volume of construction activity required within this timeframe to support the growth in population and jobs.
- This increased volume of infrastructure required creates a coordination challenge, as increased density of construction leads to a greater requirement for large infrastructure organisations to collaborate particularly in terms of planning and delivery. The Strategic Case assesses a wide body of case studies, highlighting examples of good and bad practice in infrastructure collaboration in both the UK and abroad.
- To better understand the context, a broad selection of industry stakeholders has been engaged (from developers to utility providers), and their opinions on the state and necessity of infrastructure coordination gathered. Their feedback has been summarised in Appendix F.
- Based on the case studies, engagement with stakeholders and the Infrastructure High Level Group, it has been highlighted that the present mechanisms for infrastructure coordination are likely to be insufficient to deal with the intensity of future construction, and that an opportunity exists to deliver value and benefit through the introduction of an improved coordination mechanism.
- The Strategic Case therefore explores three discrete options to improve coordination – a 'Reinforce Existing' option, a Scalable model, and a 'Do Maximum' model. These different options have been assessed against a selection of assessment criteria to compare their potential impacts.
- The assessment in the Strategic Case leads to the recommendation to take forward the Scalable model, due to its flexibility and its capability in achieving the key success and delivery factors. The Scalable model involves establishing a small team at the GLA of approximately ten people delivering a mixture of pan-London and Area-Specific coordination services.
- This model has been taken forward and tested in the Economic, Commercial, Financial and Management Cases.

Status Quo

London presents a huge infrastructure and development delivery challenge.

London's population is growing

In 2015, London became bigger than ever, eclipsing a previous population peak of 8.6 million set in 1939. GLA projections suggest that London's growth will continue over coming decades. By 2041, London's population will reach 10.8 million people[2]. This represents an annual increase of some 70,000 people, placing significant pressure on infrastructure, land use and the environment. In recent years London has seen an acceleration of construction activities, in terms of housing, transport infrastructure, and utilities, and could potentially reach a saturation point in the near future if major schemes such as Crossrail 2, aviation expansion and High Speed 2 overlap in terms of construction timeframes.

To meet the demands of growth, significant investment in infrastructure and new development is required

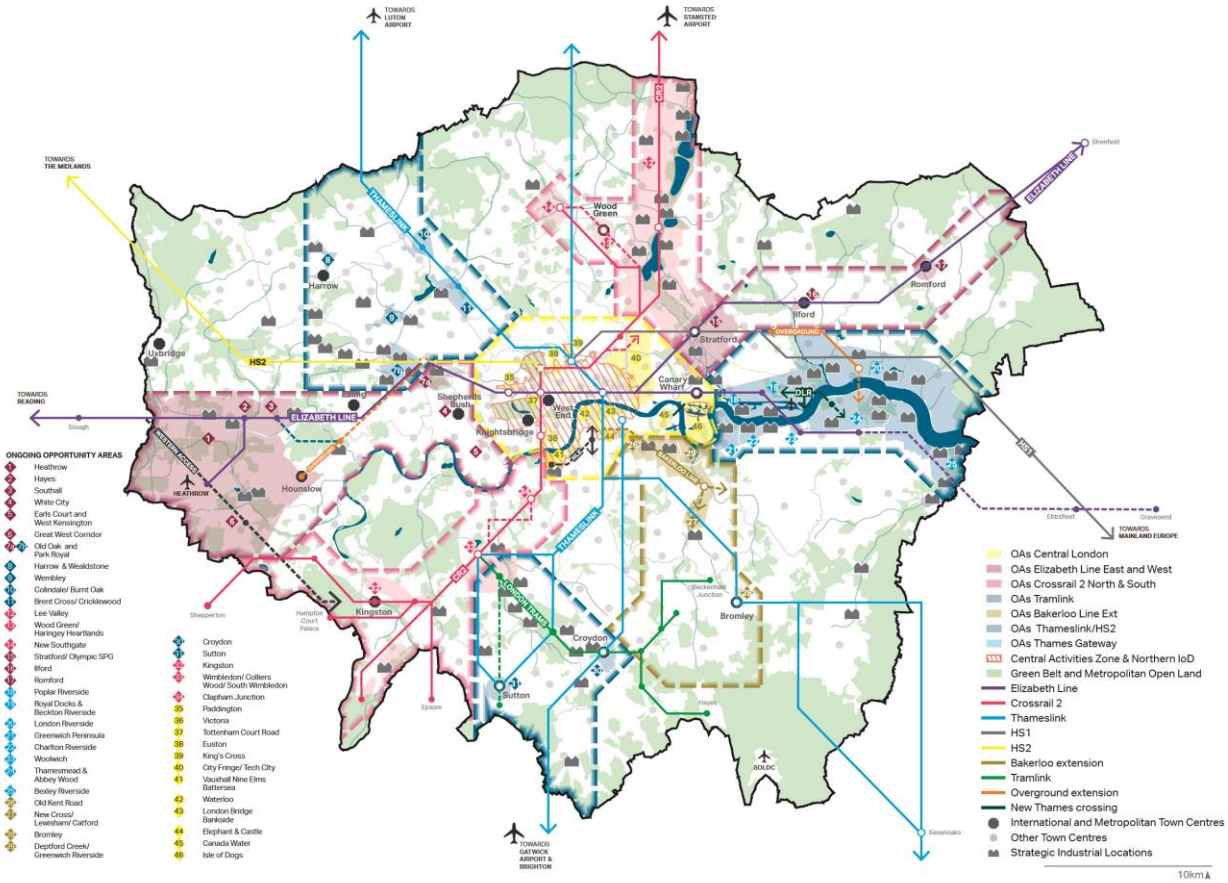
- The recent Draft London Plan (released December 2017) highlighted the need for some 66,000 additional homes per annum, alongside new space for commercial, retail and industrial activities. Key to unlocking the capacity for this additional development is infrastructure.
- The Mayor's Transport Strategy (released March 2018) highlighted that population growth will generate about 6 million additional trips each day by 2041, placing significant pressure on existing transport networks, and requiring investment in new schemes such as Crossrail 2 and the Bakerloo Line Extension, as well as upgrades to road, bus and cycle networks. These projects are in addition to Government-led schemes such as expanding aviation capacity and High Speed 2.
- Across the key sectors of energy, water and waste, the Draft Mayor's Environment Strategy (released August 2017) commits to making for London to become a zero-carbon and zero-waste city by 2050, requiring new investment in energy infrastructure (including at local level) and retrofit of existing developments. In terms of water, investments will need to be made to address a projected supply gap of 21 per cent by 2041, with a focus on reducing leakage, increasing sustainable drainage and bolstering supply. In addition, investment will need to be made to address flood risk caused by extreme weather events. Avoiding large increases in construction and demolition waste will require a focus on reuse of building materials and precision construction methods.
- At the strategic level, the GLA has identified some 138 infrastructure projects across sectors such as transport, energy, water and waste as being integral to supporting intensification of London's growth areas[3]. These projects sit alongside more general investments required to maintain existing networks and support development of smaller sites.

[2] Greater London Authority, 'Draft London Plan' 2017.
[3] Greater London Authority 'London's Strategic Infrastructure Requirements' 2017

Effective coordination of land use and infrastructure planning is essential in ensuring faster realisation of development for housing and jobs in growth areas

The Draft London Plan identifies a series of key growth corridors where much of London's growth is expected to occur, including Central London, the Elizabeth Line (East/West), Crossrail 2 (North/South), London Trams, Bakerloo Line Extension, Thameslink/HS2 and the Thames Gateway (see **Figure**). Within these corridors sit 47 Opportunity Areas, which are the capital's most significant locations with development capacity to accommodate new housing, commercial development and infrastructure - linked to existing or potential improvements in public transport connectivity and capacity.

Figure 1 - London's growth corridors, as shown in the Draft London Plan (2017)



Opportunity Areas typically contain capacity for at least 5,000 net additional jobs or 2,500 net additional homes or a combination of the two. Often these areas face significant development and infrastructure challenges that require substantial intervention, in the form of planning and coordination in order to realise growth.

Historically, London has had a mixed track record of effectively delivering growth in Opportunity Areas due to a number of barriers external from market conditions, such as uneven approaches to governance, land ownership, planning, funding, regulation and local engagement. Areas that have particularly worked well – such as Kings Cross-St Pancras - benefited from a single land owner. Conversely, sites which involve multiple landowners are much more complex to deliver, increasing the need for intervention by the Mayor or borough (see case studies on Royal Docks and Vauxhall Nine Elms Battersea). Consistent feedback from utilities and developers has highlighted the need for the Mayor and boroughs to communicate levels of certainty that developments and investments in infrastructure will proceed. A lack of certainty creates delays in the development process, and can-

increase the cost of infrastructure provision and development. This is particularly the case when infrastructure is provided after rather than ahead of need, reducing opportunities for economies of scale (See Appendix A, Case Study 13).

The Draft London Plan (Policy SD1 Opportunity Areas) states that the Mayor will provide support and leadership to ensure Opportunity Areas deliver their growth potential. Support may take the form of:

- Developing planning frameworks that set out a clear strategy for accommodating growth, assist in delivering infrastructure requirements, and support regeneration activity. Key documents often prepared include Opportunity Area Planning Frameworks and Development Infrastructure Funding Studies.
- Bringing together the range of investment and intervention needed to deliver the vision and ambition for the area, such as transport investment, or addressing regulatory barriers where possible.
- Aligning stakeholders to ensure infrastructure and development is provided in a timely manner, through establishment of partnerships and appropriate governance arrangements.

The GLA has been working to improve how growth opportunities are communicated to stakeholders such as utilities. The Draft London Plan now includes information on the status of opportunity areas, and alongside this a commitment to better communicate to the market on how opportunity areas are proceeding on an annual basis. There are also calls for this to be strengthened through further systematic sharing of intelligence. In addition, the GLA, with the support of London's infrastructure providers, has created the London Infrastructure Mapping Application to provide information to the market on planned forward investments in infrastructure and development, and overlays this data with information on where growth is projected to occur, however this tool is at an early stage of rollout.

Scale of disruption and associated impacts

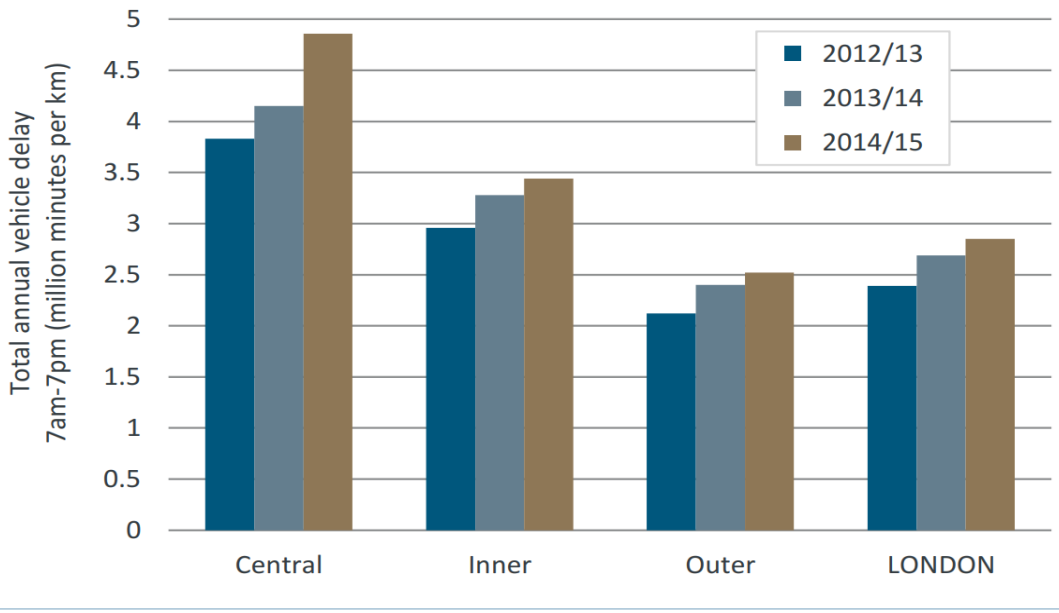
Public

The scale of development and infrastructure work has a strong adverse impact on the quality of lives of residents and workers. Large scale construction works often cause both long-term and temporary road closures. Other associated utility works cause temporary lane closures reducing road capacity. In 2011/12 the number of hours of severe and serious disruption on the TLRN was 1,994. In 2015/16 it was significantly higher, at 3,661 hours. According to TfL, street works are the primary cause of road congestion in London, accounting for 36% of 'serious & severe' and 47% of 'slight & moderate' congestion, and the trend is one of worsening delay as shown in Figure .

Disruption involves:

- Slower and less certain journey times – road/lane closures, temporary traffic lights restricting network capacity for everyone;
- Higher risk to safety – reduced road capacity and pedestrian permeability due to large worksites and pavement/crossing closures, causing further conflicts between road users and more impatient/erratic behaviour;
- Reduced air quality – from direct construction activity, lorry traffic and particularly the stop-start nature of traffic in congested conditions (see **Figure 3**);
- Increased Noise – from construction, road works and lorry traffic; and
- Reduced accessibility to community amenity and commercial premises.

Figure 2 - Recent traffic delay trend across London[4]



Source: *Total vehicle delay for London 2014-15*, Transport for London, 2016

For Businesses and transport providers

- Loss of income for business owners affected by road works; and
- Productivity challenges to transport providers as a consequence of journey times extensions and unreliability due to street works (see Appendix A, case study 4).

For Utilities

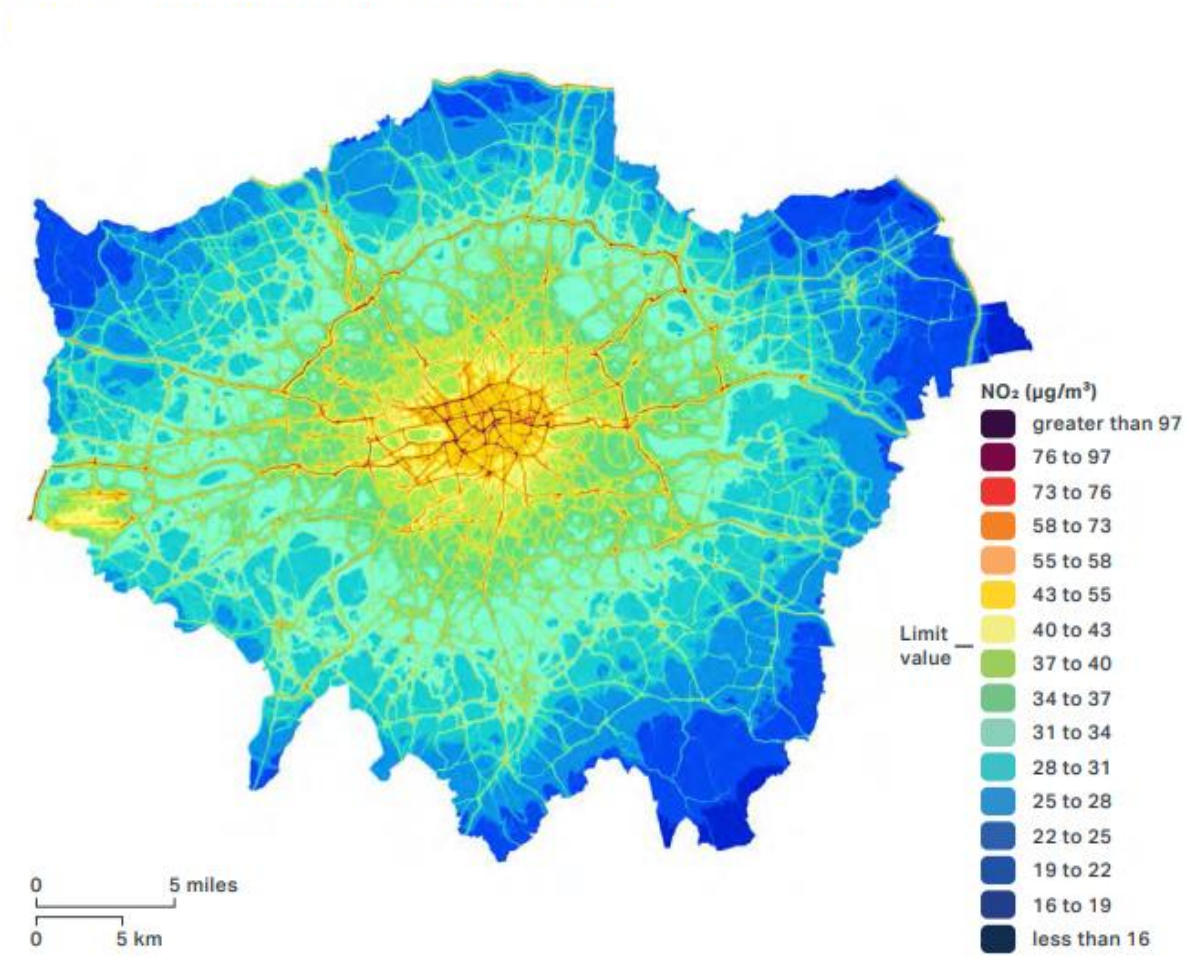
- Additional resource costs incurred in the delivery of new investment and planned programmes that could otherwise translate into enhanced performance against certain regulatory performance targets; and
- A more negative customer perspective on utility performance and commitment to customers.

For Developers

- Increased risk, costs and extended programmes for development as a consequence of poorly coordinated multi-party construction activity (see Appendix A, case study 8).

[4] Minutes lost to traffic delays have increased across London, London stalling - Reducing traffic congestion in London, London Assembly, January 2017

Figure 3 - Nitrous oxide level across London[5]



Why improving Infrastructure and delivery coordination is important in meeting the challenge

Effective coordination is critical

It is clear that the economic cost of disruption during infrastructure and development work cannot be ignored. This is particularly true given the scale and duration of building activities across London. Whilst difficult to quantify, a report produced in 2012 estimated that the annual cost of congestion due to roadworks is about £750m[6] though estimates vary. What is clear, however, is that such works are decreasing average journey times. A 2016 report by TfL attributed rising levels of construction and roadworks activities at locations such as Lewisham Gateway, Vauxhall-Nine Elms, the Elephant and Castle, Shepherds Bush and Aldgate as major factors in influencing a significant deterioration in London-wide traffic speeds (quantified as a 7.7% reduction compared with the same period of the previous year)[7]. Excavation, repair and reinstatement for utilities can account for up to 80% of total

[5] Nitrous oxide level across London, 2013 Mayor's Transport Strategy 2018
[6] Transport for London statistics, quoted in *Road Works Count!* Colin Buchanan Report for London First (March 2010), and *Systemic Risks and Opportunities in UK Infrastructure*, Frontier Economics (January 2012)
[7] Transport for London, TLRN Performance Report Q3 2015-16

street work costs. The opportunities for time and cost reductions in works associated with utility companies as such can be significant.[8]

The industry perspective on coordination in London

The industry recognises there are current coordination shortcomings and anticipates that addressing them should deliver significant benefits and value. The GLA has in advance of delivery of this business case engaged with the following groups from the broad stakeholder community through a series of workshops and opportunities to provide written responses:

- Boroughs;
- Utilities;
- Developers;
- Regulators;
- Transport infrastructure and service providers; and
- Government agencies.

View of the status quo situation

The engagement with industry has highlighted a selection of initiatives that exist to promote infrastructure coordination and development that provide a platform of emerging good practice to build on.

At a pan-London scale:

- Contributing organisations typically have their own strategic planning functions, which align their corporate strategies with broader government and London policy documentation (for example, the London and longer-term infrastructure planning documentation).
- TfL is currently developing a voluntary 'utilities charter' and has a functional Project Management Office (PMO) that works to coordinate utility providers and other infrastructure stakeholders, particularly when their initiatives interface with its own major capital schemes.
- The London Infrastructure Mapping Application (IMA). The current system contains a repository of early-stage planning data, but presently does not have the capability to interrogate or suggest coordination activities from this data. The GLA is allocating further resources to enhance this technology.

At the local scale:

- The London Borough of Croydon, and other boroughs, are presently undertaking work to coordinate infrastructure delivery. This work has focused on areas for which the local authority has a statutory responsibility, principally road space management (see Appendix A, case study 3).
- A series of initiatives and products aimed at improving coordination exist. For example, LondonWorks, which focuses on near-term planning opportunities and displaying the location of permits. Typically, these initiatives are not focussed directly on fostering co-productive approaches and function more simply as information repositories. They also currently largely exist independent of one another.
- Larger scale capital infrastructure investment projects (such as Crossrail, HS2 and Thames Tideway) foster coordination in their local domains, but mainly to de-risk their own programmes and ensure the required infrastructure provision is in place for their own needs. This approach is (in many ways) granular and does not look at a London-wide approach (see Appendix A, case studies 4 and 5).

[8] BIS report Britain's Superfast Broadband Future, December 2010, and *Systemic Risks and Opportunities in UK Infrastructure*, Frontier Economics (January 2012)

- The Road Modernisation Plan (RMP) was set up to reduce congestion on London's roads, including the introduction of the TfL Lane Rental Scheme (TLRS) to entice utility companies to coordinate better. This initiative in isolation has funded a selection of coordination initiatives and has acted as a catalyst for further investigation in this space. The success of this function has led to a consultation with the proposed goal of extending this scheme to a national scale.
- Larger developments and the Mayor's development corporations such as King's Cross and Old Oak Common Park Royal Development Corporation have led coordination in their localities to deliver benefits such as integrated planning.

Identified issues and opportunities to improve coordination

Engagement with the stakeholder body has led to broad consensus that the concept of improved coordination is a positive initiative for Greater London. A series of opportunities and issues surrounding the concept of coordination have been highlighted:

At a pan-London scale:

- The leadership of the GLA/Mayor and IHLG will provide an effective high-level mandate, with a cross-industry and London-wide view that will help to drive consistency and better ways of working from the top. The ability to influence at corporate, organisational, and regulatory levels is crucial to overcoming some of the barriers to better coordination.
- The opportunity for the GLA/Mayor to provide 'confidence in delivery', with respect to their ability to assure infrastructure and utility providers that provision of early coordination should help to unlock investment that might otherwise be viewed as speculative.
- The opportunity for a centralised coordination function to collectively represent all parties (developers, government, local authorities, transport bodies and infrastructure providers) and ensure the views of the industry as a whole are well represented.
- The opportunity for further guidance and support for boroughs, developers and utility providers on how to deal with the provision and coordination of infrastructure in dense urban environments.

At a local scale:

- Examples have been highlighted, such as at Vauxhall Nine-Elms Battersea, Elephant and Castle and Aldgate, where a lack of coordination at large infrastructure sites has led to increased disruption, roads repeatedly dug up, and a lack of consideration in overall delivery approach, particularly as part of the planning phase (see Appendix A, case studies 2, 5 and 6).
- Many stakeholders noted that while the present approach to development addresses to a degree the impact of significant, larger scale developments, there is no overarching approach to deal with the challenge of residential infill and densification which has significant cumulative impact. The opportunity for a function to keep a watching remit on such development and help guide infrastructure providers would be of benefit to all parties.
- An entity could effectively coordinate where multiple smaller cluster developments exist, but no development partner (or corporation, such as Old Oak and Park Royal Development Corporation) has been established.
- The opportunity for a central coordinating body to cost up area-wide utility infrastructure requirements and conduct Development Infrastructure Funding Studies (DIFS) for Opportunity Areas.

Barriers to adoption of an improved coordination function and service delivery

The following issues were highlighted by stakeholders during the consultation process as key barriers that may impact the potential of a coordination entity:

- Access to the necessary framework of consultants to undertake utility master planning studies;
- Reluctance of utility companies and developers to commit to infrastructure requirements up front;
- Developer priorities and timescales – it is often not possible to delay development in order to develop masterplans;
- Coordination would increase programme interdependence between providers, which in turn could import risk into individual corporate programmes because of coordination;
- The long-term regulatory cycles which govern investment portfolios and the limited ability of regulated sectors to make speculative investments;
- Certain industry situations will need to be respected within the financial model (for example, the relationship between secondary organisations delivering services on distribution providers' infrastructure, such as internet providers delivering telecoms services over Openreach's infrastructure). Solutions will need to respect these complex commercial circumstances;
- A lack of certainty in government housing policy. A short term political horizon, conflicting with the need for long term planning.

Evidence on the value that improving coordination can deliver

There is an emerging evidence base highlighting the value that can be secured by improving infrastructure and development coordination (see Table 1). At a national and industry level studies have been undertaken to consider the value of better integration of infrastructure systems and delivery processes.

The McKinsey Global Institute (MGI)[9] has estimated construction sector productivity and cost saving outcomes from global application of industry best practice, including:

- Enhanced collaboration and contracting approaches potentially delivering an 8%-9% improvement in construction sector productivity and a 6%-7% reduction in costs; and
- On-site execution potentially delivering a 6%-10% improvement in construction sector productivity and a 4%-5% reduction in costs.

These are areas of construction industry practice that could be viewed as particularly aligned to enhanced coordination. MGI also noted the importance of complimentary regulatory frameworks as a key enabler.

An Infrastructure UK commissioned study undertaken by Frontier Economics[10] has considered the value of improved systemic integration with respect to infrastructure delivery. Identified potential benefits where improved coordination could contribute included:

- The value of well-targeted interventions to encourage more efficient street-works in key cities of the UK[11] is conservatively assessed over a 5-year period to be in the region of £150-£450 million; and

[9] McKinsey Global Institute, Reinventing Construction: A Route to Higher Productivity, February 2017
[10] Systemic Risks and Opportunities in UK infrastructure - a report prepared for HM Treasury & Infrastructure UK, January 2012
[11] Source: DfT Consultation Impact Assessment on lane Rental, 2011 http://assets.dft.gov.uk/consultations/dft-2011-25/annexc.pdf)

- Making better use of existing infrastructure systems could save substantial sums – one study suggests potentially 16% -26% cost saving[12] could be achieved where existing infrastructure is used to roll-out broadband.

[12] Source: Analyses Mason (2008)

Table 1: Summary of coordination implemented initiatives (see Annex A for full details).

Initiative	Description of coordination activity	Outcome	Coordination Theme
London Permit Scheme	Utility companies are required to apply for a permit before starting road works. Costs of permit range from £35 to £240 depending on borough, type (major/minor) and immediacy (standard/immediate).	TfL reported a 21% reduction in the hours of serious and severe disruption caused by works in London during 2010 compared with the previous year, delivering significant public welfare benefit. However, National Grid has estimated that Central London productivity on mains replacement has reduced by 38% since the introduction of the London Permit Scheme	Public impact focused provider works
TfL Lane Rental Scheme	TfL Lane Rental Scheme (TLRS) applies to the most traffic-sensitive locations and the most traffic-sensitive times of day. Charges range from £800 to £2,500 per day depending on time period and road type.	Scheme has shifted some roadworks to less traffic sensitive times and encouraged use of innovative traffic management and works techniques. Between 2012 and 2014, there was continued ~40% year on year reduction in serious and severe disruption associated with road works; TLRS segment peak journey times were some 2-4% better than the remainder of the Transport for London Road Network.	
Staffordshire Connected Roadworks	Staffordshire delivering joint roadworks over a number of years. Staffordshire Network Hub tracked the number of days of roadworks avoided by better planning and joint working.	366 fewer days of roadworks across 31 projects in one year. Streethay Collaboration Scheme enabled 10 separate works to be delivered jointly under a single road closure. Works duration reduced to 18 weeks from 43 weeks with cumulative road user benefits from reduced disruption estimated at £3.468 million.	Consistent programmatic and scalable approach
Borough High Street	Utility companies voluntarily collaborated and appointed one joint road work contractor to undertake work over a 9-month period.	57% reduction in social costs 20-50% reduction in highway management and planning costs	Coordinated and integrated procurement and contracting
Thames Connect/ Croydon	Thames Water supported by Atkins has investigated collaborative working opportunities through better sharing of information and data, establishing a decision-making task force and developing a live GIS webmap tool.	Thames Water post investment appraisal concluded that the project achieved £7.7m in efficiencies, impacting programmes covering 128km of London's road network and a reduction of 3900 days of street works, as well as programme risk reduction, reputational enhancement and overhead reduction.	Data and Facilitation
Sydney Coordination Office, Australia	Central coordination office set up to manage disruption across the Sydney Metropolitan area and now responsible for a wide range of planning and operational functions, including a pilot central business logistics coordination hub.	One point of contact across the transport cluster for all major project interfaces; Reduction in number of inbound CBD morning peak vehicle entries; Increase in public transport trips to the CBD; Potential savings of 26,000 kilometres travelled by van in the CBD and reducing loading zone usage by around 4,600 hours per year through logistics hub.	Single coordination unit, stakeholder management

The examples of application of enhanced coordination practices and service delivery illustrate the significant degree to which efficiency can be improved and social costs of roads works can be reduced through effective coordination. Existing schemes referred to in Table 1 such as the London Permit Scheme and Lane Rental Scheme are restricted in their geographical scope (i.e. the London Permit Scheme does not operate in all boroughs and the Lane Rental Scheme only covers parts of the TLRN), and a further level of sophistication is required to maximise the effectiveness of these schemes. Coordination between contractors still largely depends on voluntary arrangement (as the Borough High Street example highlights). With construction and development activity set to increase over the next decades, more measures are needed to more effectively minimise the impacts of disruption.

The identified scope of coordination change that emerges

Focus of coordination intervention

Two primary potential levels of change are viewed as offering avenues to generate significant benefits via the delivery of coordination services - these are considered the key areas of focus for implementing change. The scope and focus for implementation of a coordination approach and its associated service delivery is consequently considered to be:

- **Pan-London** strategic infrastructure and development programmes for new investments, maintenance, renewal and resilience measures, and activities to address significant strategic constraints or blockers on effective and efficient coordination.
- Large scale **area-specific** infrastructure and development initiatives in London that are considered to represent:
  - Complex multi-party coordination challenges; and/or
  - Cross borough boundary scope of works and/or impacts.

The potential scope of coordination service delivery and current gaps in service provision

There are a number of potential coordination services categories, at the pan-London and area-specific delivery levels of activity that reflect the outputs needed to address the challenges, and consequently drive the realisation of the benefits being sought. Table 2 lists a range of services that were identified through reviewing best practice from the case studies and have been tested initially with stakeholders:

Table 2. Coordination service requirement categories

Pan-London coordination Services	Area-specific coordination Services
A) Intelligence function - conduct in-depth analysis of development and infrastructure provision data across London, working with the Boroughs, and other teams in the GLA	H) Planning and coordination services that are responsive to local requirements. Examples may include facilitating street works collaboration, supporting community and business engagement, and/or overseeing the production of utilities masterplans – such as Development Infrastructure Funding Studies
B) Provide collated pan-London programme insight that is informed by the above and co-produced with the boroughs and providers	I) Brokerage- facilitating discussion between local partners to agree on aspects such as how to centrally coordinate, fund and/or contract on-site functions, planning, investments and services.
C) Stakeholder engagement	
D) Identify and communicate alliancing contracting/ procurement best practice	
E) Coordination funding management	
F) Administrative services – reporting, managing resources at the area-specific level	
G) Identifying skills requirements and future constraints, working with the boroughs and other teams in the GLA.	

Feedback from energy company: *'focus on highlighting regulatory challenges of investment ahead of need, which prevents us from future proofing our investments …. to deliver for anticipated future need. For the London Plan, this would be prohibitive in delivering investments that are durable to increased future requirements and would limit future disturbance of surrounding London associated with later increasing the capacity of the asset. This is another way (in addition to smart maintenance) that would reduce the need to return to the asset in the future.*

Table B.1 in Appendix B provides a more detailed presentation of the specific tasks by service category and the assessment of the status quo in terms of delivery of these services. The services highlighted combine emerging examples of good practice that have been identified from individual projects, and services that are currently not being undertaken and reflect gaps in the scope of coordination service delivery at this time.

It is clear that the status quo delivers only partial at best delivery of some coordination services and that that there are significant gaps. This is limiting the value that could be achieved for the public and providers (See case study evidence Appendix A).

The strategic objectives and key success and delivery factors that emerge.

A set of strategic objectives and key success and delivery factors for coordination have been formulated, reflecting the scope for benefits realisation and the practical considerations and drivers for successful delivery and operation established from consultation, the evidence base and domain expertise.

The strategic objectives

The adopted coordination approach should:

- Deliver benefits to the public from improved development and infrastructure works coordination e.g.:
    - Improved journey times and reliability through reductions in traffic delay;
    - Improved air and noise quality;
    - Reduced carbon emissions and carbon footprint;
    - Reduced number of accidents and safety incidents;
    - Increased efficiency of resources used, including energy, water, and construction materials;
    - Reduced waste;
    - Reduced loss of utility services; and
    - Reduced loss and degradation of community amenities.
- Deliver benefits to providers (utilities, transport providers and developers) from improved efficiency and effectiveness of delivery of:
    - London's major new investment, maintenance, renewal and resilience measure programmes; and
    - Large scale area-specific infrastructure and development initiatives.
- Accelerate development and infrastructure delivery within London to the benefit of both the **public and providers.**

Key success and delivery factors (KSDFs)

The adopted coordination approach should meet the following key success and delivery factors:

- Facilitate a co-production[13] approach to service delivery;
- Implementation and delivery of services can be secured by Q1 2019;
- Has the support of stakeholders and providers;
- Is affordable and financially sustainable;
- Offers good overall value for money (with benefits exceeding costs);
- Operating model and structure are resilient and adaptable to change;
- Minimises risk of abortive resource effort and cost;
- Resources employed provide sufficient expertise and capacity to be effective and innovate;
- Management and leadership responsibility is at the appropriate level to straddle the organisational and institutional boundaries involved;
- Leadership and governance responsibility offers actual and perceived independence from the outcomes delivered;
- Is deliverable via proven commercial routes that safeguard value;
- Provides consistency in approach and quality of service provision;
- Is transparent and auditable;
- Provides consistency in application of systems and protocols applied to the resources responsible for service delivery; and
- Provides an appropriate management and assurance framework to guide its activities, check outputs and optimise benefits realisation.

The strategic objectives and KSDFs are key to assessment of potential alternative coordination solutions that might be adopted and provide a foundation for evaluation of performance once implemented.

The strategic objectives alignment with stakeholder policies and objectives

Improving coordination and the London Mayor's policy agenda

Improved coordination of infrastructure and development activity aligns with a number of Mayoral policy goals, particularly related to the faster realisation of housing development and also supporting employment growth, and improving air quality.

The new entity has potential to ensure that activities and approaches being taken to support coordination align with Mayoral strategies, such as the London Plan, Environment Strategy, Economic Development Strategy and Transport Strategy. In particular there is a strong opportunity to improve the delivery of these strategies through influencing 'on the ground' activity.

Strategic objectives alignment to the wider industry stakeholder group

Table B.2 in Appendix B presents a selection of examples of aligned stakeholder policies and objectives in relation to the strategic objective themes for coordination change.

[13] Co-production is used to describe the process through which multiple parties work together to develop and agree the design and proposed implementation of a product or service. Facilitating a co-production approach might involve the use of workshops, local steering-groups, surveys, and other participatory approaches.

It is apparent from Table B.2 that in meeting the strategic objectives, stakeholders should secure a meaningful contribution to meeting their own policies and objectives, resulting in tangible welfare and financial outcomes for them as well as an opportunity to demonstrate delivery against stated corporate social responsibility and improved customer outcome commitments

Strategic coordination options for assessment

Consideration and strategic assessment of alternative coordination options

In order to sensibly arrive at a proposed approach in principle to affecting coordination change, meet service requirements and deliver against the strategic objectives and KSDFs, a range of indicative alternative models have been identified and have been subject to strategic comparative assessment.

The alternative coordination options

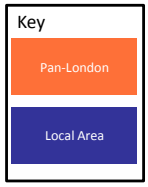
Table 3 below summarises the three alternative models that have been identified. These represent a broad range of indicative approaches in terms of scale of resources, responsibility identified for service delivery and the associated costs to operate.

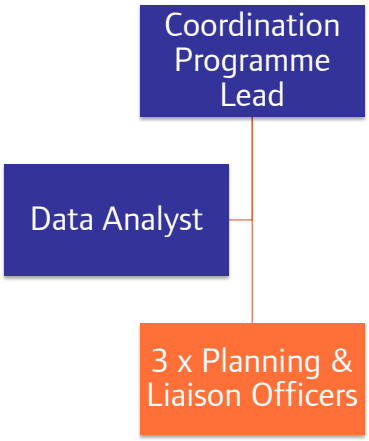
Table 3. Indicative coordination model options assessed

Option	Pan-London services delivery	Major Area/Scheme Specific services delivery
Reinforce the existing coordination model	A dedicated small GLA team to deliver the pan-London services	Borough coordination structures strengthening and institutionalising what is already in place. Will liaise with GLA pan-London team
Scalable model to build and scale in response to proof of concept evidence	A dedicated moderately sized GLA and/or contracted team to deliver the pan-London services with room for growth in line with need / demand	Dedicated GLA employed and/or contracted key location officers initially covering limited number of key locations from day 1
Do Maximum centrally-led model	A dedicated larger GLA and/or contracted team to deliver the pan-London services – this could also be considered as an independent entity	Dedicated GLA employed and/or contracted delivery teams established for all key locations from day 1

For each option an illustrative structure and resource model was established, along with a high-level estimate of the initial cost of operation. The costs of resources drew on current employee costs for GLA and Atkins staff as an example, assuming a balance of internal and out-sourced resources, and assumptions on operating budget requirements. Further detail on the approach to cost estimation and associated assumptions is presented in the Economic and Commercial case sections. Each of the three options considered is presented in Figure to Figure below. The figures present the assumed "day one" level of operational resource being deployed by the GLA.

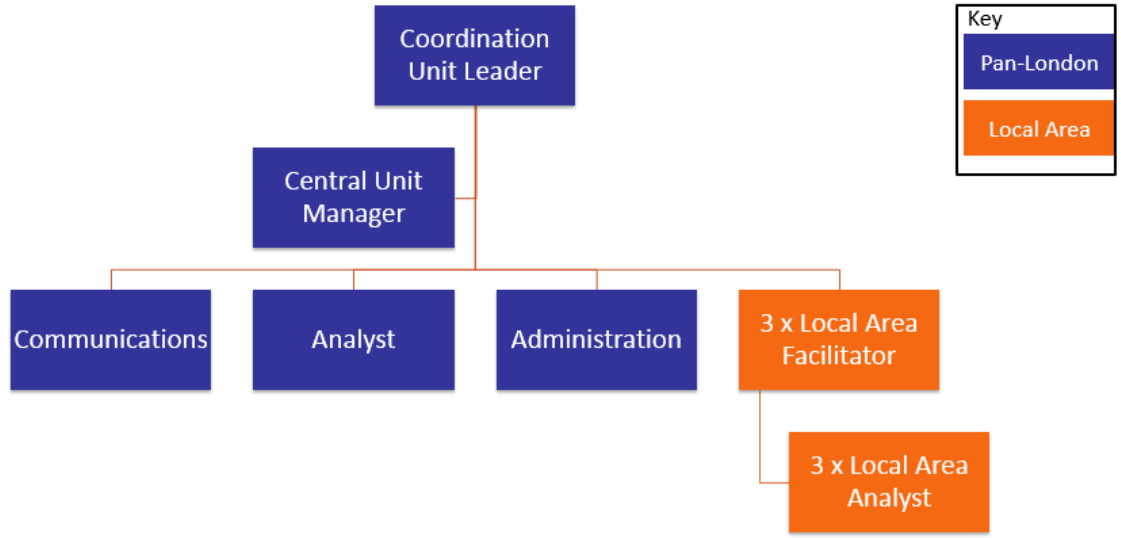
Figure 4 - Reinforcing existing coordination arrangements option





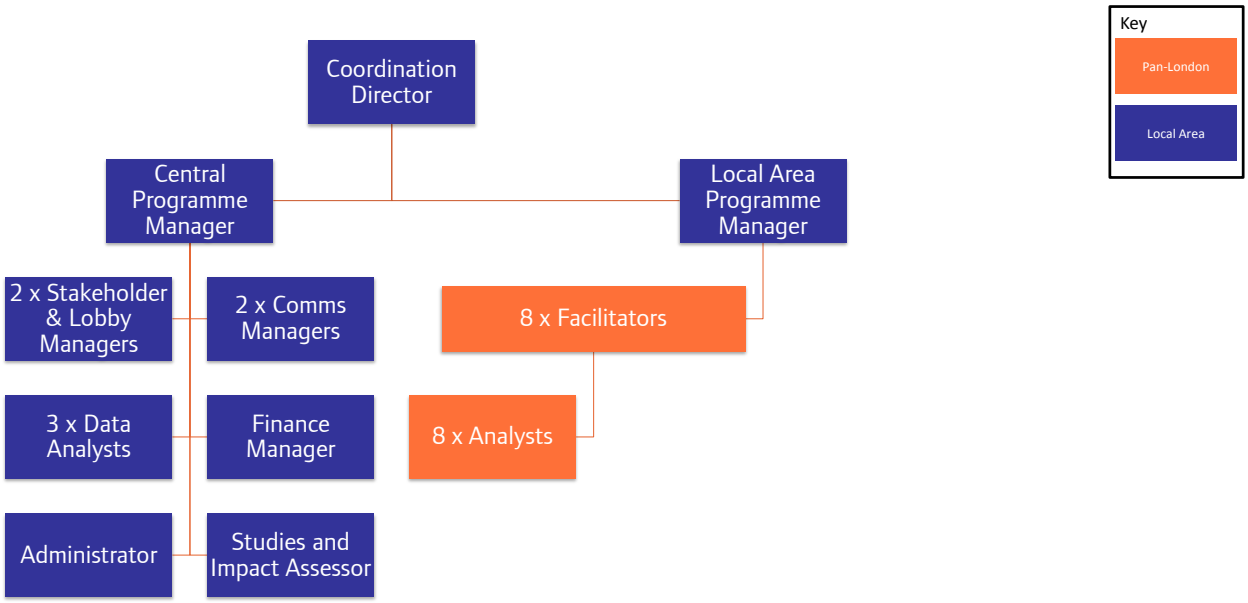
	Pan-London	Local	Total
FTEs	2	3	5
Staffing Cost (per annum) – £k	220	250	450
Operational Budget (per annum) - £k	-	-	200

Figure 5 - Scalable model



	Pan-London	Local	Total
FTEs	4	6	10
Staffing Cost (p.a.) £k	450	500	950
Operational Budget (p.a.) - £k	-	-	400

Figure 6 - Do maximum centrally led option



	Pan-London	Local	Total
FTEs	10	16	10
Staffing Cost (per annum) – £k	1,050	1,250	2,300
Operational Budget (per annum) - £k	-	-	1,000

The approach to strategic assessment of alternative coordination options

The approach to identifying the Coordination Preferred Approach (PA) from the options has been one of structured assessment:

- Assessment of options with respect to their capacity to deliver the coordination **service requirements** based on their assumed resource, organisational and operating characteristics;
- Assessment of options against the **strategic objectives** in the context of their capacity to deliver coordination services; and
- Assessment of options with respect to meeting the **key success and delivery factors (KSDFs)**, in the context of their assumed resource, organisational and operating characteristic's capacity to deliver the coordination services.

The recommended Coordination PA is therefore the option assessed to offer the best overall balance between service delivery, meeting strategic objectives and meeting KSDFs.

Assessment of alternative coordination options against service requirements

Appendix B summarises the scope for service delivery associated with the three options considered, as well as the status quo as previously presented in Table B.1. The findings from the assessment are:

- The option of reinforcing existing arrangements would mean limited dedicated resourcing and less well defined and established leadership. Furthermore, the responsibility for service

delivery suggests that this would offer only partial enhancement in delivery over the status quo.

- The scope of service delivery with respect to the 'Scalable' and the Do Maximum centrally led options is expected to be comprehensive and very similar in most respects.
- The key area of differentiation is the greater headroom and capacity with the Do Maximum option to deliver pan-London lobbying and communications activity and progress research and studies in support of improving coordination.

Assessment of alternative coordination options against strategic objectives

Table 4 below presents the assessment of the options against the strategic objectives, informed by the operating characteristics of each option, their assessment against service requirements, and the consequent capability to secure outputs that will drive realisation of benefits.

All three options are considered to lead to benefits, and the potential to meet all the objectives, but to varying degrees. Clarity of ownership and clear leadership / management responsibility, application of dedicated and specialist resources and provision of a scale of resources to provide headroom to meet demands are key influencers on the ability to effectively and efficiently deliver coordination services and hence meet objectives.

Table 4. Coordination option assessment against strategic objectives

Coordination Option assessment against Strategic Objectives

Objectives		Scoring: Reinforce Existing	Scoring: Scalable	Scoring: Do Maximum	Comments: Reinforce Existing	Comments: Scalable	Comments: Do Maximum
A) Deliver benefits to the public from improved development and infrastructure works co-ordination e.g.:							
1	Improved journey times and reliability through reductions in traffic delay	1	3	3	Option achieves benefits but scale is limited by the level of resource and influence available.	Both options have the scope, capacity and influence to achieve significant benefits	
2	Improved air and noise quality and reduced carbon emissions	1	3	3			
3	Reduced number of accidents and safety incidents	1	3	3			
4	Reduced loss of utility services	1	2	3		Relatively limited level of pan London resources limits capability to lobby for change	Greater level of pan London# resources provides greater capability to lobby for change
5	Reduced loss and degradation of community amenities	1	3	3		Both options have the scope, capacity and influence to achieve significant benefits	
B) Deliver benefits to providers from improved efficiency and effectiveness of delivery of:							
1	London's major new investment, maintenance, renewal and resilience measure programmes	1	3	3	Option achieves benefits but scale is limited by the level of resource and influence available.	Both options have the scope, capacity and influence to achieve significant benefits	
2	Large scale area-specific infrastructure and development initiatives.	1	2	3		Relatively limited level of resources available means opportunities for action need to be prioritised with potential delay or lack of action for those that aren't	Greater level of resources available enables most opportunities for action to be progressed
C) Accelerate development and infrastructure delivery within London to the benefit of both the public and providers.							
1	Accelerate development and infrastructure delivery within London to the benefit of both the public and providers.	1	2	3	Option achieves benefits but scale is limited by the level of resource and influence available.	Relatively limited level of resources available means opportunities for action need to be prioritised with potential delay or lack of action for those that aren't	Greater level of resources available enables most opportunities for action to be progressed
		8	21	24			

Scoring Key	
0	Neutral/negligible impact
1	Slight positive impact
2	Moderate positive impact
3	Large positive impact

The option of enhancing existing arrangements is identified as having the least potential to meet the objectives as it represents the lowest commitment of dedicated resources to coordination service delivery.

The Scalable model addresses many of these short-comings through its provision of specialist dedicated resources with an over-arching co-production remit. This is consequently seen as offering potential to meet the objectives to a significant degree.

The Do Maximum option is assessed as offering greatest potential to deliver against all objectives, with the enhanced scale of expert dedicated resource providing the necessary headroom to meet demands across all avenues of service delivery concurrently.

Assessment of options against key success and delivery factors (KSDFs)

Table B.4 in Appendix B presents the assessment of coordination options against the key success and delivery factors. The assessment captures the extent to which the potential to meet objectives is likely to be achievable given practical delivery and operational considerations.

The option reinforcing existing coordination arrangements performs most strongly with respect to its affordability and speed and ease with which it could be implemented, and it also presents the least risk of abortive resource effort and cost. However, it scores relatively poorly on factors focused on effectiveness, consistency and quality of service delivery.

The Do Maximum option unsurprisingly presents the opposite balance of performance against KSDFs. This will be the most challenging to implement and most costly to deliver, and does represent risk of commitment of resources in advance of the value of their service delivery being proven. The scale of specialist dedicated resources it offers will however mean that it offers greatest potential to meet all demands effectively and drive delivery at a greater pace on all fronts.

The Scalable model offers the best overall KSDF assessment reflecting the fact that the approach being taken to delivery aims to mitigate risks around abortive resource effort and cost through building on proof of concept phases, while providing sufficient dedicated specialist resources at an appropriate ownership level to comprehensively drive delivery and be effective in facilitating co-production

Taking the balance of assessed performance against service delivery requirements, strategic objectives and KSDFs, the Scalable model is the recommended Coordination Preferred Approach (Coordination PA)[14]

As outlined in the Context and Purpose of the Business Case section, a phased approach to implementation is anticipated. Phase 1 will be an initial 2 years of operation to establish proof of concept and enable an evidence base to support a case for potentially scaling-up delivery of coordination services to be established.

[14] As discussed, this is at this stage an indicative conceptual model that will need to be subject to more detailed design development as part of the programme of activity to delivery.

The Coordination PA is now considered further in subsequent sections, in terms of:

- The broad economic and value for money potential it offers over 10 to 20 years (Economic Case);
- The structure and commercial (procurement) approach to delivery, focused on the 2 years of Phase 1 (Commercial Case);
- The financial requirements and proposed approach to funding, primarily focused on Phase 1 but with some consideration of longer term funding (Financial Case); and
- The management plan and approach to delivery and implementation, focused on Phase 1 (Management Case).

The Economic (Value for Money) Case

Summary – Economic Case

- The Economic Case presents the potential benefits generated by the Coordination PA and their scale relative to the costs of implementation.
- Assessment has focussed on estimating the benefits that would be generated if coordination achieved small assumed improvements in five key areas of cost/impact imposed by infrastructure and development works in the status quo, namely the costs of; traffic delay, utility street works, highway roadworks, development construction and development programme delay.
- The results suggest a strong economic case for coordination (Table 5). The estimated Net Present Value to society from this subset of benefits alone is between £40 million and £530 million (2018 market prices, calculated in line with HM treasury guidance) over a 10-year appraisal period. Strong positive impacts are forecast for the wider public, private sector (utilities and developers) and public sector.
- The impact will also be strengthened by a range of short and long term benefits that have not been monetised at this stage, including: environmental benefits of reduced disruption and improved longer term planning, safety improvements, company image and regulatory performance improvements.

Table 5. Indicative economic assessment results *£m, PV, 2018 prices/ base, 10-year appraisal*

		Low	Medium	High
Net impact (excl. direct cost)	Wider public	10	20	75
	Private sector: Utilities	20	40	170
	Private sector: Developers*	35	70	195
	Public sector	25	55	225
Net welfare impact *		**65**	**135**	**555**
Direct Coordination costs		**-25**	**-25**	**-25**
NPV		**40**	**110**	**530**
BCR	Net welfare/ direct costs (ratio)	**3**	**5**	**22**

*Note all figures are rounded to the nearest £5 million. * Conservatively, developer benefits of reduced programme are not included in the net welfare impact*

Introduction

The aim of this Economic Case is to develop a high level understanding of the balance between the potential benefits that could be generated by the Coordination PA and the costs of implementation.

The approach adopted is in line with HM Treasury guidance (see box below) and the primary aim is to gain confidence that the benefits will outweigh the costs over a sustained period of operation and that investment in coordination is therefore likely to offer value for money.

The remainder of this chapter sets out the Economic Case in the following steps:

- Description of the potential sources of benefit;
- Estimate of the potential scale of monetary value associated with a subset of the identified benefits;

- Summary of the estimated costs associated with implementing coordination, based on the Scalable model outlined in the Strategic Case, including costs directly incurred by the coordination entity and the contributions made in kind by collaborating organisations; and
- Overall summary of the balance between costs and benefits identified and the suggested overall economic and value for money case for coordination.

Scope of and approach to Economic Case

The Economic Case:

- Considers impacts from national perspective, in line with HM Treasury guidance.
  - Focuses on the net balance of costs/benefits for all affected groups.
  - Provides supporting analysis on the potential distribution of impacts between key categories of beneficiary, in particular:
    - General public (incl. businesses not directly involved in the works);
    - Directly affected private sector, i.e. developers and utilities; and
    - Public sector, particularly transport authorities.
- Is intended to provide a high level indication of the potential scale of benefits by identifying the scale of a subset of status quo costs that coordination could address and the value of benefits caused by small reductions in those impacts.
- Is not intended to provide an investment case for the individual organisations involved in coordination as each will have their own assessment processes, and detailed evidence on impact by organisation is not yet available.
- Uses HM Treasury and Department for Transport parameters and approaches (e.g. discount rates) to estimate economic values to ensure consistency .
- Considers costs and benefits over appraisal periods of 10 and 20 years.

Sources of benefit

As outlined in the Strategic Case, development and infrastructure works within London involve undertaking complex activity within a complex and densely occupied city, including one of the most intensively used utility networks in the world.

Achieving the end benefit of the completed works and development therefore involves incurring a range of costs, which impact several sectors of society, including the general public, private sector and public sector. Impacts include:

- Direct costs to those undertaking the works (developers, utilities, transport authorities);
- Environmental and disruption costs to the community;
- Traffic disruption for those using affected roads; and
- Safety impacts on roads and onsite.

The activity also brings with it the potential for longer term costs and benefits in relation to the social and environmental impact of the final built development (such as flooding risk) and the ongoing cost of maintenance of utilities and buildings.

In this context, coordination of infrastructure and development works could achieve benefits through reducing the costs and impacts incurred during the works, and delivering improved longer term outcomes, for instance works and residential/ commercial developments that:

- Are completed more quickly (through improved planning and coordination);
- Have adopted innovative, effective approaches made possible by a more coordinated, longer term view of investment (see Appendix A, Case Study 12);

- Are future proofed for potential capacity upgrades (to meet increasing demand) and against environmental risks (such as flood risk driven by climate change);
- Have protected environmental assets and increased benefits provided by the environment, such as water quality and recreational provision (see Appendix A, Case Study 13);
- Have reduced quantities of materials used, and increased material reuse, providing environmental benefits such as reduced waste, and embodied C02.
- Have improved wider urban realm quality; and
- Have low cost ongoing maintenance requirements and the flexibility to accommodate change.

The potential benefits of coordination are therefore diverse. They range from organisational cost savings to long term environmental impacts. This range is illustrated in Table 6, which provides a summary of potential benefits, subdivided into the three broad categories of beneficiary (i.e. wider public, private sector and public sector. Table C.1 in Appendix C provides a more detailed version of the table which also includes a brief summary of the route through which coordination would be expected to generate each benefit.

Table 6. Potential benefits of coordination

Impact of coordination	
Wider public	
Transport	Reduced traffic delay
	improved reliability and fuel costs
Short term environment	Reduced noise/vibration
	Reduced dust/local air pollution
Long term environment	Reduced carbon emissions, including embodied carbon
	Reduced waste
	Reduced flood risk
	Improved ecosystem services such as water quality, recreational value
Amenity	Decreased amenity/service degradation
Safety	Reduced traffic and site accidents
Benefits of development	Welfare benefits of increase in housing supply and regeneration experienced sooner
Customer satisfaction	Reduced impact & Improved awareness of change
	Reduced disruption of utility provision to customers
Private sector	
Utilities	Reduced costs of street works provision
	Reduced cost of maintenance
	Reduced cost of leakage/losses
	Improved reliability of planning and programming
	Improved regulatory and safety performance and public image of company
Developers	Reduced costs of construction work
	Reduced delivery time – faster return on investment
	Improved reliability of planning and programming
	Improved environmental and safety performance and public image of company
Public sector	
Highway authorities	Reduced costs of roadworks
	Reduced cost of maintenance
Transport authorities	Impact on revenue from lane rental, permits, congestion charge and public transport fares
	Reduced cost of delivering major transport improvements

Potential scale of benefit in monetary terms

Selection of benefits to quantify

The potential benefits of coordination identified in the previous section are diverse. In many cases it would be difficult to attribute a monetary value to them at this stage without developing a detailed 'bottom up' assessment on the basis of assumed local measures and impacts in identified locations (for instance to attribute a benefit to improved reliability of planning of works).

This level of detail was not considered a proportionate approach at this stage as the evidence of impacts and details of the likely form of coordination in individual locations are limited and the assessment would therefore need to be developed through a detailed series of assumptions. The evidence collected during Phase 1 should help to support more detailed assessment of this type in future.

The focus of assessment at this stage has therefore instead been on obtaining a top down understanding of the potential scale of benefits to provide a basis for comparison against costs and an understanding of the potential for investment in coordination to provide good value for money. The approach adopted was deliberately conservative and focussed on attributing a monetary value to a subset of five of the full list of benefits.

The five impacts considered are set out in Table 7. All five relate to key areas of cost/negative impact of works and/or development occurring in the status quo and were selected for the following reasons:

- Each one offers the potential for significant benefit through a reduction in status quo costs caused by coordination;
- Relevant data to provide an indication of scale of status quo costs is available for each impact;
- Each impact and the approach to estimation can be explained in a relatively transparent manner to inform the business case; and
- The range of impacts provides coverage of all three categories of beneficiaries i.e. general public, private sector and public sector.

Table 7. Quantified impacts

Beneficiary	Impact
General public	Travel time in delay caused by street works and roadworks
Private sector	The cost of street works for utilities
	The cost of construction for developers
	Return on investment for developers (driven by programme length)
Public sector	The cost of roadworks for TfL/Boroughs.

Table C.2 in Appendix C summarises the five impacts and sets out in more detail the mechanisms through which it is anticipated that coordination would reduce the status quo costs/impacts and thereby generate benefits in each case.

Estimation of quantified benefit

Given the lack of detailed evidence on impacts of coordination, the focus of the assessment was on estimating the scale of the five identified status quo costs/impacts in monetary terms. This was to allow their comparison against the cost of the Coordination PA to understand their relative scale with the intention of gaining confidence that investment in coordination could achieve good value for money if it could achieve reductions in the status quo costs that appear feasible.

The assessment process involved a number of steps. The first involved estimating the scale of the current, status quo impacts/costs in monetary terms. This process drew on a range of assumptions and data sources including:

- Estimated cost of congestion associated with street works and road works (combined TfL sources)[15];
- Estimated cost of utility street works (Street works)[16];
- Estimated scale of development in opportunity areas (London Plan)[17];
- Estimated cost of construction in London (Turner and Townsend Review)[18]; and
- Estimated rental values in London (VOA and GLA evidence base)[19].

Supporting evidence for %age reductions

Borough Market:

Combined water, gas, power, comms and highway works reduced days of road occupation (and traffic delay) by nearly 60% (669 to 384 days) and highway management and planning costs by 20% to 50%

Staffordshire:

A449 Wolverhamption Road gas mains installation and resurfacing: Combined roadworks reduced road occupation duration by 50% compared to individual works (25wks to 12 wks)

Streethay: combined works reduced occupation by approximate 60% (43 wks to 18 weeks) with associated traffic delay and works cost reductions

The McKinsey Global Institute (MGI) Reinventing Construction

Shows that enhanced collaboration and contracting approaches could bring a 8%-9% improvement in construction sector productivity and a 6%-7% reduction in costs.

On-site execution could bring a 6%-10% improvement in construction sector productivity and a 4%-5% reduction in costs

Once the estimated monetary value of the five status quo costs/impacts had been calculated, illustrative potential benefits of coordination were identified on the basis of assumed small percentage reductions in cost/impact that might be achieved.

Low, Medium and High impact assumptions were made to provide an indicative range of estimates. The percentages selected were informed by case studies and other research where possible, recognising that relevant evidence is currently limited (see box). All assumptions (including the High) were intended to be feasible reductions that it is plausible that coordination could achieve, given evidence to date. As outlined above, the key aim of the range of assumptions was to provide a means of understanding the relative balance of the costs of the Coordination PA and the scale of the status quo impacts of development/works that it would be addressing. The overall aim was to provide clear

[15] TfL data including Total Vehicle Delay for London 2014-2015 http://content.tfl.gov.uk/total-vehicle-delay-for-london-2014-15.pdf for total delay (adjusted to account for average journey purpose split) and Travel in London, 9, 2016, http://content.tfl.gov.uk/travel-in-london-report-9.pdf for breakdown of congestion by cause, BCDM databook for latest Values of Time

[16] Report on Street works utility works cost model, https://utilityweek.co.uk/streetworks-utilities-at-work/ and HAUC performance scorecard http://hauc-uk.org.uk/uploads/EW%20Performance%20Scorecard%20Dec%202017_18%20Q1.pdf

[17] The London Plan Opportunity Areas Map; https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/opportunity-areas/opportunity-areas-map-0

[18] International Construction Market Survey, 2017, Turner and Townsend, http://www.turnerandtownsend.com/media/2412/international-construction-market-survey-2017-final.pdf

[19] VOA Residential Rents, December 2017 and GLA London Office Policy Review, 2017, https://www.london.gov.uk/sites/default/files/london_office_policy_review_2017_final_17_06_07.pdf

analysis to provide confidence that the scale of improvement required to generate sufficient benefits to offset the investment costs in coordination appeared feasible.

Table 8 sets out the approach adopted to estimating the indicative range of impacts for each of the five quantified benefit areas, summarising the approach to estimating the status quo cost/impact and the range of Low, Medium, High percentage reductions assumed in each case. Table C.3 in Appendix C provides a more detailed version of the table, including details of the key data sources used for each estimate.

Table 8. Summary of approach to estimating indicative benefits

Benefit			**Approach to estimating Status Quo costs**	**Indicative saving from coordination**		
				L	**M**	**H**
Wider Public	Travel time		Reduction in London wide traffic delay associated with non-urgent/emergency works. 50% of utility and highway works assumed in scope.	0.5%	1.0%	4.0%
Private Sector	Utilities	*Works cost savings*	Reduction in London wide delivery costs associated with non-urgent/emergency utility works. 50% assumed in scope.	0.5%	1.0%	4.0%
	Developers	*Works cost savings*	Reduction in estimated construction costs based on av. London construction costs per m^2 of floor area, target numbers of jobs/ homes for each growth area, assumed phasing and standard. floor area assumptions for housing/employment.	0.05%	0.10%	0.4%

Benefit			Approach to estimating Status Quo costs	Indicative saving from coordination		
				L	M	H
		Reduced prog.	Assumed equivalent to additional X months of net rental income for each property completed p.a. Property completion assumptions as above.	0.25 mo.	0.5 mo.	2 mo.
Public Sector	Highway auth	*Works cost savings*	Reduction in London wide costs associated with non-urgent/emergency highway works. 50% assumed in scope.	0.5%	1.0%	4.0%

The first numerical column in Table 9 summarises the scale of estimated status quo annual costs associated with each of the five impact areas as derived from the approach outlined above. The subsequent columns show the potential annual benefits implied by the range of percentage reduction assumptions made.

Table 9. Annual indicative benefits (undiscounted, 2018 prices/values)

Benefit			Status quo cost	Status Quo (£m p.a.)	Indicative saving from coordination (£m p.a.)		
					L	M	H
Wider Public	Travel time		Cost of traffic delay associated with in scope non-urgent/emergency street and road works p.a.	105	1	1	4
Private Sector	Utilities	*Works cost savings*	Costs of delivering in scope non-urgent/emergency utility street works.	280	1	3	11

Benefit			Status quo cost	Status Quo (£m p.a.)	Indicative saving from coordination (£m p.a.)		
	Developers	*Works cost savings*	Cost of construction of housing and employment floorspace completed in 3 Phase 1 Local Areas p.a	1650	1	2	7
		Reduced prog.	Cost of renting of housing and employment floorspace completed in 3 Phase 1 Local Areas p.a.	100	2	4	17
Public Sector	Highway auth	*Works cost savings*	Costs of delivering in scope non-urgent/emergency highway road works	360	2	4	14

The impacts shown relate to Phase 1 of the Coordination PA entity. For the purposes of estimating the costs and benefits for the 10 and 20-year appraisal periods, the entity was assumed to scale up towards the Do Maximum model described in the Strategic Case over 5 years after Phase 1. This leads to a total of 10 employees for the pan-London element of the entity and 14 employees across 7 Local Areas by the end of the 5 years (and for the rest of the 20-year period). Benefits have also been assumed to scale up in Phase 2 in proportion to the scale of entity[20].

Costs of coordination

Cost components

Implementing the scalable model outlined in the Strategic Case will involve

- Direct costs of operating the coordination entity; and
- Indirect costs for the involved organisations (boroughs, developers, utilities, TfL and GLA).

The following sections provide more detail on the estimates made for each category of cost included in the assessment of the Economic Case.

Direct costs

Table 10 summarises the estimated annual direct costs of operating the Coordination PA entity for the 20-year appraisal period. The figures account for staff costs, overheads and consultancy fees for

[20] i.e. scaling pan-London benefits in proportion to staff numbers and assuming the same developer benefits for each of the 7 Local Area entities in Phase 2.

Development Infrastructure Funding (DIF) Studies and work to support lobbying, as set out Appendix C, Table C.4.

Table 10. Direct Costs

	Phase 1	Phase 2 (building up over 5 years)
Estimated annual cost (2018 resource prices)	£1.4 million	£2.7 million

Indirect costs

The indirect costs of the Coordination PA refer to the 'in kind' contributions made by involved organisations, primarily through the contribution of staff time for meetings and tasks.

The first indirect costs are the initial one off costs to GLA of establishing the entity (including recruitment costs etc.) which are estimated to be likely to be approximately £215,000 (2018 resource costs).

Once the entity is operational, the utilities, boroughs, developers involved will incur indirect costs through involvement in the meetings and planning associated with coordination and potentially through rearranging works to improve coordination.

Table 11 summarises the assumed annual ongoing indirect costs. Involvement at the pan-London level is assumed to be through a Steering Group and in the Local Areas through a Task Force of senior representatives from each organisation, supported by technical communities with specific technical expertise. More detail on the underlying assumptions on time inputs is provided in Appendix C, Table C.5.

Table 11. Indirect Costs of Operation

	Phase 1	Phase 2 (building up over 5 years)
Estimated annual cost (2018 resource prices)	£0.5 million	£1.0 million

Conversion to appraisal terms

To inform the cost benefit assessment, both direct and indirect costs were converted to present values (PV) in 2018 market prices, for consistency with the benefits estimates and in line with HM Treasury Green Book guidance. Table C.6 in Appendix C summarises the assumptions and parameters involved in the conversion process.

Indicative Cost Benefit Assessment results

Overall

Table 12 below summarises the estimated monetised costs and benefits of coordination over 10-year and 20-year appraisal periods, expressed on a consistent basis (in PV, 2018 market prices).

The table sections summarise the following elements of the economic assessment (with all monetary values rounded to the nearest £5 million):

- Benefits disaggregated between the categories of beneficiary i.e. wider public, private sector (utilities and developers) and public sector;
- Indirect (in kind) costs to contributing authorities by sector;

- Net impact on each sector, accounting for monetised benefits and indirect costs (but not at this stage assuming any contribution to direct costs);
- Direct costs of operating the Coordination PA entity;
- Overall impact on society as a whole, expressed as an NPV; and
- A Benefit Cost Ratio comparing the net impact of benefits and indirect costs with the total direct costs.

The summary figures show a total NPV for society of the quantified benefits of between £40 million and £530 million (2018 market prices) for the Low and High level benefit assumptions respectively over the 10-year appraisal period. The equivalent figures over the 20-year appraisal period are just over twice as great (£80 million to £1095 million). As outlined above, the quantified benefits only represent a subset of the total impacts of coordination and would be supplemented by a range of further benefits (outlined in Table 6) that have not been quantified at this stage.

Table 12. Summary indicative economic assessment results

£m, Present Value, 2018 prices/ discount base			10-yr appraisal				20-yr appraisal		
			Low	**Medium**	**High**		**Low**	**Medium**	**High**
Benefits									
Wider Public	Travel time		10	20	75		20	45	175
	Net impact		***10***	***20***	***75***		***20***	***45***	***175***
Private Sector	Utilities	Works cost savings	20	45	175		45	90	355
	Developers	Works cost savings	10	20	85		20	40	170
		*Reduced programme**	*25*	*50*	*110*		*50*	*95*	*205*
	Net impact		***55***	***115***	***370***		***115***	***225***	***730***
Public Sector	Highway authorities	Works cost savings	30	55	225		55	115	460
	Net impact		***30***	***60***	***245***		***65***	***130***	***515***
Indirect Costs (inc. setup) **	Utilities		-5	-5	-5		-10	-10	-10
	Developers		-5	-5	-5		-5	-5	-5
	Public sector		-*	-*	-*		-*	-*	-*
	Net impact		-10	-10	-10		-15	-15	-15
Net impact (excl. direct cost)	Wider public		10	20	75		20	45	175
	Utilities		20	40	170		35	80	350
	Developers*		35	70	195		65	135	365
	Public sector		25	55	225		55	115	455
Net welfare impact *			**65**	**135**	**555**		**130**	**275**	**1145**
Direct Coordination costs			**-25**	**-25**	**-25**		**-55**	**-55**	**-55**
NPV			**40**	**110**	**530**		**80**	**225**	**1095**
BCR	Net welfare/direct costs		**3**	**5**	**22**		**3**	**5**	**23**

Note all figures are rounded to the nearest £5 million.

** Developer benefits of reduced programme are not included in the net welfare impact as they would involve benefit transfers (e.g. from other landlords) which would reduce the net value of the benefits but are beyond the scope of this assessment. The approach adopted will provide a conservative estimate of total benefit.*

Comparing the net value of quantified benefits and indirect costs with the direct costs of operating the Coordination PA provides a BCR[21] of between 3 and 23 (for the Low to High impact assumptions), suggesting a very strong economic case for coordination on the basis of the subset of impacts considered and the illustrative assumptions made in this assessment.

The summary figures also show strong positive net impacts on each of the identified sectors (wider public, private sector and public sector), described further in the following sections.

[21] Note that this BCR differs from the recommended calculation in the HM Treasury Green Book. The standard BCR is defined as the [net impact on society beyond the public sector]/ [net impact on the public sector]. This ratio would be less useful in this instance for two reasons. Firstly, the distribution of direct costs between the public and private sector is to be determined. Secondly, the net impact on the public sector would be positive even if bore the full cost, resulting in a negative BCR which has limited meaning in terms of understanding the balance of intervention costs and benefits.

Wider public

The estimated travel time savings associated with reduced street works and roadworks range between £10 million and £75 million over the 10-year appraisal period (PV, 2018 market prices). The equivalent figures for the 20-year period are just over twice as large.

These significant benefits to the wider public would also be supplemented by several of the benefits that have not been monetised at this stage including:

- Local community impacts:
  - Reduced noise/vibration;
  - Reduced dust/air pollution; and
  - Improved amenity.
- Wider public impacts:
  - Longer term environmental benefits such as greenhouse gas emission reduction; and
  - Environmental benefits such as water quality.

The assessment therefore strongly suggests that coordination would generate significant beneficial impacts for the wider public.

Private sector

Utilities

The estimated cost savings generated by improved efficiency of street works for utilities range between £20 million and £175 million (PV, 2018 market prices) over the 10-year appraisal period (and just over double that for the 20-year appraisal period).

These are offset by estimated indirect costs of approaching £5 million (PV, 2018 market prices) associated with four utilities contributing staff time to the coordination process through the pan-London Steering Group and four utilities per area contributing time to the Local Area Task Forces and supporting technical communities. It has been assumed that these costs would all be net additional to current processes.

Assuming that the utilities retain all of the cost savings achieved, these impacts combine to produce an estimated net benefit to the utilities of £20 million to £170 million (PV, 2018 market prices) based on the range of assumed impacts set out above over the 10-year appraisal period. However, it is likely that regulatory arrangements would lead to the savings being shared with customers, reducing the scale of utility benefit and increasing the wider public benefit outlined in the previous section (with no net impact on NPV).

The assessment of benefits presented is likely to be conservative. Whilst the indirect costs included in the assessment are intended to cover all key cost areas, the benefits monetised are a subset of the total and would be supplemented by a range of additional benefits to the utilities that have not been monetised. Key examples include:

- Improved regulatory performance and company image associated with reduced costs and losses, improved environmental performance and reduced impact on the local community, contributing to corporate objectives as summarised in the Strategic Case (and Appendix B).
- Cost savings associated with reduced losses (e.g. water leaks) and disruptions to service as a result of greater opportunity for pre-emptive maintenance, improved planning and improved coordination with planning authorities, resulting in reduced response times.

In addition, the percentages used to identify indicative benefits are potentially conservative. As the case studies in Appendix A show, individual examples of coordination have generated much larger savings.

Developers

The small percentage reductions in the cost of construction assumed for developers equate to benefits ranging from £10 million to £85 million (PV, 2018, market prices) over a 10-year appraisal period.

These are supplemented by estimated benefits associated with the faster return on investment enabled by accelerated development delivery which range from £25 million to £110 million over the 10-year appraisal period (PV, 2018, market prices).

In both cases, as for other impacts, the benefits over 20 years are approximately twice as large.

These benefits are slightly offset by indirect costs of approximately £5 million PV assumed to account for representatives of three developers taking part in pan-London Steering Group meetings and activities associated with coordination and three developers per area taking part in the Task Force and technical communities in each Local Area. This results in a net estimated impact for developers ranging from £35 million to £195 million (PV, 2018, market prices) over the 10-year appraisal period.

As for the utilities' impacts, these impacts are likely to be conservative. Whilst the costs are intended to cover all key cost areas, the benefits are based on indicative percentage reductions which are likely to be conservative and only cover a subset of benefits.

The quantified benefits will be supplemented by additional benefits that have not been attributed a monetary value at this stage. These include; increased reliability of programme and improved company performance and image as a result of improved environmental and safety performance and reduced impact on the community.

Public sector

The estimated public sector benefits of cost savings in undertaking road works range from £30 million to £225 million (PV, 2018 market prices) over the 10-year appraisal period.

These benefits are offset to a small extent by estimated indirect costs of less than £2.5 million PV reflecting the 'in kind' costs of three boroughs and TfL contributing staff time to the pan-London Steering Group and one borough contributing staff time to the Task Force and technical communities for each Local Area. It has been assumed that these costs would all be net additional to current processes and that TfL's activity in the Local Areas would be equivalent to its current activity.

Combined, these effects result in a net impact ranging from £25 million to £225 million PV over the 10-year appraisal period.

These figures suggest a significant benefit to the public sector and, as for the other sectors, the quantified benefits only represent a subset of the potential impacts. They would be supplemented by other impacts including:

- Impacts on income from Lane Rental and permit income and Congestion Charges and public transport fares influenced by changes in travel behaviour in response to impacts on congestion. The Lane Rental fund recovered charges of nearly £12 million p.a. in 2015/16

and 2016/17[22]; Improved coordination and reduction in works duration have the potential to reduce income to the fund. However, a relatively limited additional impact would be expected as the presence of the Lane Rental scheme already incentivises coordination.

- Reduced maintenance costs, both through long term planning and reduced numbers of works leading to resurfacing of individual sections of road – with implications for improved surface durability; and
- From a wider perspective, the benefits experienced by the general public benefit GLA, TfL and the boroughs by helping to meet a range of their objectives to support the public good, for instance through environmental and journey time improvements.

Overall economic case

The estimated NPV and BCRs suggest a strong Economic Case for coordination even using the conservative Low range assumptions of estimated improvements for the subset of benefits considered. Substantial net benefits are forecast for each of the categories of beneficiaries, the wider public, utilities, developers and the public sector.

The economic assessment has highlighted the fact that the status quo impacts/costs that coordination could help to address are significant. The estimated monetary value of each one is several times greater than the estimated costs of implementing the Coordination PA. Consequently, investment in coordination has the potential to achieve good value for money by generating even small proportionate reductions in the status quo costs. The Low, Medium and High assumptions made were intentionally conservative relative to potential impacts suggested in the available evidence to illustrate this point.

Table 13 reinforces the point from a different perspective. The changes identified in each line against each of the five key impact areas would individually be enough to offset indirect costs and achieve a BCR of 4[23] relative to the direct costs. For example, a 6% reduction of the in-scope congestion related to roadworks and street works or a 2% saving in in-scope highways authority works costs would each be sufficient to achieve a BCR of 4, without any further benefits.

Table 13. Individual savings sufficient to achieve a BCR of 4 by impact area

Benefit			Scale of change required to achieve BCR of 4 for each
Wider Public	In scope roadworks/ street works traffic congestion		6%
Private Sector	Utilities	Works cost savings	2%
	Developers	Works cost savings	0.5%
		*Reduced programme**	1.1 month
Public Sector	Highway authorities	Works cost savings	2%

[22] TfL Lane Rental Scheme, Monitoring Report 1 April 2016 to 31 March 2017, September 2017
[23] A BCR of 4 is identified as the lower bound of the Very High Value for Money category by DfT

In reality benefits would be generated across each of the five categories and would be supplemented by the range of other identified benefits (show in Table 6) which have not been monetised at this stage and have the potential to considerably further strengthen the economic case for coordination.

The Commercial (Procurement) Case

Summary – Commercial Case
• The Commercial (Procurement) Case assesses the options for operationalising the Scalable model identified as the Coordination PA in the Strategic Case. • Roles, responsibilities, and relative costs and seniority of staffing have been proposed and used to assess procurement options. • Governance relationship structures have been considered. Reporting to both the Infrastructure High Level Group (IHLG) and a proposed Steering Group of participating stakeholders is recommended. • A series of options for delivering and operationalising the organisation have been presented, highlighting the requirements of both the Area Specific and pan-London functions, and assessing the benefits and risks associated with internal delivery (wholly resourced from GLA), external delivery (wholly resourced through external organisations via procurement or secondment), or a Hybrid delivery model, utilising the best of both internal and external delivery. • The recommendation is to take forward this Hybrid model, which combines the ability for stable impartiality and senior stakeholder involvement of the internal model for the pan-London unit, with the flexibility and innovation to support performance for the Area Specific functions of the external delivery model.

The context, scope and approach to the Commercial (Procurement) Case

The Commercial Case identifies the preferred models (procurement and contractual) for operationalising the Coordination PA Phase 1 as identified in the Strategic Case. It considers the structure of the Coordination PA, how it links to key stakeholders and how it should be governed.

The Coordination PA Phase 1 functional specification

The details below provide the functional specification across the Coordination PA, given the context that it will need to operate within.

Key principles guiding the Coordination PA

Early engagement with stakeholders identified the following key principles to guide the commercial (procurement) case for the Coordination PA.

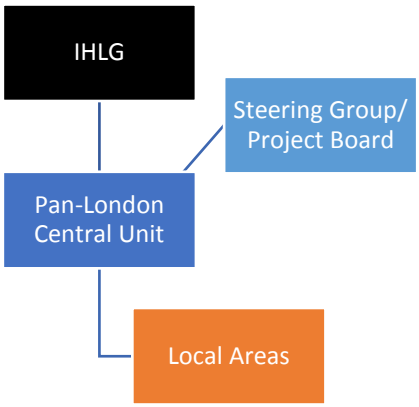
- **Co-production**: In each area, the range of required local services will vary greatly, and it is therefore proposed that these services are developed through a co-production approach. Co-production is used to describe the process through which multiple parties work together to develop and agree the design and proposed implementation of a product or service. Co-production might involve workshops, local steering-groups, surveys, and other participatory approaches.
- **Facilitation:** In line with the powers of the GLA, the Unit should work with partners to facilitate best practice, as opposed to enforcing or mandating such approaches.

- **Complementarity:** The Coordination Unit should work within existing governance and regulatory arrangements, alongside local and regional partners, to provide services that are tailored to their needs.
- **Accountability**: The Coordination Unit will work with the Mayor to foster a culture of fair accountability among providers, setting standards high and focusing on outcomes rather than process. The proposed unit will also be accountable to the Mayor's Infrastructure High Level Group, with initial establishment being overseen by a Project Board.
- **Communication**: Many coordination challenges exist because activities are undertaken in the context of organisational or geographic silos. Fostering communication is therefore fundamental to producing coordinated outcomes.

The context and governance of the Coordination PA

The Coordination PA will receive overall guidance from the IHLG, on work programme priorities. In turn it will analyse these priorities, plan for them across London and then deploy resources within Local Areas. It will essentially be the planning and delivery entity for infrastructure planning and coordination across London. A Steering Group made up of key stakeholders from across London planning organisations, will support the Coordination PA in securing additional insights and provide support on meeting priorities, as summarised in Figure .

Figure 7 – Coordination governance structure



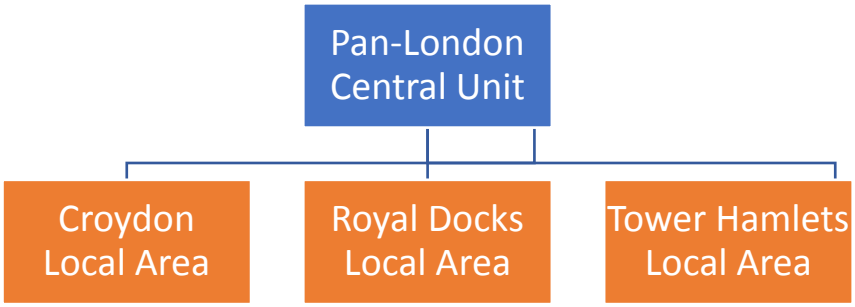
The component parts of the Coordination PA.

The Coordination PA itself will be made up of two components.

A Pan-London Central Unit. The Central Unit will be responsible for providing the pan-London coordination services that have been outlined in the Strategic Case. Through the discharge of these services, the priorities identified and established by the IHLG will be met through a focus on collaboration and facilitation.

Local Area functions. The Area Specific functions will be used to provide the on the ground support to Local Areas as required. The Local Area functions will deliver the Area Specific services that have been outlined in the Strategic Case. During Phase 1 there will be three Local Area groups, providing collaboration, facilitation and support in Croydon, Royal Docks and Tower Hamlets respectively, as illustrated in Figure 8 overleaf.

Figure 8 – Pan-London and area-based organisational structure



The Pan-London Central Unit.

The Central Unit will comprise the roles illustrated in Figure 9.

Figure 9 – Pan-London team structure

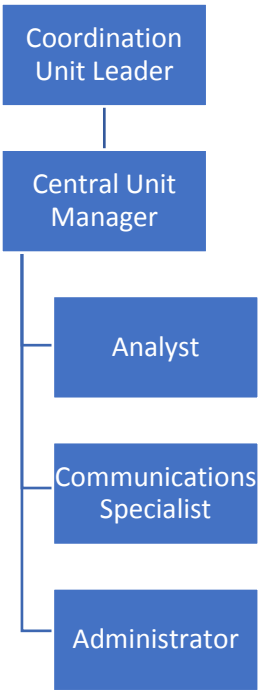


Table 14 provides a summary of the responsibilities and expected impact of each of the functional roles in the Central Unit. Together they will provide the pan-London coordination services.

Table 14. Central Unit functional roles' responsibilities and impacts

Role	Responsibility	Impact
Coordination Unit Leader **(1 FTE)**	• Provide leadership and priorities to the Central Unit • Engage and lobby the High-Level Group • Build strategic relationships with key stakeholders across London	• Raised profile for the Coordination PA • Resilience of the team • Strategic change considerations incorporated
Central Unit Manager **(1 FTE)**	• Day to day management of the Central Unit and the other functions including overall budgeting • Hold the Local Area functions to account on priorities of the Central Unit • Plan funding allocation for Local Area functions	• Smooth running of the Central Unit within budgets • Performance of the Local Area functions managed effectively including financial management
Analyst **(0.7 FTE)**	• Undertake the pan-London analysis that identifies priority Local Areas in which to undertake work • Set the performance objectives of Local Area functions	• A coherent pan-London intervention programme planned • Clarity over the delivery requirements of the Local Area functions
Communications Specialist **(0.7FTE)**	• Support the Central Unit leader to manage the strategic stakeholders across London • Provide guidance to Local Area functions on appropriate local stakeholder management techniques	• Strategic relationships across London are classified with an appropriate communications strategy in place • Local Area functions manage stakeholders effectively
Administrator **(0.7 FTE)**	• Provide administrative and support to all areas of the Central Unit • Track funding and expenditure requests for Central Unit and Local Area functions	• Effective operations within the Central Unit • Clear dashboards of funding and expenditure across the Central Unit and the Local Area functions

The Local Area Functions

Each Local Area function will be structured as illustrated in Figure 10.

Figure 10 – Area-based team structure

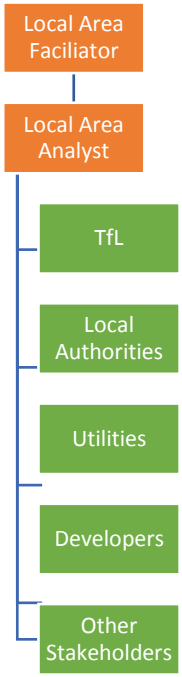


Table 15 provides a provides a summary of the responsibilities and expected impact of each of the functional roles in the Local Area functions. Together they will provide the Area Specific coordination services.

Table 15. Area Specific functional roles' responsibilities and impacts

Role	Responsibility	Impact
Facilitator **(1 FTE)**	• Provide specialist facilitation support to each Local Area • Provide a reach back to the Central Unit	• Engaged functions across Central Unit and Local Area • Unblocked non-technical factors
Analyst **(1 FTE)**	• Review the existing detailed plans for each Local Area with the technical stakeholders • Construct each Local Area plan	• Coordinated technical response across all technical stakeholders

The other stakeholders shown in the diagram above (e.g. TfL, Local Authorities, etc.) will collectively form a Local Area Task Force.

Key success criteria for delivering the Coordination PA

The following criteria have been used to evaluate the relative strengths of alternative delivery models for the Coordination PA.

Pan-London Central Unit criteria.

The following criteria have been identified as requirements for successfully delivering the Central Unit:

- Agility to deliver IHLG priorities;
- Ability to be independent of stakeholders' views and demonstrate impartiality with regards to London growth;
- Scope to develop capability;
- Scope to develop capacity;
- Ability to scale up if needed; and
- Ability to manage pan–London formal and informal politics.

Local Area Function criteria

The following criteria have been identified as requirements for successfully delivering the Local Area Function:

- Ability to develop and sustain innovation;
- Scope to develop capability for delivery;
- Scope to develop capacity for delivery;
- Ability to flex resources based on local requirements;
- Ability to be an 'honest broker' and impartial in the Local Area;
- Ability to incentivise performance at the local level; and
- Ability to facilitate a co-production approach to service delivery.

Options for delivering the Coordination PA

Three options for delivering the Coordination PA have been identified as described below and summarised in Table 16.

- **Internal delivery model** – all the roles shown within the Coordination PA (whether at Central Unit level or Local Area level) are delivered by GLA staff.
- **Hybrid delivery model** – the Central Unit core roles shown within the Coordination PA are delivered by GLA staff. The Central Unit Analyst role and both Local Area roles are delivered through external agencies (either via secondments or through consultancy service provision) through some form of appropriate procurement exercise.
- **External delivery model** – all the roles shown within the Coordination PA are delivered by external agencies.

Table 16. Coordination PA delivery models

Role	Internal	Hybrid (Central Unit GLA, Local Area external)	External
Pan-London Central Unit			
Central Unit Leader	GLA employee	GLA employee	External agency
Central Unit Manager	GLA employee	GLA employee	External agency
Analyst	GLA employee	External agency	External agency
Communications Specialist	GLA employee	GLA employee	External agency
Administrator	GLA employee	GLA employee	External agency
Local Area Function			
Facilitator	GLA employee	External agency	External agency
Analyst	GLA employee	External agency	External agency

The models requiring external agency involvement, would also need a GLA client-side management structure to manage the external agency/agencies.

Evaluation of the delivery models

The evaluation of the performance of the potential delivery models against the key success criteria identified is summarised in Table 17 below.

Table 17. Evaluation of delivery models against key success factors

Delivery Model	Internal	Hybrid (Central Unit GLA, Local Area external)	External
Pan-London Central Unit			
Agility to deliver IHLG priorities	Medium	Medium	Medium
Ability to be independent of stakeholders' views and demonstrate impartiality with regards to London growth	Higher	Higher	Medium
Scope to develop capability	Higher	Higher	High
Scope to develop capacity	Higher	Higher	High
Ability to scale if need be	Higher	Higher	High
Ability to manage pan – London formal and informal politics	Higher	Higher	Lower
Local Area Function			
Ability to develop and sustain innovation	Lower	Higher	Higher
Scope to develop capability for delivery	Medium	Higher	Higher
Scope to develop capacity for delivery	Lower	Higher	Higher
Ability to flex resources based on local requirements	Lower	Higher	Higher
Ability to be an honest broker and be impartial in the Local Area	Medium	Lower	Lower
Ability to incentivise performance at the local level	Lower	Higher	Higher
Ability to facilitate a co-production approach to service delivery	Lower	Higher	Higher

Commercial (procurement) model conclusions and recommendation

The analysis above identifies that the Hybrid delivery model combines the ability for stable impartiality and senior stakeholder involvement of the Internal model for the Pan-London Central Unit, with the flexibility and innovation to support performance for the Local Area Functions of the External delivery model.

The Hybrid delivery model combines the best aspects of the other two delivery models and should therefore be taken forward as the recommended approach to resourcing the Coordination PA.

Next steps

On the basis that the business case is approved, decisions will need to be made addressing the following areas.

Overarching areas for further consideration
Who will fill the individual roles?
What does the detailed target operating model look like?
How will the Governance of the Coordination PA be managed?
How will the actual funding transactions be undertaken?
How will staff be recruited? How will outsourced service providers be retained?

Pan-London areas for further consideration:
Where will the function be hosted?
What are the processes that exist within the Coordination PA?
What are the reporting requirements from the Coordination PA into the IHLG?
What data will be kept within the Coordination PA? How will confidentiality be respected?
Who is the contracting authority?
What is the detailed terms of reference of the Steering Group?
Who will sit on the Steering Group? How will membership be rotated?

Local Area areas for further consideration:
What data will be kept in the local areas?
What is the detailed term of reference of the Local Area Task Forces?
How will membership of the Local Area Task Forces be determined?

The Financial (Funding) Case

Summary – Financial (Funding) Case

- The Financial Case summarises the estimated costs of the Coordination PA and reviews potential funding options.
- The cost of Phase 1 of the Scalable model identified in the Strategic Case as the Coordination PA is estimated to be £1.4m p.a.
- A range of funding mechanisms was considered for both Phase 1 (first two years) and Phase 2 (full implementation) of the coordination entity. These ranged from contributory mechanisms, to bespoke solutions to reutilisation of existing mechanisms for contribution retrieval (such as Community Infrastructure Levy).
- TfL's Lane Rental Fund (LRF) has been identified as the preferred route to funding for Phase 1 as coordination aligns directly with the fund's objectives and drivers, TfL is an identified beneficiary of coordination and it is considered to provide the most viable approach in the time scales available.
- It is anticipated that further negotiation will be required with stakeholders to develop a robust funding strategy for Phase 2 based on the outcomes of the initial trial period. Suggestions for how to take this forward have been identified, with the primary activity being a deeper, sector-specific engagement with the various participating organisations.

The approach to the Financial Case

The Financial Case summarises the total direct and indirect estimated costs to set up and operate the Coordination Preferred Approach Pan L identified in the Strategic and Commercial Cases for the two years of Phase 1.

Potential funding approaches for Phases 1 and 2 are then reviewed with the two viable options identified for Phase 1 reviewed in more detail, including considering potential means of distributing costs between beneficiaries. This informs the identification of the preferred funding approach of 100% Lane Rental Funding.

The cost of the Coordination PA Phase 1

The costs of delivering the Coordination PA Phase 1 (delivery of services over the initial two-year period) comprise:

- Direct costs of providing the coordination staff; and
- Indirect costs incurred during participation by involved organisations.

Direct costs

Table 18 summarises the estimated direct operational costs for the Coordination PA Phase 1, identified in the Commercial Case as Hybrid delivery of the Scalable model, consisting of:

- 4 FTEs providing pan-London services in the Central Unit, resourced predominantly from the GLA; and

6 FTEs drawn from an outsourced provider to provide Area Specific services to the 3 Local Areas identified for Phase

Table 18. Direct cost of Coordination PA Phase 1

Function	Element	Annual cost	Total cost Phase 1
Pan-London Central Unit (4 FTE's)	Staff Costs	£450,000	£900,000
	Non Staff Costs	£60,000	£130,000
	Operational Costs	£150,000	£300,000
	Total	£670,000	£1,330,000
Area Specific (6 FTE's)	Staff Costs	£450,000	£900,000
	Non Staff Costs	£60,000	£130,000
	Operational Costs	£150,000	£300,000
	Total	£670,000	£1,330,000
Coordination PA	Overall Total	£1,440,000	£2,880,000

A more detailed breakdown of these costs and the underlying assumptions is provided in Appendix D, Table D.1.

Indirect costs

In addition to the direct costs of operation, indirect costs will be incurred by participating organisations throughout the setting up and operation of the coordination entity for Phase 1, including time required for participation and the internal impact of any required changes in ways of working to support coordination. Estimates of likely costs are summarised in Table 19.

Table 19. Indirect costs of Coordination PA Phase 1

	Cost type	Contributor	Cost p.a.	Total Phase 1
1	Stakeholder management (see Management Case)	GLA	3 months £65,000	£65,000
2	Set-up of the Coordination PA (see Management Case)	GLA	£150,000	£150,000
3	Cost of contribution in kind from participating organisations (see Economic Case, Appendix C, Table C.5)	11 Steering Group members, 8 Local Area Task Force members and 40 supporting technical community members from Utilities, Telcos, Developers, Boroughs and TfL	£500.0000	£1.000.000

More detail on these costs and the underlying assumptions is provided in Appendix D, Table D.2.

Assessment of viability of potential funding options

Following a review of funding sources, the following potential options for funding the direct costs of operating the Coordination PA were identified:

- TfL's Lane Rental Fund;
- Subscription model;
- Public Private Partnerships;
- Business Rate and Council Tax Supplement;
- Revolving Infrastructure Fund;
- Community Infrastructure Levy;
- New Homes Bonus;
- Business Rates Retention;
- Stamp Duty Land Tax; and
- A variety of regulatory innovation stimulus packages.

More detail on each identified option is provided in Appendix D.

Each option was assessed in terms of relative level of complexity, applicability and viability for Phase 1 and in the longer term for Phase 2, as summarised in Appendix D, Table D.4.

The assessment considered viability of each option in terms of the following factors:

- Is the establishment of the mechanism achievable in the timescales?
- Does coordination align with the strategic objectives of the fund and funding providers?
- Is the cost of administration of the fund affordable?
- Can the funding be recurring, sustainable and scalable in the long-term?
- If sourced from beneficiaries, is the structure of contributions considered fair and proportionate to the benefit?
- If sourced from beneficiaries, will the contributions impact on the viability of existing business operations or planned development projects?

For Phase 1, two viable funding avenues were identified from the assessment; TfL's Lane Rental Fund and a voluntary subscription model (from utilities and developers). The next section provides more detail on each of these options.

For Phase 2, additional funding mechanisms were identified as potentially viable, including the Community Infrastructure Levy, Public Private Partnerships, Revolving Infrastructure Funds, Business Rate Retention and Stamp Duty. Some merit further investigation for Phase 2 but are precluded from consideration for Phase 1 due to the time required for consultation and the requirement for each mechanism to be informed by evidence on impacts that will be obtained during the course of Phase 1.It is likely that Lane Rental funding would also be explored as an option for Phase 2.

Viable funding options for Phase 1

Lane Rental Fund

The TfL Lane Rental Scheme (TLRS) was introduced in June 2012 to reduce obstructions to the TfL Road Network (TLRN). To achieve this utilities, developers and other companies are charged a daily fee for any obstruction to affected highways (including cycle ways and carriageways). It applies to 56% of the TLRN, covering the most traffic-sensitive locations at the most traffic-sensitive times of day.

The funds raised by the scheme form the Lane Rental Fund (LRF) which is intended to fund innovative measures to reduce disruption, which fall in one of six identified bid categories and contribute to five identified drivers as outlined in Table 20.

Table 20. Lane Rental Fund bid categories and project drivers

Bid categories	Project drivers
• Innovative technology • Infrastructure improvements • Improvements to skills/capability • Innovative techniques/working practices • Extraordinary measures to reduce congestion • Improvements to asset data record collection/accessibility	• Reduce disruption from street works • Political and legislative • Reduce adverse effects cause by street works • Technical, contractual, system, equipment.

Applications for funding are considered by the Lane Rental Governance Committee (LRGC) on a quarterly basis with the next session timetabled for May 2018. If the application is successful, funds are made available to successful applicants in arrears.

Subscription model

Overview

The Strategic and Economic Cases identify utility companies and developers as groups who stand to benefit significantly from coordination. Assuming the benefits of coordination are accepted by beneficiaries, a form of 'subscription' could be introduced for these groups to contribute to funding for an element of the operation.

A clear and straightforward means of distributing the costs between subscribers in a manner that is perceived to be fair would be required for the subscription model to work well and be sustainable. The following sections summarise an initial analysis of potential approaches to subscription distribution to provide an understanding of the issues involved. Agreement on a final approach would require further stakeholder engagement and negotiation as detailed in the Finance and Funding workstream outlined in the Management Case.

Analysis of potential approaches for distributing subscriptions has been undertaken separately for utilities and developers at this stage, reflecting the fact that the interests of the two groups are likely to differ. For instance, developers benefitting directly from the services offered by the Coordination PA's Area Specific element would be more likely to fund activity directly related to their area of interest. Developer subscriptions could therefore scale in step with the expansion of growth opportunity areas requiring funding beyond Phase 1. On this basis, one potential approach would be for developer subscriptions to form an element of the Area Specific funding, with utility subscriptions forming an element of the pan-London funding.

Utilities subscription allocation

A number of options could be considered for dividing coordination costs between utilities including:

1. Dividing costs equally across major stakeholders;
2. Dividing costs based on benefits generated per stakeholder;
3. Dividing costs based on relative scale of organisational operation using a variety of data (e.g. customer and asset base, turnover etc.); or
4. A combination of (2) and (3).

Appendix D, Table D.5 summarises an assessment of these options, showing that distribution on the basis of the relative size of the utility operation emerges as the most viable option for Phase 1.

Organisational size can be considered in several ways. Appendix D, Table D.6 and Table D.7 summarise analysis of a range of variables with the potential to provide an understanding of the relative scale of the relevant key utilities, including:

- Kilometres of road network containing assets for each utility;
- Population served;
- Households served;
- Planned residential development served (over the next 10 years); and
- Turnover (London proportion).

The datasets show broadly consistent patterns with Thames Water, SGN, Cadent Gas, UK Power Networks and Openreach dominating in terms of the proportion of total operation they account for (85% to 95% in each measure considered). These organisations also operate in the growth opportunity areas highlighted for Phase 1.

Focussing on obtaining contributions from this subset of utilities therefore appears to be one viable approach for further consideration during engagement with the utilities, as it reflects the key beneficiaries whilst limiting the number of subscribers for simplicity.

Developer subscription allocation:

Similar options could be considered for dividing coordination costs between developers.

Appendix D, Table D.8 summarises one potential approach to distributing costs on the basis of relative levels of development activity. The assessment uses data obtained from the local authority planning portal and the precedent set by the Community Infrastructure Levy that contributions proportional to the square meterage of developments would reflect relative impact on infrastructure provision requirements.

The analysis suggests that sufficient levels of contributions could potentially be derived from the top three residential and commercial developers per growth area through this approach. It could therefore provide a viable option for further consideration during engagement with the developers, as it reflects the key beneficiaries whilst limiting the number of subscribers for simplicity.

Potential models for the distribution of coordination costs across contributors

Three potential models for distributing the direct costs of operating the Coordination PA for Phase 1 have been assessed and compared, derived from the two viable funding options identified above, as follows:

1. Solely Lane Rental Fund;
2. Solely Subscriptions; or
3. Combination of Lane Rental Fund and Subscription.

All three options assume that:

- The GLA will cover the indirect costs of the stakeholder management (as set out in the Management Case) and set-up costs as contributions in kind.
- All participants (utilities, boroughs, telcos and developers) will also contribute staff time in kind (the indirect costs outlined above) to support ongoing Coordination PA operation.

Solely Lane Rental Fund

TfL's Lane Rental fund offers several advantages as a funding avenue for the Coordination PA:

- Coordination aligns well with the objectives and requirements of the LRF. The services provided, and the anticipated outcomes, align closely with the drivers and bid categories of the fund (as set out in Appendix D, Table D.9 and Table D.10):
- Project Drivers:
    - Reduce disruption from street works;
    - Political and legislative;
    - Reduce adverse effects cause by street works; and
    - Technical, contractual, system, equipment.
- Bid categories:
    - Innovative Technology;
    - Infrastructure Improvements;
    - Improvements to skills/capability;
    - Innovative techniques/working practices;
    - Extraordinary measures to reduce congestion; and
    - Improvements to asset data record collection/accessibility.
- Prospective contributors (known as 'promoters' within TfL) are already familiar with the mechanism;
- TfL has been identified as one of the beneficiaries in the Economic Case;
- Coordination aligns with and complements other initiatives funded by LRF (Croydon Collaboration and the IMA);
- The Lane Rental charge is levied proportionately on all entities that undertake street works so this option offers a certain appropriateness and elegance;
- Provides the opportunity to obtain detailed evidence on which to base a contributory funding approach for Phase 2, beneficiary pays principle, and detailed business cases; and
- It could provide the opportunity for the Coordination PA entity to be accommodated within TfL premises which would have the additional benefit of assisting with collaboration with the Street works team.

The key potential disadvantage of this approach is that relying entirely on the LRF may raise some risk over the degree of participant commitment to the Coordination PA. This could be mitigated by both the IHLG and the Coordination PA Steering Group emphasising it as a priority.

Solely subscription model

The option of funding the Coordination PA solely through subscriptions from beneficiaries would bring benefits in terms of involvement and commitment from participants and sharing costs between beneficiaries.

However, it has met with some resistance during stakeholder engagement and agreeing and finalising subscribers' contributions to costs will involve a number of ongoing workstreams, as identified in the Finance and Funding workstream in the Management Case. These are likely to take some time to complete and could therefore delay delivery of the Coordination PA.

The main disadvantage of the approach at this stage identified by potential contributing organisations is that the outcomes for Phase 1 are largely unknown for individual potential subscribers. Whilst it is acknowledged that the overall Strategic and Economic Cases are compelling, the utilities and developers have expressed concern at any requirement to provide funding without clear evidence at this stage of the gains that they will accrue.

To unlock subscriptions, contributing organisations have highlighted that they are likely to require funding cases to be considered by their own in-house investment committees which will need to be supported by estimates of direct anticipated benefits for the organisation.

It is therefore proposed in the ongoing Finance and Funding workstream that follow-up work with each utility be undertaken in conjunction with the respective regulator to develop a more granular appraisal and proposed measurement of potential benefits. This could include modelling benefits through co-production at individual sites, for example, joint notification, waivered access charges, shared site facilities and traffic management, shared re-instatement and reduced delivery programme time.

Evidence of the impacts of coordination to inform later funding cases will be developed during Phase 1 through monitoring and measurement of interventions and their impacts.

The subscription approach also faces complexity from the fact that a number of questions have been identified around the implications of Phase 1 contributions from utilities in the regulatory environment. The key areas of concern include the ability for utilities to offset costs incurred, the conditions surrounding speculative investment, the scale of requirement for passing benefits derived by efficiencies back to the customer base and any consequential impact on future price setting negotiations. An assessment of regulatory implications therefore needs to be undertaken to clarify these issues as part of the Finance and Funding workstream identified within the Management Case.

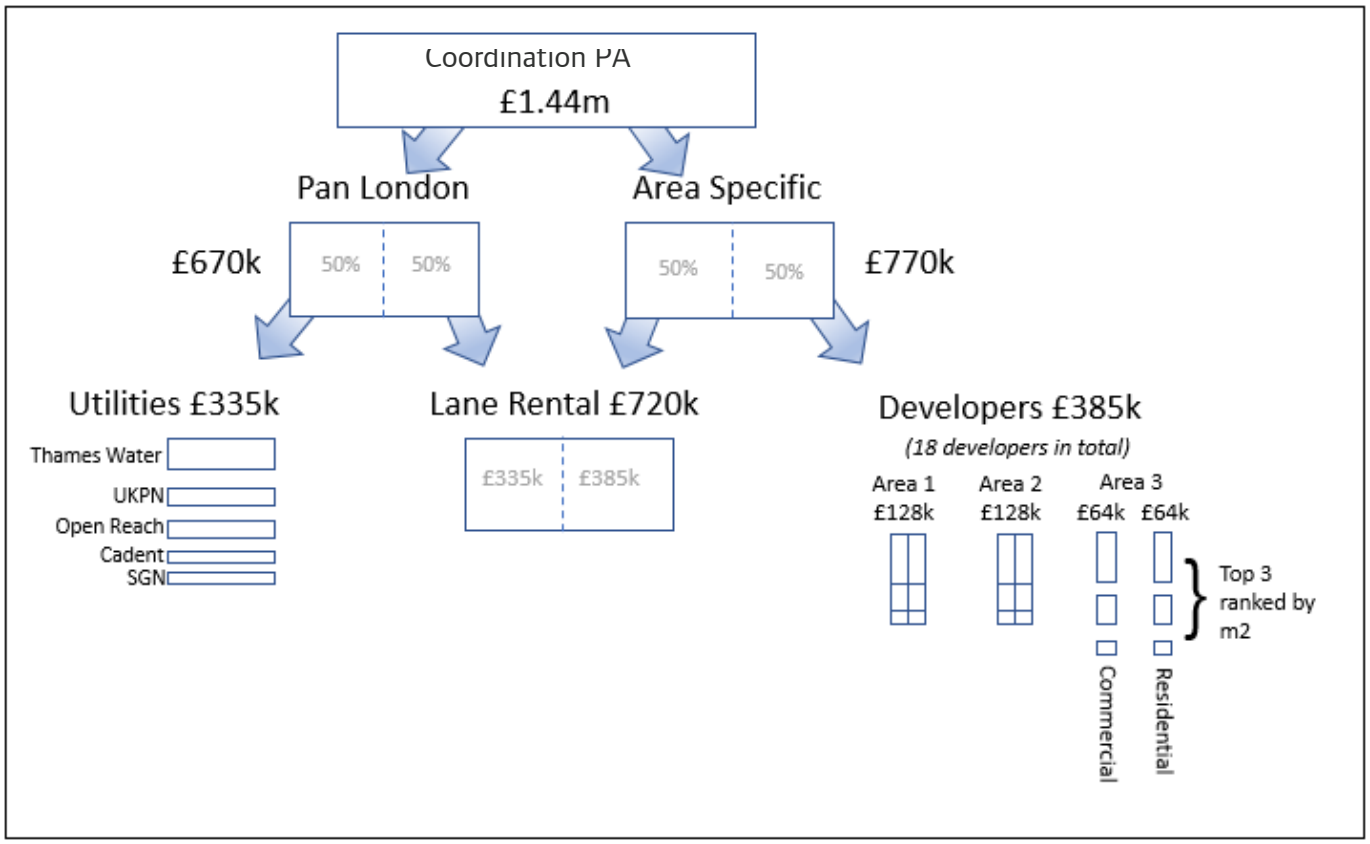
Utilities have the potential to explore the option of reimbursing their contributions via innovation stimulus packages available via their respective regulators. There is also the option of passing on a proportion of the cost to retail partners. These possibilities represent another issue for consideration in ongoing the Finance and Funding workstream.

Combination of Lane Rental Fund and subscription

Combining a LRF contribution with subscriptions from major utilities, telcos and developers could offer a balanced and sustainable approach to funding the Coordination PA given the anticipated benefits for all parties. It reduces the financial input required from each organisation whilst maintaining direct involvement and commitment from involved organisations.

For the purposes of illustration, Figure depicts the annual cost of the Coordination PA, broken down to its constituent elements, assuming a combination approach, with 50% of the pan-London and Area Specific funding for Phase 1 drawn from Lane Rental funding. The figure is scaled to be representative of the relative scale of each contributory organisation.

Figure 11 – Illustrative breakdown of Coordination PA costs



One potential disadvantage to both this approach and the subscription only model is that the utilities and telcos may feel that this is 'doubling' their overall investment given that the Lane Rental Fund is collected from street works that they have been required to undertake. However, it is likely that Lane Rental Scheme levies and subscription contributions would be allocated from different in-house budgets.

The combination approach would also involve the complexities and challenges of agreeing an acceptable approach to distributing subscriptions and the requirement for internal funding case approvals by organisation, as outlined above for the Solely Subscriptions approach above. Although the scale of these challenges may be reduced by the reduced scale of contribution required, it remains likely that resolving each of the areas of enquiry would be time consuming, potentially delaying delivery of the Coordination PA for Phase 1.

Preferred funding option for Phase 1

On the basis of the review set out above, TfL's LRF has been identified as the most suitable and viable mechanism for funding Phase 1 for the following reasons:

- The Coordination PA aligns directly with the LRF and its aims, particularly with respect to:
  - Incentivising behaviour change and minimising highway occupation; and
  - Encouraging innovation and collaboration.
- It is viable within the timescales required for Phase 1;
- TfL has been identified as one of the beneficiaries in the Economic Case;
- Coordination beneficiaries contribute to the LRF and will therefore see a return on their investment; and

- Coordination aligns with and complements other initiatives funded by LRF (Croydon Collaboration and the IMA).

It is therefore proposed that 100% of the operational costs of Phase 1 are funded from the LRF, with the business case, LRF application development, stakeholder engagement and setup costs funded by the GLA. It is likely that Lane Rental will also be explored as an avenue for funding future phases of the entity.

If this approach is sanctioned in principle by the IHLG, the requisite industry stakeholder representative would be sought to endorse the application. The application would be considered by the Lane Rental Governance Committee at a quarterly meeting, with the next session timetabled for May 2018. If the application is successful, funds would be made available in arrears.

The Management (Delivery) Case

Summary – Management Case

- The Management Case appraises the achievability of the Coordination PA, outlining the approach and plan for delivery and implementation of Phase 1, with indicators of what will be required for delivery of Phase 2.
- It sets out the steps to allow for implementation of a coordination organisation by January 2019, with governance and change management proposals detailed that should enable effective mobilisation of this new entity. This has been focused around using existing GLA guidance and structures, as well as utilising GLA staff whenever possible to deliver the supporting workstreams for implementation.
- The proposals for benefits realisation have been drawn from the Economic Case. It is expected that a more developed approach to benefits capture will be implemented during Phase 1 subject to implementation in the three Phase 1 Local Areas.
- A summary of key dates is included in Figure (the full programme is available in Appendix E).

Figure 12 - Summary of implementation programme

The context, scope and approach to the Management (delivery) Case

The Management Case appraises the 'achievability' of the Coordination Preferred Approach (PA) by outlining the proposed approach and plan for delivering and implementing Phase 1 (i.e. the first two years of operation). Furthermore, it describes the mechanisms that would allow the Coordination PA entity to build, measure and learn during the first year to successfully 'scale' for delivery of the longer-term objectives as a true pan-London proposition in Phase 2 and beyond.

Significant progress has been made on coordination at a conceptual level. However, in order to deliver, implement and realise the benefits of such an approach, appropriate project methodologies, structures and governance need to be established.

At the time of producing this document, there are no formal arrangements in place for delivery and implementation of the Coordination PA. The Management Case therefore sets out the actions required to ensure successful delivery of the Coordination PA in accordance with best practice.

Programme and project management methodology (PPM) and structure

Delivery and implementation of the Coordination PA will be established as a discrete and defined project. The project will be incubated by GLA, with project and specialist resources drawn from key stakeholder organisations and GLA as required.

Project management

The Project will be managed in accordance with PRINCE2 methodology and GLA's own:

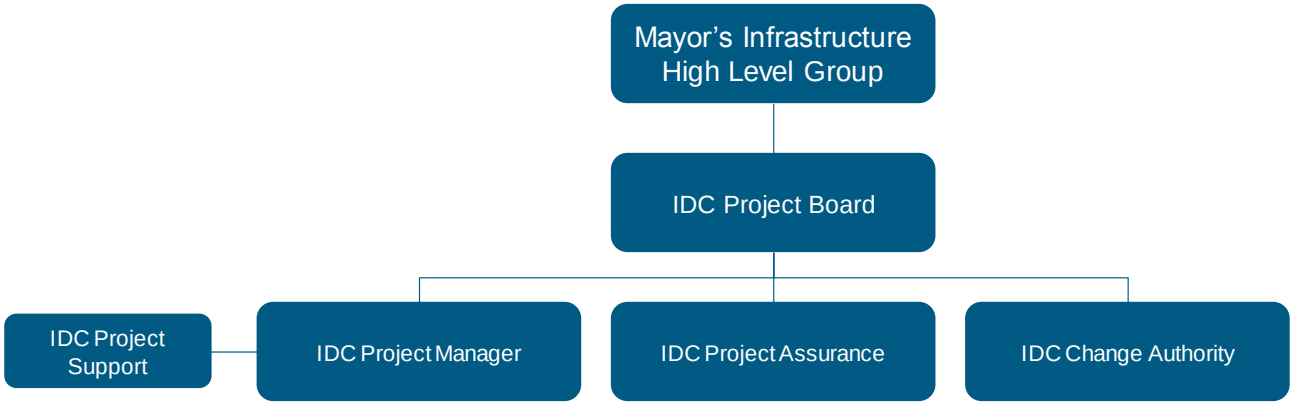
- Guidance, policy and procedures in place for all stages of the programme and project life cycle at the Corporate and Directorate level;
- Corporate Risk Management Framework;
- Corporate Financial Regulations and Contracts and Funding Code
- Project Management Governance model; and
- Project Controls System (PCS).

Project Board:

A Project Board will be established for the delivery and implementation of the Coordination PA, consisting of the Executive (Senior Responsible Owner) and representation from key stakeholder organisations; including both users of and suppliers to the Coordination PA (to be defined at initiation of the project), but likely to include members of the Infrastructure High Level Group.

The Project Board will be accountable to the Infrastructure High Level Group, as illustrated in Figure .

Figure 1 – Project Board context



Key roles and responsibilities

A number of key project roles and responsibilities will need to be established for the Coordination PA entity as summarised in Table 21.

Table 21. Roles and responsibilities

Role	Responsibilities
Executive (Senior Responsible Owner)	Overall accountable owner for delivery of the coordination entity. A key senior leader recognised as driving the business change required for coordination.
Project Manager	Day-to-day management of the project on behalf of the Project Board, as well as summarising reporting upwards to the IHLG.
Project Assurance	Independent monitoring of project performance on behalf of key coordination stakeholders.
Change Authority	Evaluates the impact any proposed changes to the scope of Coordination PA delivery on behalf of the Project Board.
Project Support	Supports the project manager in project management activities.

Project workstreams

The Coordination PA delivery and implementation project will be structured as a series of six workstreams, aligned to the key discrete capabilities and expertise required for delivery, as summarised in Figure . Workstream leads with access to the relevant capabilities will be assigned to each workstream and report to the Project Manager, with responsibility for defined deliverables and/or outcomes, as summarised in Table 22 below.

The complex nature of the project and stakeholder landscape means that there are inevitably overlaps and interdependencies between the workstreams. The workstream leads will work with the Project Manager to identify and manage the associated risks.

Figure 2 - Coordination PA workstream structure

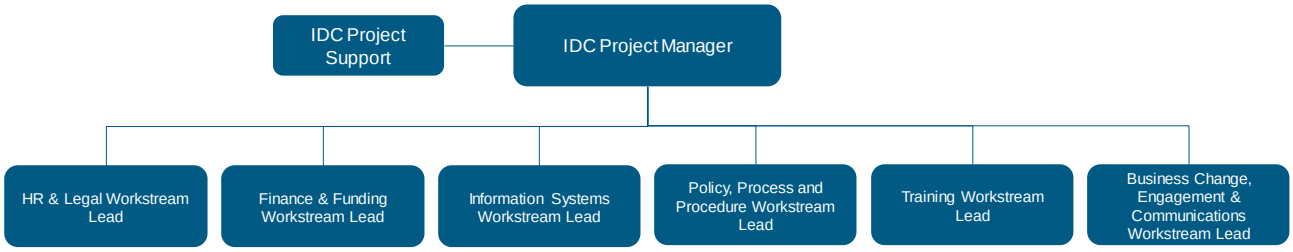


Table 22. Workstream leads

Workstream	Objectives	Deliverables/Outcomes
Finance and Funding	To develop the budget and funding model for Coordination PA.	Budget and financial contributions agreed with stakeholders
HR and Legal	To develop and recruit into all new roles created by Coordination PA, and establish collaborative agreements with stakeholders.	All Coordination PA posts filled with appropriately skilled and capable people Terms and conditions of Coordination PA operation agreed with stakeholders
Sourcing	To successfully source and procure to satisfy requirements of Coordination preferred option.	Procured assets delivered on time and to specification Contracts awarded on time and to specification
Hosting	To define and implement an appropriate 'hosting' solution for Coordination PA	Host organisation agreed for Coordination PA. Accommodation requirements for Coordination PA specified and delivered.
Change and Engagement	To deliver the detailed design and training for Coordination PA, and effective communication and engagement with stakeholders.	Defined and agreed service offering, policies, processes and procedures for Coordination PA. Benefits realisation plan and execution.
Delivery and Operation	To deliver Coordination PA Information Technology requirements, governance and operational structures.	Operational ICT solutions Agreed governance and operational structures in place. Record of lessons learned.

Programme and project management plan

The Project Manager will be responsible for developing the Project Initiation Document for approval by the Project Board, and developing and maintaining the detailed Coordination PA delivery and implementation project plan. This will include the key milestones set out in Table 23.

Table 23. Key milestones

Milestone	Date
Business Case Approval	April 2018
Coordination PA Phase 1 Launch	January 2019
Coordination PA Phase 2 Decision Point	May 2020
Coordination PA Phase 2 Launch	November 2020

An indicative project plan has been included in Appendix E, showing the key milestones, and work stream activities required to deliver and implement the Coordination PA.

Project resourcing

The initial resourcing assumptions for the delivery and implementation of the Coordination PA will be tested and refined as the detailed project plan is developed. To develop and deliver the project plan, the GLA will commit specialist project management resources during the implementation period.

Use of specialist resources

The workstream leads, working with the Project Manager, will be responsible for identifying and engaging specialist resources for input and/or technical assurance to the project board and key stakeholders. This may include the following specialisms (not an exhaustive list): financial, technical, procurement, legal, Human Resources, economics, organisational design, change management. Relevant resources may be sourced internally, from key stakeholder organisations or from the market depending on the resources and capabilities directly available to GLA.

Change and contract management arrangements

Change management

The scope (time, cost, quality) of the Coordination PA delivery and implementation project will be controlled in accordance with GLA's own relevant guidance, policies and procedures. Any requested changes to scope will be evaluated by the Change Authority against the cost, time and quality requirements of the project and approved with appropriate authority.

The business change, engagement and communications activities will be managed as part of the 'Change and Engagement' project workstream.

Contract management

The Coordination PA delivery and implementation project will follow the guidance set out in GLA's Corporate Financial Regulations and Contracts and Funding Code.

Benefits realisation

The 'Change and Engagement' workstream will produce a benefits realisation plan that clearly identifies owners for each benefit identified in the business case and how they will be realised. The plan will be enacted following implementation of the Coordination PA.

It is expected the exact benefits (by organisation) would be agreed at project outset. These would be drawn from the primary criteria established in the Economic Case (notably those that affect citizens and 'customers' of the GLA directly), as well as those that are directly applicable to the organisations and stakeholders supporting and interacting with the Coordination PA entity.

Monitoring and capturing benefits during Phase 1 (first year of operation) will be crucial to evaluating and gaining support for full scale pan-London implementation of the Coordination PA in Phase 2.

Overarching benefits (economic) of coordination may include:

- Decrease in travel time delay and disruption caused by street works and roadworks;
- An overall decrease in cost of roadworks and utility works across all providers;
- Decrease in pollution and side effects of uncoordinated utility works;
- Decreased costs in terms of materials used and waste disposal; and
- Improved quality of service from utilities and infrastructure service providers.

Organisational benefits of coordination may include:

- Cost savings between planned works (relative to pre-Coordination PA) and implemented works (relative to post-Coordination PA);
- Any second order benefits identified in the economic case (opportunities for shared working or infrastructure);
- Developer or infrastructure cost savings through aspects such as shared procurement, improved forward-planning and forecasting (reducing the opportunity cost of development);
- Reduced rework, retrofitting and duplication (minimising abortive work);
- Improved relationships with regulatory bodies, and as a result of this a decrease in fines and levies associated with inefficient working; and
- Improved customer satisfaction scores.

An in-depth assessment of possible monetisable benefits has been included in the Economic Case. Due to the pioneering nature of the Coordination PA function, and the need to develop sector-specific funding cases for the individual contributory organisations, the specific terms of benefit realisation will need to be quantified during this stage of the project.

It is recommended that this section be considered in context of the broader Economic Case.

Risk management

Risks will be identified and managed in accordance with GLA's Corporate Risk Management Framework. The Project Manager will be responsible for maintaining the project risk register and reporting to the Project Board. Risks will be assessed for impact and likelihood, and mitigations put in place as appropriate. Each risk will have a clearly identified owner responsible for managing the risk and its mitigations.

The key risks for the delivery and implementation of the Coordination PA are shown in Table 24.

Table 24. Coordination PA delivery and implementation risks

Risk	Impact	Likelihood	Mitigation
Funding of the Coordination PA is not agreed or is withdrawn.	High	Low	A funding agreement will be developed following business case sign-off and stipulate commitment to funding for phase 1 with a review point at end of Year 2.
Resources with required skills and capabilities cannot be sourced.	High	Low-Medium	Secondment, recruitment and interim/contractor routes will be explored.
Procurement activities cannot be delivered to required timescales	High	Medium	Early engagement of procurement team to define requirements and agree timetable.
Projected benefits of Coordination PA are not realised in full	Medium-High	Medium	Benefits realisation plan will clearly define the method, measures and owners for realising each benefit. The project manager will be responsible for managing, monitoring and updating the plan with input from benefit owners.
Insufficient capacity/capability to manage the business change required for Coordination PA	High	Medium-High	Assessment and gap analysis of change capabilities to be conducted prior to project initiation, and any key requirements to be sourced as required.
Operational staff affected by Coordination PA do not adopt required changes to working practices.	Medium-High	Medium	Engagement plan and training needs analysis to be developed to ensure that operational staff buy-in to Coordination PA changes and have required capabilities to enact new ways of working.
Lack of senior buy-in to Coordination PA	High	Low-Medium	"Stakeholder engagement and comms plan to be developed at initiation. Ongoing engagement with key stakeholders to establish buy-in is crucial to the success of the organisation.
Mayoral priorities change	High	Low	Coordination PA Project Board to be established (accountable to IHLG) with key stakeholder representation, clear terms of reference and SRO appointed."

Monitoring during implementation

The delivery and implementation of Coordination PA will be monitored in accordance with GLA's relevant guidance, policies and procedures and via the Project Controls System.

The Project Manager will be responsible for monitoring progress, risks and issues, and providing regular progress reports to the Project Board, including any exception reports.

Post implementation evaluation arrangements

The 'Change and Engagement' workstream will be responsible for ensuring that lessons learned are captured throughout the lifecycle of the project.

Post-implementation reviews will be conducted one month, six months and one year after go-live. The lessons learned and post-implementation reviews will inform the decision to proceed to Phase 2.

It is anticipated that these exercises during Phase 1 may have moderate to significant impact on the structure and goals of the entity and may require a subsequent change management process to be implemented prior to Phase 2. This would be discussed at Steering Group level, and any further process defined within the operational organisation itself prior to implementation.

Contingency arrangements

In the event that the Coordination PA approach is not delivered and implemented, or is terminated during operation for any reason, the current status quo arrangements will be re-established.

Appendix A - Strategic Case (Case Studies)

Case Study 1: Royal Docks

The Royal Docks and Beckton Riverside area was designated an opportunity area in the current London Plan (2010). A working draft Opportunity Area Planning Framework was published in March 2016, and will be updated following publication of the new London Plan (2018 / 19). The draft identifies capacity for 25,500 homes and 60,000 new jobs.

Royal Docks is an example of an existing coordination effort, in which utilities supply constraints have led to productive 'lessons learnt' with regards to governance, funding and regulatory issues.

In 2017 The Mayor of London and Mayor of Newham established a joint Royal Docks Delivery Team to guide development, attract investment and drive a programme of investment to ensure the potential of the Royal Docks and Enterprise Zone is fully realised. From a governance perspective, the Royal Docks team is overseen by the Royal Docks EZ Programme Board, made up of senior GLA, Newham & LEAP members & officers

The area is characterised by large areas of brownfield land, bisected by sizeable waterways. Prior to investment in the DLR and waterway crossings, the site was characterised by very limited pedestrian permeability. Investments in new infrastructure have improved accessibility to key sites, but further investment is needed. The site will benefit from planned major infrastructure projects (Crossrail, and new crossings over the Thames including the Silvertown Tunnel), enabling several planned major developments.

Insufficient electricity capacity for the proposed level of development has been identified by UK Power Networks (UKPN) and as a result the network will need reinforcement to meet this demand. A further study is to be completed to identify any further capacity constraints for other utilities.

Energy supply constraints have led to a request from the DNO (UKPN) for individual developers to make significant contributions to reinforcement investments, including a new primary substation. These requests have in many cases been disproportionately large in scale relative to the developer's investments, due to the nature of regulations governing DNO's connections charges (Second Comer Regime).

Developers have also been asked to accommodate new infrastructure on their own sites, taking up significant development areas. This uncoordinated approach to utilities investment is common across large Opportunity Area development sites. The Royal Docks provides helpful examples of potential coordination services, in that the GLA and Newham are working in partnership with providers to identify coordinated solutions to utilities supply constraints. The site also provides important examples of where barriers to coordination exist.

The capacity of the electricity network has not yet delayed delivery. However, it is causing concern among the developers within the area. This in turn is leading to concern that investment decisions may have to be delayed until the capacity is guaranteed. The lead in time for the interventions required is measured in years, and delays therefore would have a significant impact on timing of delivery.

As the GLA has a vested interest in the area, due to the group's land holdings, it has taken an active role in addressing the concerns brought to us by our development partners. In the absence of this specific interest, developers would be left to address the situation alongside the borough without a specific resource available to broker coordination between the various providers or developers.

Discussions started with the DNO indicating that there was no further capacity within the area available. However, through the intervention of the GLA and provision of additional development information, an additional capacity of circa 59 MVA has been identified and the requirement for investment delayed (but not removed).

This highlights how a co-ordinated approach to engaging with utility providers is likely to be more fruitful than those undertaken by individual developers. This approach would ideally also allow utility providers to have more confidence in making allowances for strategic investments within their business plans. In turn, if included in the discussion and process, the regulators should have more confidence in signing off these planned expenditures ahead of the demand materialising. The benefits of having a dedicated resource to coordinate and facilitate infrastructure delivery is therefore vital to ensuring that matters such as those identified do not halt development.

The Royal Docks team undertakes several coordination roles. Specifically relating to electricity, the following activities have been undertaken by the development team of the GLA, with assistance from external consultants):

- Detailed phasing and mapping of demand in the local area;
- Working with internal GLA experts, Ofgem & UKPN to address the issue;
- Liaising with local developers to gather programme data and provide progress updates on potential identified solutions;
- Seeking out funding to intervene (via Royal Docks & HIF) with potential capital investment in infrastructure; and
- Consideration of potential mechanisms to recoup investments if made.

The business case for intervention in the Royals electricity infrastructure has not yet been carried out and therefore investment has been minimal to date.

The following activities are likely to take place in the future:

- Coordination of local developers and request for capital contributions;
- Delivery of infrastructure required to support development; and
- Ongoing monitoring of development rates.

From an internal GLA resourcing perspective this approach has required significant officer time, operating in an area outside their direct expertise. This is arguably not efficient and increases project risks. A dedicated coordination function, deployed over time across London, would allow for more efficient use of resources and for the deployment of specialist expertise.

Case Study 2: Tower Hamlets

The Isle of Dogs and South Poplar area was designated an opportunity area in the current London Plan (2010).

The Mayor of London, and Transport for London are working together to prepare an Opportunity Area Planning Framework (OAPF) for the Isle of Dogs & South Poplar in consultation with Tower Hamlets Council. Unique amongst London's OAs, the Isle of Dogs and South Poplar is currently experiencing intense development pressure, mainly because of new, very high-density housing. The Isle of Dogs has the potential to grow and deliver many of the homes and jobs that London needs, but unlike some other opportunity areas, it also has established residential and commercial communities, and the views of these communities on growth are important.

Because the Isle of Dogs and South Poplar OA is unique, in that existing residential and commercial land use is intensive across much of the area, it is an important example of where the complexity of existing infrastructure and development lead to major coordination challenges. The area is also an important example of how cumulative investment in infrastructure and development can lead to significant requirements for infrastructure

There are multiple important considerations about land on the Isle of Dogs:

- The island is almost entirely in private ownership. Outside of the highway network and parks, there is very little publicly owned land. On the Canary Wharf Estate, the highway is not in public ownership. This means that the development timetable is completely out of public hands. Some sites, include high value river front locations, have been caught in commercial disputes which have likely delayed delivery of development and associated infrastructure for many years.
- Land is also expensive, driven by high sales values. This limits the public sector's ability to invest in land or seek to take control of land for infrastructure delivery. Planning processes, such as site allocations and CIL In-Kind delivery are utilised by the Local Authority to capture and fund infrastructure delivery on development sites where possible. On the Isle of Dogs there are site allocations for eight primary schools, two secondary schools, and multiple other social and green infrastructure requirements. There are, however, no site allocation requirements for strategic physical infrastructure, such as area wide energy centres, utilities exchanges or hubs, waste packing and transfer hubs.
- Thirdly, land is constrained, with high development targets for the island, defined as super density in some locations. The impact here is to exacerbate the issues set out above. High density development requires more infrastructure within the same land space. This provides not just an

increased scale of need, but entire new challenges. For example, to deal with waste, the Local Authority cannot increase numbers of refuse collection vehicles. This is because the road network capability is limited, and access in this constrained environment is therefore restricted. Local solutions, both within tower blocks and in the local neighbourhoods, such as waste packing hubs, are necessary. This places more burden on the land to accommodate uses.

Significant constraints to utilities capacity also exist. There is concern about the capability of the utilities networks on the Isle of Dogs to accommodate the super density levels of growth proposed. This new development is additional to 30,000 existing residents and needs to be added to a historic existing network. While it is unclear if it is caused by new development, there are currently water pressure issues on the Isle of Dogs. Public fears are growing that this is a sign of things to come. Residential broadband availability and speeds on the island are poor, which is remarkable given the proximity of a major financial centre. Additional utilities infrastructure is not just constrained by the pipes / cabling available, it is also impacted by the land constraints identified above. Land availability for exchanges, hubs, sub stations, etc. is limited and not currently secured through policy requirements.

Current development activity is high on the Isle of Dogs, with permission for circa 19,000 units already granted in the OAPF area. Emerging proposals will raise this to a likely total of at least 31,000 units, with enough commercial space to host 110,000 jobs also planned. Public realm is also old and designed to accommodate much lower density living, requiring further investment in new assets. Most of this development activity is happening around and south of the Canary Wharf Estate. This new development is further constrained because of restrictions to the road network, and access to the island. Practically, co-ordinating delivery in this environment is difficult, especially considering the existing 30,000 residents on the island.

The Council is working hard to co-ordinate delivery using Constructions Logistics approaches and arranging construction and developer forums and developing a Construction Charter. This is a positive step, but is focused on the practical delivery of infrastructure and development. A further layer of action is needed at the strategic level, which could be assisted by a GLA-led coordination function.

Funding for the OA is constrained, and gaps exist in funding for projects currently in the pipeline. The Isle of Dogs is fortunate to benefit from high CIL rates for residential development. This means that early indications suggest that CIL (and residual S106 funding) may be able to fund 30-40% of the local infrastructure needs. Nonetheless, once other core funding is considered there is still likely to be a funding deficit of at least £100m, but more likely considerably higher. Additionally, initial planning indicates that there is likely to be a significant cash flow issue for the provision of infrastructure. Major interventions are required early on in the development of the area; however, the capital investment will be released over the course of the development process. As a result, the area will need to consider forward funding solutions. The draft OAPF and DIF study, to be published soon, will clarify the extent and nature of these funding issues, as well as possible solutions.

At present, governance is achieved through standard Council processes, using the Mayor in Cabinet, or appropriate Council Committee for decision making as necessary. There is no specific governance body for the delivery of development on the Isle of Dogs. There are governance procedures in place for elsewhere in the borough, such as Whitechapel and the Poplar Riverside Housing Zone, involving senior management, Councillors and external partners.

It is clear that a Delivery Strategy and Plan for the Isle of Dogs OAPF area is necessary to support the establishment of delivery governance and structures. This is urgent in nature given the volume of development with permission and under construction.

Development on the scale of over 30,000 new homes and 110,000 new jobs presents major delivery challenges. Outside of London, this level of growth would see joint delivery bodies utilising LEPs or other regional partnerships. In London, this scale of development often sees the appointment of a Development Corporation or a partnership. These approaches allocate significant collective resources, knowledge and experience to tackling delivery challenges. In the case of the Isle of Dogs, this wider support network is not in place and currently the Local Authority is the only delivery body. Given the scale of development and the speed of infrastructure and place-making delivery necessary, a coordinated approach is required to collectively provide the resources to deliver.

Case Study 3: Thames Connect / Croydon

This Atkins-led initiative working with Thames Water investigated collaborative planning and delivery opportunities through better sharing of information and data. Phase 1 of this project, confined to an area of North East London, ran a series of build measure learn experiments to develop a GIS webmap Minimum Viable Product. The product features complete life cycle data for multiple programmes, from investment need through to design, planning, construction to delivery. This identified areas where multiple programme needs could be addressed by a series of individual schemes. Supply chain overheads were significantly reduced with potential for savings of more than £2m in the first phase.

Thames Water funded Phase 2 to trial collaboration with other utilities and local boroughs. The London Borough of Croydon was identified as an area of focus. A decision-making task force was established to address internal governance issues and commercial agreements. This team linked up different disciplines across the utilities to create an environment conducive to collaboration, and coordination. The aim is for this approach to equip teams to make better investment decisions and proactively identify collaboration opportunities.

This live GIS webmap was funded by Thames Water, and as of January 2018 Thames Water have agreed to fund phase 3 to roll out to other regions. Not only is there reduced disruption to the public, but cost efficiencies enable utilities to invest in more extensive asset upgrade programmes, providing better services for their customers.

A post investment appraisal conducted by Thames Water's commercial team concluded that the project achieved £7.7m in efficiencies, impacting programmes covering 128km of London's road network and a reduction of 3900 days of street works, as well as programme risk reduction, reputational enhancement and overhead reduction.

Case Study 4: Staffordshire Connected Roadworks

The Staffordshire Connected Roadworks project[24] was a £0.65M Innovate UK-funded project aiming to expand implementation of joint street works in Streethay and other areas of Stafford over an 18 month period. The project involved combining maintenance programmes from Staffordshire Highways, utility providers and telecommunications companies. The project aimed to reduce the total

[24] Future Cities Catapult., 2017. *Staffordshire Connected Roadworks*. Future Cities Catapult [ONLINE]. Available at: http://futurecities.catapult.org.uk/resource/staffordshire-connected-roadworks-report/. Accessed: 09/04/2018.

cost of the highways network, reducing the impact on the environment and local economy, and minimising disruptions and inconvenience to residents.

The project achieved this by:

- Developing an interactive mapping tool, and a central data hub;
- Promoting collaboration between utilities and the local authority;
- Identifying joint street works opportunities, and regulatory barriers to their adoption; and
- Making the evidence-based business case for joint street work.

Staffordshire Highway Authority has been delivering joint roadworks schemes for many years. The Staffordshire Network Hub track the number of days of roadworks avoided by better planning and joint working. There were 35 projects recorded in 2015/16, of which 31 involved joint works. Joint occupation projects resulted in an estimated 366 fewer days of roadworks throughout the year, with six of these projects leading to over 20 days of roadworks saved each.

In addition, Future Cities Catapult cite a number of specific joint street works projects, each of which demonstrate significant value when compared to the status quo.

A scheme to install 3.7km of gas main and resurface 3km of the carriageway on the A449 Wolverhampton Road in Stafford was undertaken collaboratively. This resulted in a 25 weeks individual works estimated duration reduced to a 12 weeks combined duration, resulting in estimated delivered economic benefits of £1.372m, the majority of which were time savings to road users, with additional non monetizable benefits in the political and social benefit areas.

Case Study 5: Borough High Street

The London Bridge, Borough and Bankside area was identified as an Opportunity Area (OA) in the current London Plan (March, 2010). In The Plan, the OA was identified as possessing significant employment capacity (c.25,000), as well as moderate housing capacity (c.1,900). To support major planned investment in the area, including the London Bridge Station and Shard developments, utility providers planned to undertake a major renewals and replacement works starting in 2009.

A substantial proportion of the utilities assets were planned to make use of road space on Borough High Street. Borough High Street is an A-road (A3) spanning from the North to South of the Opportunity Area. The road acts as a surface transport route between Elephant and Castle and London Bridge, supporting large volumes of pedestrian and vehicle traffic. It also acts as a key utilities corridor between the strategic network to the South of the River, and new developments within the Opportunity Area. To limit costly disruption to the A3, it was identified that joint street works were required.

Utility companies voluntarily collaborated, appointing one joint road work contractor to undertake work over a planned nine-month period. The scope of works was wide ranging, including:

- 1,250m Victorian water mains renewal as part of Thames Water's leakage reduction programme;
- 1,670m of gas mains replacement by Southern Gas;
- 200m of new 8-way cable power ducts to the Shard; and
- Utility diversions works by Network Rail as part of London Bridge remodelling.

According to a Streetworks (formerly NJUG) report[25], the joint road works approach resulted in major savings to the public and to utilities providers. During the planned works, TfL completed 16 separate highway maintenance jobs within the boundary of the joint works, and BT also carried out some repair works. As reported by TfL, this voluntary collaboration led to a saving of 384 days of road occupation, where 669 would have been needed had all works been carried out separately and independently. This represents a 57% reduction in social costs incurred. In addition, the utility companies themselves benefited from lower highway management and planning costs, saving 20-50%.

Case Study 6: The Nine Elms Partnership

The Vauxhall Nine Elms Battersea (VNEB) area is identified as an Opportunity Area (OA) in the current London Plan (2010). The OA comprises 195 hectares of land on the South Bank of the River Thames. It encompasses Albert Embankment, Vauxhall Cross, Nine Elms including New Covent Garden Market and Battersea Power Station. Its western boundary is largely formed by Queenstown Road and Silverthorne Road.

Development and infrastructure investment in VNEB is large in scale, and is delivered in a complex setting. In the 2012 Opportunity Area Planning Framework, capacity for c.16,000 homes, and 20,000 – 25,000 new jobs were identified. The northern part of the OA is located in the London Borough of Lambeth, with the Southern part located in the London Borough of Wandsworth. The borough boundary bisects the OA to the west of Vauxhall Cross, creating complex governance challenges.

Prior to investment, the site was primarily made up of large areas of brownfield land, and possessed very limited pedestrian access and public transport provision. It was therefore identified that the extension of the Northern Line (announced in 2010), from Kennington to Battersea Power station, as well as transport interchange facilities at Vauxhall, were required. The announcement of the scheme accelerated development activity in the area. The Thames Tideway Tunnel project, also underway in the vicinity, makes use of the riverbank near to Battersea Power Station for tunnelling and logistics transfer. Combined, these major works add further complexity to the delivery of the OA.

In recognition of the huge scale and complexity of planned development and infrastructure at VNEB, the boroughs, TfL and the GLA identified a need for a local 'partnership' to support coordination of providers works, and associated activities. The Nine Elms Partnership, a joint initiative between Lambeth and Wandsworth Councils, was therefore established in 2010.

Coordination efforts undertaken at VNEB have ensured that delivery of works for infrastructure projects have been achieved within a compressed timeline, particularly following commencement of works on the Northern Line Extension, which concluded in December 2017. In particular, the use of a construction logistics plan, and a Construction Charter, are said to have positively impacted on social and commercial objectives. For example, Wandsworth Council reported fewer breaches of air pollution limits around the Nine Elms area in 2017 than in 2016, which may relate to construction logistics improvements.

[25] NJUG., 2010. *NJUG Case Study 51: Borough High Street Blueprint*. NJUG [ONLINE]. Available at: http://streetworks.org.uk/wp-content/uploads/2016/11/51_-_Borough_High_Street_Blueprint.pdf . Accessed: 09/04/2018.

In general, further evaluation of the OA closer to completion of works is required to fully understand the impacts of existing coordination efforts at VNEB. However, stakeholders operating in the area feel positive about the work of The Partnership and TfL.

Partly due to the size and complexity of the VNEB development, but also because of the pace of development and relative paucity of pre-existing governance arrangements, coordination failures have occurred throughout the lifecycle of development. Most notably, the October 2010 Development Infrastructure Funding Study, identified significant constraints on electricity supply, and drainage capacity. There is common agreement that due to a lack of a pre-existing master-planning function, these constraints were not considered sufficiently in the individual plans of infrastructure and development providers, and providers did not coordinate to agree a common solution to the constraints, for example, allocating land for a new substation.

Discussions regarding electricity reinforcement are ongoing. Failure to deliver reinforcement has led to construction delays (including the Battersea Power Station development), and commercial implications for developers and others. The failure of those responsible for delivering infrastructure and development to invest ahead of need in utilities infrastructure has also necessitated costly retrofitting of electricity and drainage infrastructure.

Case Study 7: Sydney Coordination Office[26]

Sydney, like London, faces a significant pipeline of infrastructure and development construction activity, a result of population growth (approx. 2.1 million additional people over next 20 years). As such, a number of major metro rail, and road schemes are planned or underway, alongside residential and commercial development creating significant coordination and delivery challenges. In response to this, the NSW Government established the Sydney Coordination Office to manage disruption around major transport projects. across the Sydney Metropolitan Area.

Initially set up to manage disruption and operations during the construction of an inner-city light rail project, the office has now expanded to the wider Metropolitan Area. The Sydney Coordination Office performs a number of functions:

- Operational planning - traffic management and contingency planning:
    - Oversight of approvals for traffic management plans, road occupancy licences for construction, and the allocation of areas and times for parking, loading zones, and taxi ranks;
    - Planning for freight deliveries and servicing including engagement with freight and delivery operators to change behaviour;
    - Coordinating responses to traffic incidents across multiple government agencies; and
    - Coordination of major events affecting the road network.
- Providing the public with information on disruption, including communication of traffic and transport changes and business and community support.
- Strategic and land use planning:
    - Assessment of Development Applications in collaboration with local government, including applying conditions for approval of developments (to mitigate disruption impacts);
    - Management of land use and infrastructure construction interface; and
    - Liaising with utilities and other infrastructure providers on coordinating street works.

[26] Information provided by Sydney Coordination Office, correspondence between GLA and Sydney Coordination Office, NSW Government, Sydney, Australia April 2018

- Travel Demand Management, including ensuring provision of additional transport services.

The team is split into several teams which focus on the functions outlined above covering Planning and Freight, Operations, Operational Communications, Stakeholder Engagement, Media and Transport Management.

Benefits:

- One point of contact across the transport cluster for all major project interfaces;
- reduction in number of inbound CBD AM peak vehicle entries;
- increase in public transport trips to the CBD;
- Engagement of over 650 businesses; and
- Trial of courier hub in Sydney CBD to reduce deliveries in key works area. Operating at full capacity, this courier hub has potential to help ease congestion by saving 26,000 kilometres travelled by van in the CBD and reducing loading zone usage by around 4,600 hours per year.

Case Study 8: Procurement for Improved Coordination

To identify opportunities arising from improved procurement practice (including alliance contracting), the GLA has consulted with the department for Business, Energy and Industrial Strategy, and Professor David Mosey who leads the Centre of Construction Law (King's College London). The case studies arising from our discussions with these stakeholders indicate that significant value could be generated through a collaborative approach to procurement. This approach could be facilitated and promoted by a GLA-led coordination function.

The views expressed below are the property of Professor David Mosey (2018):

The Kings College Centre of Construction Law has been directly involved in monitoring seven detailed Trial Project Case Studies for the IPA/Constructing Excellence (four of which were led by local government clients), and in monitoring the Futures Housing Group framework alliance trial. Further details of each project are available online, as indicated below.

In each case the improved project results owed much to the underlying strategic procurement model. This model required clients and other team members to develop a deeper understanding of value beyond lowest price. In all cases they did this by procuring early conditional contractor appointments that created a team committed to testing costs, programmes, supply chain contributions and risk assumptions before authorising any work on site. The strategic procurement models used on the seven Trial Projects formed the basis for developing the FAC-1 standard form as referred to in section 4 below.

1. All the following Trial Project case studies provided measured and audited results, demonstrating what can be achieved through improved procurement practices supported by a strategic framework alliance or term alliance. They use early contractor involvement, collaborative working, BIM and supply chain collaboration through alliance contracting to deliver the following results:

1.1 L.B. Hackney and L.B. Haringey: a two client, multi-contractor alliance for a housing programme that achieved 16% procurement savings, 14% additional agreed savings, extensive engagement of local businesses, faster mobilisation, joint risk management, extended warranties, collaboration among competing tier 1 contractors and a joint local apprenticeships and training programme:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/325951/SCMG_Trial_Projects_Case_Study__CE_format__130614.pdf

1.2 Surrey: a highways alliance on a programme that achieved whole life value through combining capital and operational works, including 16% procurement savings, 15 % additional agreed savings plus local business opportunities, extended warranties, apprenticeships, sustainability initiatives and improved resident satisfaction: http://constructingexcellence.org.uk/wp-content/uploads/2015/12/Trial-Projects-Horizon-Case-Study-Second-Year-Update_Final.pdf

1.3 Liverpool: a schools alliance achieving 20% agreed savings, local business opportunities and local employment initiatives
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/325945/Archbishop_Beck_Trial_Project_Case_Study__CE_Format__120614.pdf

1.4 Hampshire (with other local authorities): a multi-client, multi-contractor schools alliance achieving 7% savings plus innovative designs using BIM
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/325955/Property_Services_Cluster_-_Case_Study__CE_format__120614.pdf

1.5/6 MoJ: custodial facilities on two projects through a multi-party alliance that achieved 20% and 26% agreed savings plus innovative and sustainable designs using BIM, joint risk management, engagement with local businesses and exceptional levels of local employment and training
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/325950/Cookham_Wood_case_study__CE_format__130614.pdf
http://constructingexcellence.org.uk/wp-content/uploads/2015/12/Trial-Projects-North-Wales-Prison-Case-Study_Final.pdf

1.7 M25 Connect Plus: a PFI roads supply chain alliance achieving 8% agreed savings plus innovative design solutions and a contractor led collaborative culture
http://constructingexcellence.org.uk/wp-content/uploads/2015/12/Trial-Projects-Connect-Plus-Case-Study_Final.pdf

1.8 Futures Housing Group: a housing alliance of 5 clients and 23 SME contractors achieving 9% agreed savings plus local business opportunities, training and support for improved cashflow
www.allianceforms.co.uk (research and consultation).

2. The clients at sections 1.1 and 1.5 recorded measurable savings in client/industry procurement costs as result of adopting a collaborative strategic approach. None of the case studies referred to in section 2 recorded concerns as to the costs of strategic procurement.

   Each of the case study projects were substantially led by the public sector client supported by an integrated team with some support from a mentor or facilitator.

3. Professor David Mosey's team produced the following Government guidance drawn from those case studies and explaining the benefits of improved procurement practices that include early contractor involvement, collaborative working, BIM and supply chain collaboration through alliance contracting:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/325014/Two_Stage_Open_Book_Guidance.pdf

4. Professor David Mosey has compiled 26 additional case studies available on-line (of which 12 were led by local government clients, detailed below) explaining the benefits of improved procurement practices that include alliance contracting: http://ppc2000.wiserhosting.com/wp-content/uploads/2016/12/10-Year-Anniversary-PPC-and-5-Year-TPC.pdf
    1. L.B. Greenwich, housing
    2. Welwyn Hatfield, housing
    3. City of London, two schools and an office development
    4. "
    5. "
    6. L.B. Harrow, schools
    7. L.B. Hackney, housing
    8. Surrey, roads
    9. Sheffield, all public buildings
    10. Brighton & Hove, schools
    11. Bath & N.E. Somerset, residential care homes
    12. HCA National Change Agent Programme, housing.

    These case studies describe economic and social value that can be achieved through improved procurement practices that include collaborative contracting supported by a strategic framework alliance or term alliance. They each used early contractor involvement, collaborative working, BIM and supply chain collaboration through alliance contracting.

5. It is important to look at improved procurement and alliance contracting as a range of integrated strategic initiatives that are designed to create improved economic and social value and that embrace:
    - Integration of teams through multi-party contracts
    - The planning of pipelines of work for one or more clients in which the supply chain can invest
    - Collaborative joint activities among team members and even between competitors
    - Systems for learning from project to project
    - Integration of capital and operational activities to create whole life value
    - Systems that obtain the best from digital technologies such as BIM and from offsite activities such as manufacturing
    - Early involvement of contractors and subcontractors so as to obtain their input without delaying project delivery
    - Clear objectives, measures, targets and incentives
    - Collaborative governance that avoids disputes.

    The case studies described in sections 2, 3 and 4 all adopt a combination of the above approaches.

6. The full potential of alliance contracting is being unlocked through shared best practice such as adoption of the standard form FAC-1 framework alliance contract and the related TAC-1 term alliance contract. Early local government users include L.B. Greenwich and the London Housing Consortium (now known as "LHC") on procurements totalling over £12 billion and due to increase significantly through adoption of FAC-1 as the basis for "Smart Construction" by the CLC Innovations in Buildings Workstream. Further details are available on-line at www.allianceforms.co.uk.

FAC-1 expressly provides for the integration of multiple clients as trialled, for example, in case studies at 1.1, 1.4 and 4.2.

Case Study 10: The London Permit Scheme

The London Permit Scheme was introduced in 2010. Utility companies are required to apply for a permit before starting road works. Costs of permit range from £35 to £240 depending on borough, type (major/minor) and immediacy (standard/immediate). Table A.1 summarises identified strengths and weaknesses of the scheme.

Table A.1. London Permit Scheme evaluation summary[27]

What worked	What didn't work
TfL reported a 21% reduction in the hours of serious and severe disruption caused by works in London during 2010 compared with the previous year	National Grid has estimated that Central London productivity on mains replacement has reduced by 38% since the introduction of the London Permit Scheme in relevant London Boroughs
TfL estimated that the London Permit Scheme had a BCR of 2.73 for the first year of implementation, or 3.15 over a 25-year appraisal period	Although the London Permit Scheme differentiates between 'major' and 'minor' works, it does not appear to be related to the duration or location of works
	Work started earlier than permitted attracts much lower financial penalty than work over-running, potentially distorting incentives

Case Study 11: The TfL Lane Rental Scheme

The TfL Lane Rental Scheme (TLRS) has been in operation since 2012. It applies to the most traffic-sensitive locations and the most traffic-sensitive times of day. Charges range from £800 to £2,500 per day depending on time period and road type. Table A.2 summarises identified strengths and weaknesses of the scheme.

Table A.2. TfL Lane Rental Scheme evaluation summary[28]

What worked	What didn't work
The scheme has shifted some roadworks to less traffic sensitive times and encouraged use of innovative traffic management and works techniques, leading to a reduction in delay for road users	Charging regime is blunt, e.g. the charge is not dependent upon the number of hours the carriageway is occupied; time periods the charge applies to could be optimised with location specific data
Between 2012 and 2014, there was continued ~40% year on year reduction in serious and severe disruption associated with road works; TLRS segment peak journey times were some 2-4% better than the remainder of the TLRN.	Limited incentive to minimise work duration as costs are passed onto customers

[27] Source: Systemic Risks and Opportunities in UK Infrastructure, Frontier Economics (January 2012)
[28] Source: Benefits of the Transport for London Lane Rental Scheme, TfL (November 2016), Systemic Risks and Opportunities in UK Infrastructure, Frontier Economics (January 2012)

Case Study 12: Coordination of Electricity Network Reinforcement

A 2017 GLA study identified significant potential benefits from adopting a more coordinated, strategic approach to reinforcing the electricity distribution network to support growth/development.

Existing regulatory arrangements require high levels of certainty of need to approve investment in reinforcement and consider a limited range of impacts which can cause inefficient delivery and delays in growth areas.

The report suggests further assessment, particularly of anticipatory network reinforcement being funded by third party DevCos, potentially a consortium of developers, the local authority and local DNO. These parties (particularly developers) would have both the incentive to bear the risk of early works and information on requirements and timing to mitigate risks.

Potential benefits include more efficient land use, more efficient, timely delivery (with impacts on economic growth, rental income and reputation) and a longer-term view which could encourage investment in technology with longer term benefits requiring significant upfront investment (e.g. district heating).

The report estimated an indicative NPV of a DevCo approach of more than £10 m of direct site delivery savings over a 15-year appraisal period at the growth sites VNEB and West End, supplemented by indirect social benefits (such as deferred rental income) of £100 m to £300 m.

The Central Unit of the Coordination PA entity could further progress assessment of these options and lobby for any regulatory and other changes required. Relationships within the local areas would potentially provide a good basis for forming a DevCo.

Case Study 13: Long Term Environmental Benefits from Coordination

The Environment Agency (EA) collaborated in planning the Olympic site. This early engagement and coordination enabled development plans to be adapted to achieve longer term environmental benefits. For instance, flooding risk was reduced by taking 4000 homes out of the flood plain, surface water performance was improved by increasing culvert sizing and more and better use of Sustainable Urban Drainage Systems.

The EA have recently indicatively estimated the value added to the environment by this early coordination, recognising inevitable limitations in the calculation approach. The focus was on water related ecosystem services and a conservative assessment suggested that environmental benefits more than matched the costs of the measures recommended by the EA over a 40-year appraisal period. Any other environmental benefits (such as air quality and climate regulation) and wider social and economic impacts would have further supplemented these benefits and the value of coordination between planning and environmental specialists.

Appendix B – Strategic Case (Tables)

This appendix provides the following assessment tables referred to in the Strategic Case:

- Coordination service requirements and assessment of the status quo against them
- Coordination strategic objectives' alignment with stakeholder policies and objectives
- Assessment of the scope for options to deliver coordination service requirements
- Coordination option assessment against Key Success and Delivery Factors

Table B.1. Coordination service requirements and assessment of the status quo against them

Coordination options and service delivery				
Pan-London coordination Services				
	A) Conducting in-depth analysis of development and infrastructure provision data across London:		**Status quo position assessment**	
	1	Understand London's growth and infrastructure provision (through the use of tools such as the London Infrastructure Mapping Application);	**P**	Exisiting arrangements provide for an understanding of growth and infrastructure
	2	Identify local focus areas in London where stronger coordination is needed, because activity is taking place across multiple borough boundaries, development activity or potential is high, and/or there are few existing mechanisms for coordination;	**P**	Existing arrangements provide for the identification of growth opportunity areas, engagement is adhoc, coordination limited
	3	Highlight where synergies can be created across the various local focus areas;	**N**	occassional and opportunistic, not systematic
	4	Promote coordinated practice across London;	**N**	Not provided - no clear owner/lead with resource and remit
	5	Provide intelligence for all parties regarding the impact of the planned major projects 'spike' that is likely to occur in the mid-2020s, with HS2, Crossrail 2, and other major projects occurring simultaneously.	**P**	Exisiting arrangements provide for some insight
	6	Provide a touchpoint with the IMA team in order to identify value adding data at the area specific level	**N**	Not provided - no clear owner/lead with resource and remit
	B) Pan-London coordination programme insight		**Status quo position assessment**	
	1	Provide collated pan-London coordination programme insight that is informed by the above and co-produced with the boroughs and providers	**N**	Not provided - no clear owner/lead with resource and remit
	C) Lobbying and policy development:		**Status quo position assessment**	
	1	Work with regulators, providers and statutory authorities to propose necessary changes to law, policy and regulation; and	**N**	individual organisations have ongoing dialogue with regulators however they have different strategic objectives to those of the of the high level group
	2	Promote the Mayor's policies.	**P**	Many existing arrangements are informed by the Mayors policy, GLA are effective influencers
	D) Stakeholder management		**Status quo position assessment**	
	1	Maintain credible and constructive relations with senior stakeholders, escalating issues when needed.	**N**	Consensus of senior stakeholders is that current arrangements are insufficient
	E) Identify and communicate alliancing contracting/procurement best practice		**Status quo position assessment**	
	1	Engage alliance contracting and procurement experts and review and collate best practice - develop and disseminate alliancing contracting and procurement guidance.	**N**	Not provided - no clear owner/lead with resource and remit
	F) Coordination Funding Management		**Status quo position assessment**	
	1	Establish and implement a sustainable funding mechanism that enables ongoing service delivery	**N**	Not provided - no clear owner/lead with resource and remit
	G) Administrative function		**Status quo position assessment**	
	1	Reporting, managing resources at local level	**N**	N/A
Area-specific coordination Services				
	H) Planning and co-ordination services initiated or directly provided:		**Status quo position assessment**	
	1	Coordinating the funding and delivery of studies, such as up-to-date Development Infrastructure Funding Studies, or Opportunity Area Planning Frameworks;	**N**	Not provided - no clear owner/lead with resource and remit
	2	Coordinating major works programmes, with some elements procured collectively by multiple providers;	**N**	Not provided - no clear owner/lead with resource and remit
	3	Local steering groups, working groups or other forums for stakeholder communications aimed at promoting coordination; for instance facilitating a multi-utility decision making task force	**P**	Some provision in existing arragements
	4	Galvanising relevant stakeholder support and engagement when and where needed;	**P**	Existing growth schemes have stakeholder buy in with limited success
	5	Agreeing standardised contracts or frameworks for shared liabilities of reinstatement, and other construction coordination issues; and	**N**	No current standards
	6	Monitoring and reporting of services, activity and performance.	**N**	N/A
	I) Facilitate discussion between local partners to agree on how to centrally coordinate, fund and contract on-site functions and services:		**Status quo position assessment**	
	1	Establishing or referring providers to centralised construction consolidation sites/centres;	**P**	Some existing provision on large sites
	2	Health and safety inspection;	**N**	Not provided - no clear owner/lead with resource and remit
	3	Shared equipment and plant;	**N**	
	4	Shared logistics;	**N**	
	5	Shared traffic management plans;	**N**	
	6	Shared signage;	**N**	
	7	Promoting the use of alliance contracts for construction procurement.	**N**	

Scoring Key

N	**Not delivered**
P	**Partially delivered**
F	**Fully delivered**

Table B.2. Coordination strategic objectives alignment with stakeholder policies and objectives

	Stakeholders – selection of aligned corporate policies and objectives				
Benefit theme	**GLA**	**Utilities**	**Developers**	**Boroughs**	**Regulators**
Public Good	Draft London Plan Policy GG1 Building strong and inclusive communities	'Dedicated to keeping our customers safe and warm by leading the way in energy delivery' SGN 'Public and staff safety is our highest priority' UK Power Networks	Ensure our buildings are designed and managed to maximise wellbeing and productivity. Landsec 'we have the opportunity to make a positive, even life-changing impact on people and communities' Argent LLP	'- a great place to live - a prosperous community - a safe and cohesive community - a healthy and supportive community.' Tower Hamlets	'Supporting innovation whilst ensuring good outcomes for consumers' Ofgem 'ensure [the sector] has clarity on what customers and society expect' Ofwat
Reduced environmental impact	Draft London Plan Policy GG3 Creating a healthy city	'We will limit our impact on the environment and achieve a socially responsible, sustainable business' Thames Water 'We'll minimise our impact on the environment' UK Power Networks	'the first major housebuilder in Britain to become carbon positive' Berkeley Homes 'a responsibility to manage our impact on the environment' Argent LLP	'Cleaner, Greener Newham' Newham London Partnership	'We have a long-standing commitment to sustainable development and environmental excellence' Ofgem
Efficiency Savings	Draft London Plan Policy GG6 Increasing efficiency and resilience	'*Keeping energy affordable*' SGN	We create value through excellent design, careful planning and intelligent execution.' Argent LLP	'undertaking the enabling role of ensuring the right infrastructure and conditions are in place for businesses to thrive.' London Borough of Croydon	'assurance that service providers are acting efficiently' Ofwat 'promote competition and ensure that markets work effectively for consumers' Ofcom
Supporting housing and economic growth	Draft London Plan Policy GG4 Delivering the homes Londoners need Policy GG5 Growing a good economy			Croydon Local Plan SP2.2 In order to provide a choice of housing for people in Croydon the Council will seek to deliver a minimum of 32,8908 homes between 2016 and 2036. SP3.1 The Council will encourage innovation and investment into the borough to support enterprise and	

	Stakeholders – selection of aligned corporate policies and objectives				
Benefit theme	**GLA**	**Utilities**	**Developers**	**Boroughs**	**Regulators**
				increased employment for the benefit of all Croydon residents.	

Table B.3. Assessment of the scope for options to deliver coordination service requirements

Coordination options and service delivery											
			Scoring					Comments			
			Status Quo	Reinforce Existing	Scalable	Do Maximum		Status Quo	Reinforce Existing	Scalable	Do Maximum
Pan-London coordination Services											
	A) Conducting in-depth analysis of development and infrastructure provision data across London:										
	1	Understand London's growth and infrastructure provision (through the use of tools such as the London Infrastructure Mapping Application);	P	P	F	F		Exisiting arrangements provide for an understanding of growth and infrastructure	Limited impact on existing arrangements	Primary focus	Primary focus
	2	Identify local focus areas in London where stronger coordination is needed, because activity is taking place across multiple borough boundaries, development activity or potential is high, and/or there are few existing mechanisms for coordination;	P	P	F	F		Existing arrangements provide for the identification of growth opportunity areas, engagement is adhoc, coordination limited	Limited impact on existing arrangements	Primary focus	Primary focus
	3	Highlight where synergies can be created across the various local focus areas;	N	P	F	F		Occassional and opportunistic, not systematic	Some capacity to formulate a systematic approach	Primary focus	Primary focus
	4	Promote coordinated practice across London;	N	P	F	F			Some capacity to promote best practice	Primary focus	Primary focus
	5	Provide intelligence for all parties regarding the impact of the planned major projects 'spike' that is likely to occur in the mid-2020s, with HS2, Crossrail 2, and other major projects occurring simultaneously.	P	P	F	F		Existing arrangements provide for some insight	Reinforced channels and access to information	Primary focus	Primary focus
	6	Provide a touchpoint with the IMA team in order to identify value adding data at the area specific level	N	N	F	F		Not provided	Not feesible	Fully resouced	Fully Resourced
	B) Pan-London Coordination programme insight										
	1	Provide collated pan-London coordination programme insight that is informed by the above and co-produced with the boroughs and providers	N	N	P	F		Not provided	Not feesible	Resource intensive, limited capacity	Primary Focus
	C) Lobbying and policy development:										
	1	Work with regulators, providers and statutory authorities to propose necessary changes to law, policy and regulation; and	N	N	P	F		individual organisations have ongoing dialogue with regulators however they have different strategic objectives to those of the of the high level group	Little additional impact	Resource intensive, limited capacity	Primary Focus
	2	Promote the Mayor's policies.	P	P	F	F		Many existing arrangements are informed by the Mayors policy, GLA are effective influencers	Little additional impact	Primary focus	Primary focus
	D) Stakeholder management										
	1	Maintain credible and constructive relations with senior stakeholders, escalating issues when needed.	N	P	F	F		Consensus of senior stakeholders is that current arrangements are insufficient	Reinforced channels and focus	Primary focus	Primary focus
	E) Identify and communicate alliancing contracting best practice										
	1	Engage alliance contracting and procurement experts and review and collate best practice - develop and disseminate alliancing contracting and procurement guidance.	N	N	F	F		Not provided	Not feasible	Fully resouced	Fully resourced
	F) Coordination Funding Management										
	1	Establish and implement a sustainable funding mechanism that enables ongoing service delivery	N	N	F	F		Not provided	Not feasible	Fully resouced	Fully resourced
	G) Administrative function										
	1	Reporting, managing resources at local level	N	P	F	F		N/A	Limited	Feasible	Feasible
Area-specific coordination Services											
	H) Planning and co-ordination services initiated or directly provided:										
	1	Coordinating the funding and delivery of studies, such as up-to-date Development Infrastructure Funding Studies, or Opportunity Area Planning Frameworks;	N	P	F	F			Limited capacity	Primary focus	Primary focus
	2	Coordinating major works programmes, with some elements procured collectively by multiple providers;	N	P	P	F			Prioritise with limited additional resource	Support key programmes with a view to scaling	Comprehensive support
	3	Local steering groups, working groups or other forums for stakeholder communications aimed at promoting coordination; for instance facilitating a multi-utility decision making task force	P	P	F	F		Some provision in existing arragements	No difference to current arrangements	Primary focus	Primary focus
	4	Galvanising relevant stakeholder support and engagement when and where needed;	P	P	F	F		Existing growth schemes have stakeholder buy in with limited success	No difference to current arrangements	Primary focus	Primary focus
	5	Agreeing standardised contracts or frameworks for shared liabilities of reinstatement, and other construction coordination issues;	N	P	F	F		No current standards	Limited capacity	Primary focus	Primary focus
	6	Monitoring and reporting of services, activity and performance.	N	P	F	F		N/A	Prioritise to gain learning points	Primary focus	Primary focus
	I) Facilitate discussion between local partners to agree on how to centrally coordinate, fund and contract on-site functions and services:										
	1	Establishing or referring providers to centralised construction consolidation sites/centres;	P	P	F	F		Some existing provision on large sites	Some enhanced scope for co-production limited by ownership and resourcing	Primary focus	Primary focus
	2	Health and safety inspection;	N	P	F	F		Not provided - no clear owner/lead with resource and remit			
	3	Shared equipment and plant;	N	P	F	F					
	4	Shared logistics;	N	P	F	F					
	5	Shared traffic management plans;	N	P	F	F					
	6	Shared signage;	N	P	F	F					
	7	Promoting the use of alliance contracts for construction procurement.	N	P	P	F		No existing provision	Potential to influence via HLG	Promote test cases for phase 1	Fully engage

Scoring Key

N	Not delivered
P	Partially delivered
F	Fully delivered

Table B.4. Coordination option assessment against Key Success and Delivery Factors

Coordination Options assessment against Key Success & Delivery Factors (KSDFs)

		Key Success & Delivery Factors	Scoring: Reinforce Existing	Scoring: Scalable	Scoring: Do Maximum		Comments: Reinforce Existing	Comments: Scalable	Comments: Do Maximum
	1	Facilitates a co-production approach to service delivery	1	2	3		Organisational structure and limited available resources limit scope for co-production.	Organisational structure and greater level of pan London resources available facilitate a co-production approach.	Additional pan London resources provide further capacity to address barriers to co-production.
	2	Implementation and delivery of services can be secured by Q1 2019	3	2	1		Relatively fast implementation and delivery possible as the option builds on established processes/resourcing.	Establishing a new organisation will involve a number of stages, including recruitment.	Establishing a large new organisation will involve a number of stages , including significant recruitment.
	3	Is affordable and financially sustainable	3	2	1		Limited resourcing levels result in a low cost option.	Larger team increases option costs	Larger team leads to higher cost and financial sustainability is potentially undermined by the scale of funding request to contributors, particularly in early stages with limited proof of benefits
	4	Offers good overall value for money (with benefits exceeding costs)	1	3	1		Scope for impact and benefit is limited by the scale of the option.	Option's structure allows resources to be targeted to focus on activities generating the most benefit, based on evidence obtained.	High costs are incurred from the start with unproven level of benefits from the structure adopted.
	5	Operating model and structure is resilient, flexible and adaptable to change	1	3	2		Builds on existing structures promoting resilience but limiting flexibility and adaptability.	Option structure specified to provide flexibility and adaptability, allowing decisions on how the organisation is scaled up to be based on observed evidence.	The scale of initial investment develops a large, established structure that will be difficult to change, despite the lack of proof that the selected option will be successful in that form.
	6	Risk is minimised of abortive resource effort and cost	3	2	1		Low cost, low risk option, scaling up existing approaches	Decisions on scaling up the organisation to be based on evidence from evaluation (proving concepts), reducing risk.	Approach involves incurring cost of large scale implementation without evidence from proof of concept stage to inform decisions.
	7	Resources employed provide sufficient expertise and capacity to be effective and innovative	1	2	3		Limited range of resources restricts the scope for a range of expertise and innovation	Increased resource levels increase the scope for a range of expertise and innovation	Large resource base provides greater scope for a full range of relevant expertise in the team, with interaction and innovation
	8	Management and leadership responsibility is at the appropriate level to straddle the organisational and institutional boundaries involved	1	3	3		Leadership will have limited weight/influence across boundaries.	Pan London unit provides senior leadership at the level required to have influence across boundaries.	
	9	Leadership and governance responsibility offers actual and perceived independence from the outcomes delivered	1	3	3		Option builds on existing arrangements, limiting ability to achieve full independence.	Appropriate processes and systems would have to be implemented during the development of the organisation to ensure clear independence.	
	10	Is deliverable via proven commercial routes that safeguard value	3	2	1		Option could be delivered through existing commercial routes.	New commercial arranges will be required to establish a new entity.	New, potentially complex commercial arrangements will be required to establish a new, large entity.
	11	Provides consistency in approach and quality of service provision	1	2	3		Structure provides limited capacity for pan London measures to ensure consistency.	Pan London unit provides resources and capacity required to promote consistency.	Larger scale of pan London unit allows greater resource to be allocated to promoting consistency.
	12	Is transparent and auditable	2	2	2		The limited scale of the option and the ability to adopt standard, existing systems such as BMS facilitate transparency and auditability	Appropriate systems would have to be implemented during the development of the organisation to ensure auditability	
	13	Provides consistency in application of systems and protocols applied to the resources responsible for service delivery	1	3	3		Structure provides limited capacity for pan London measures to ensure consistency	Pan London unit provides resources and leadership required to provide consistency	
	14	Provides an appropriate management and assurance framework to guide its activities, check outputs and optimise benefits realisation.	1	3	3		Structure provides limited capacity for central management and assurance	Pan London unit provides resources and leadership required to provide appropriate management and assurance	
	15	Has the support of stakeholders and providers	1	3	2		Stakeholders viewed this as an insufficiently comprehensive approach to drive consistent coordination change. Need for central leadership / ownership and sufficient resources to drive change recognised	Stakeholders largely suppoprtive of this approach given uncertainty and desire to secure evidence on benefit realisation, particularly in the context of contributing to fund delivery. Some suggstion that scale of area-specific resource deployed could be greater and target more locations from day 1.	Stakeholders raised some questions over the identified scale of pan-London resourcing identified and associated costs. Area-specific resourcing levels considered key vaue adding component. Concern over lack of benefits evidence to justify deployment raised and also concerns over the funding ask of providers that would be generated by the model.
			24	37	32				

Scoring Key

0	Doesn't meet
1	Meets to a small extent
2	Meets to a moderate extent
3	Meets fully

Appendix C – Economic Case – Supporting Detail

This appendix provides further detail to support the Economic Case in the following areas:

- Potential sources of benefit
- Estimation of benefits and data sources used
- Costs of coordination

Sources of benefit

The range of potential benefits from coordination is illustrated in Table C.1, which provides a summary, subdivided into the three broad categories of beneficiary (i.e. wider public, private sector and public sector and a brief summary of the route through which coordination would be expected to generate each benefit.

Table C.1. Potential benefits of coordination, with route to benefit generation

Impact		Source of benefit
Wider public		
Transport	Reduced traffic delay	Reduced impact of roadworks/streetwork and reduced HGV traffic (See Table C.2)
	improved reliability and fuel costs	
Short term/lived environment	Reduced noise/vibration	Reduced roadworks, traffic and duration/impact of construction
	Reduced dust/local air pollution	
Long term environment	Reduced carbon emissions	Reduced roadworks/traffic, reduced energy use (on site & reduced losses/leaks), lifecycle cost based procurement, reduced material use
	Reduced waste and improved resource use	Improved procurement and coordination of inputs and outputs across sites, and reuse of materials
	Reduced flood risk	Early collaboration with environmental experts in design process
	Improved ecosystem services such as water quality, recreational value	
Amenity	Decreased amenity/service degradation	Reduced street, road and construction works duration and impacts
Safety	Reduced traffic and site accidents	Reduced traffic and shared site best practice
Benefits of development	Welfare benefits of increase in housing supply and regeneration experienced sooner	Reduced timescale for development delivery
Customer satisfaction	Reduced impact & Improved awareness of change	Improved information, reduced construction and traffic impact
	Reduced disruption of utility provision to customers	Increased pre-emptive maintenance and more efficient approvals
Private sector		
Utilities	Reduced costs of street works provision	Procurement approach, planning, best practice (See Table C.2)
	Reduced cost of maintenance	Improved planning and anticipatory works
	Reduced cost of leakage/losses	Improved planning and pre-emptive maintenance, streamlined permissions interface
	Improved reliability of planning and programming	Improved communication and access to growth and infrastructure data and longer term/more coordinated planning
	Improved regulatory and safety performance and public image of company	Reduced costs/losses, reduced environmental and community impact
Developers	Reduced costs of construction work	Procurement approach, planning, best practice, reduced programme for delivery (see Table C.2)

Impact		Source of benefit
	Reduced delivery time – faster return on investment	Parallel working, increased anticipatory works (see Table C.2)
	Improved reliability of planning and programming	Improved communication and longer term/more coordinated planning
	Improved environmental and safety performance and public image of company	Reduced costs/losses, reduced environmental and community impact
	Reduced risk of exposure to materials shortages and volatile material prices	Reduced costs/losses, procurement approach planning, best practice (see Table C.2)
Public sector		
Highway authorities	Reduced costs of roadworks	Procurement approach, planning, best practice (see Table C.2)
	Reduced cost of maintenance	Reduced works involving resurfacing and longer term planning
Transport authorities	Impact on revenue from lane rental, permits, congestion charge and public transport fares	Change in numbers and types of work due to coordination. Changes in public travel behaviour due to changes in congestion from works.
	Reduced cost of delivering major transport improvements	Potentially as development costs where development and transport coincide

Table C.2 summarises the five impacts considered in quantitative terms in the Economic Case and sets out in more detail the mechanisms through which it is anticipated that coordination would reduce the status quo costs/impacts and thereby generate benefits in each case.

Table C.2. Key impacts considered in quantitative assessment

	Impact	Mechanisms through which coordination would achieve benefit	Pan London	Area specific
Wider public	Traffic delay	- Reduced duration and improved timing of street/road works and improved traffic management, resulting from pan-London services such sharing of best practice, improved awareness of least disruptive timing and coordination of longer term programmes as well as detailed coordination in the Local Areas - Reduced freight deliveries to sites, reducing traffic	Y	Y

Private sector	Utility cost savings	- Streamlined interfaces with planning permitting/approvals systems
		- Joint notification and waivered access charges
		- Shared site facilities and traffic management
		- Improved planning and futureproofing leading to:
		  - Larger scale of anticipatory works ahead of growth
		  - Reduced rework and retrofitting
		  - Reduced duplication, minimising abortive work
		  - Reduced risk/improved predictability
		- Improved sharing of best practice/associated cost savings
			Y	Y

	Developer cost savings	- Improved procurement/materials sourcing:
		  - Shared procurement - increased buying power and reduced unit costs
		  - Potential consideration of lifecycle costs during procurement, reducing costs in long and potentially short term
		  - Circular economy linkages with outputs from one site used as inputs for another
		- Improved planning and futureproofing leading to:
		  - Larger scale of anticipatory works ahead of growth
		  - Reduced rework and retrofitting
		  - Reduced duplication, minimising abortive work
		  - Reduced risk/improved predictability
		  - Reduced delivery programme (reducing equipment hire costs etc)
		- Shared site facilities and traffic management
		- Improved sharing of best practice/associated cost savings
			Y	Y

	Impact	Mechanisms through which coordination would achieve benefit	Pan London	Area specific
	Improved Investment returns through reduced delivery time	- Improved coordination/planning with other developers planning authorities, transport providers and utilities, enabling: - parallel working and - more scope for anticipatory provision ahead of need		Y
Public sector	Roadworks cost savings	- Streamlined interfaces with planning permitting/approvals systems - Improved planning and futureproofing leading to: - Larger scale of anticipatory works ahead of growth - Reduced rework and retrofitting - Reduced duplication, minimising abortive work - Reduced risk/improved predictability - Improved sharing of best practice/associated cost savings	Y	Y

Approach to estimating benefits

Table C.3 sets out the approach adopted to estimating the indicative range of impacts for each of the five quantified benefit areas, summarising the approach to estimating the status quo cost/impact and the range of Low, Medium, High percentage reductions assumed in each case. The final column summarises the key data sources used. The percentages selected were informed by case studies and other research where possible, recognising that relevant evidence is currently limited (see main text). All assumptions (including the High) were intended to be feasible reductions that it is plausible that coordination could achieve, given evidence to date. As outlined in the main text, the key aim of the range of assumptions was to provide a means of understanding the relative balance of the costs of the Coordination PA and the scale of the status quo impacts of development/works that it would be addressing. The overall aim was to provide clear analysis to provide confidence that the scale of improvement required to generate sufficient benefits to offset the investment costs in coordination appeared feasible.

Table C.3. Summary of approach to estimating indicative benefits

Benefit			Approach to estimating Status Quo costs	Indicative saving from coordination			Data sources
				L	M	H	
Wider Public	Travel time		Reduction in London wide traffic delay associated with non-urgent/emergency works. 50% of utility and highway works assumed in scope - as a conservative assumption, over the 10 and 20-year appraisal period all non-immediate works should be in scope of pan-London services such as information sharing, best practice, procurement practices etc. 2014/15 TfL cost of delay data converted to use latest Values of Time and uprated to 2018 delay levels using TfL delay growth data. Ongoing 1% p.a. growth in delay assumed (based on forecast to 2041 in Mayors Transport Strategy supporting documentation)	0.5%	1.0%	4.0%	-TfL estimates of total London vehicle delay *Total Vehicle Delay for London 2014-2015 http://content.tfl.gov.uk/total-vehicle-delay-for-london-2014-15.pdf* -Proportion of delay associated with street/roadworks: Travel in London, 9, 2016, *http://content.tfl.gov.uk/travel-in-london-report-9.pdf for* -Values of Time *BCDM 2017 databook* -Delay growth: *Travel in London 9 and 10 (as above)* to 2018/19 and *MTS challenges and opportunities report* for growth to 2041 *http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf*
Private Sector	Utilities	*Works cost savings*	Reduction in London wide delivery costs associated with non-urgent/emergency utility works. 50% assumed in scope - as a conservative assumption, over the 10 and 20-year appraisal period all non-immediate works should be in scope of pan-London services such as information sharing, best practice, procurement practices etc 50% of costs assumed to be staff related and subject to real growth in wages.	0.5%	1.0%	4.0%	-Estimates of costs per works event and estimates of duration and event numbers 2014/15 and 2015/16, *data provided by Streetworks, Report on Streetworks utility works cost model,* https://utilityweek.co.uk/streetworks-utilities-at-work/ *and HAUC performance scorecard http://hauc-uk.org.uk/uploads/EW%20Performance%20Scorecard%20Dec%202017_18%20Q1.pdf* -Real growth in staff costs *WebTAG databook (A5.3.1) index of*

Benefit			Approach to estimating Status Quo costs	Indicative saving from coordination			Data sources
				L	M	H	
	Developers	*Works cost savings*	Reduction in estimated construction costs based on av. London construction costs per m2 of floor area, target numbers of jobs/ homes for each growth area, assumed phasing and standard. floor area assumptions for housing/employment. Royal Docks and Tower Hamlets assumed to follow equivalent phasing to Croydon	0.05%	0.10%	0.4%	-Construction costs: *International Construction Market Survey, 2017, Turner and Townsend, http://www.turnerandtownsend.com/media/2412/international-construction-market-survey-2017-final.pdf* -GLA Opportunity Area job/employment totals for Croydon, Tower Hamlets in City Fringe & Royal Docks. *The London Plan Opportunity Areas Map; https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/opportunity-areas/opportunity-areas-map-0* - GLA typical floor area per housing/employment type. -GLA data on average London mix of household type. *GLA, London Employments Sites Database, Final Report, 2016*
		Reduced delivery time	Assumed equivalent to additional X months of net rental income for each property completed p.a. Property completion assumptions as above. Net rental income assumed to be 50% of gross (based on web guidance for landlords)	0.25 mo.	0.5 mo.	2 mo.	As above + VOA Residential Rents, December 2017 and GLA London Office Policy Review, 2017, *https://www.london.gov.uk/sites/default/files/london_office_policy_review_2017_final_17_06_07.pdf*
Public Sector	Highway auth	*Works cost savings*	Reduction in London wide costs associated with non-urgent/emergency highway works. 50% assumed in scope -- as a conservative assumption, over the 10 and 20-year appraisal period all non-immediate works should be in scope of pan-London services such as information sharing, best practice, procurement practices etc. 50% of costs assumed to be staff related and subject to real growth in wages.	0.5%	1.0%	4.0%	As utility works. Same cost per works event assumed for highway works

Costs of coordination

Cost components

Implementing the Coordination PA outlined in the Strategic Case will involve:

- Direct costs of operating the coordination entity; and
- Indirect costs for the involved organisations (boroughs, developers, utilities, TfL and GLA).

The following sections provide more detail on the estimates made for each category of cost included in the assessment of the economic case

Direct costs

The estimates of the direct costs of operating the Coordination PA entity for the 20-year appraisal period, account for staff costs and overheads and consultancy fees for Development Infrastructure Funding (DIF) Studies and work to support lobbying, as set out in Table C.4.

Table C.4. Direct Costs

	Phase 1	**Phase 2 (building up over 5 years)**
Staff	4 FTE Central employees + 6 FTE Local Area employees (as in Strategic Case)	10 FTE Central employees + 14 Local Area employees (7 local areas)
Additional costs	£150,00 DIF study for each Local Area £150,000 annual costs of studies to support lobbying/regulatory change	
Estimated annual cost (2018 resource prices)	£ 1.2 million	£2.7 million

Indirect costs

The indirect costs of the Coordination PA refer to the 'in kind' contributions made by involved organisations, primarily through the contribution of staff time for meetings and tasks. The initial one off indirect costs to GLA of establishing the entity (including recruitment costs etc.) are estimated to be likely to be approximately £215,000 (2018 resource costs).

Once the entity is operational the utilities, boroughs, developers involved will incur indirect costs through involvement in the meetings and planning associated with coordination and potentially through rearranging works to improve coordination. Table 11 summarises the assumptions made to provide an estimate of ongoing indirect costs. Involvement at the pan-London level is assumed to be through a Steering Group and at the Local Area level through a Task Force of senior representatives from each organisation, supported by technical communities with formed of staff with specific technical expertise.

Table C.5. Indirect Costs of Operation

	Pan-London Steering Group members	**Local Area Task Force and technical communities**
Membership	1 Steering Group member from: - 3 developer representatives (revolving) - 3 borough representative (revolving) - 4 utility representatives - TfL representative	1 Task Force and 5 technical community members in each Local Area from on average - 3 developers - 4 utilities - 1 borough

	Pan-London Steering Group members	Local Area Task Force and technical communities
	Steering group members: - Contribute 0.5 day/month – - Av. salary £150,000 (overhead 30%)	- (TfL assumed to be already involved in Do Min) Task Force members: - Contribute 1 day/month - Av. salary £100,000 (overhead 30%) Community members: - Contribute 0.5 days/month - Av. salary £60,000 (overhead 30%)
Annual cost (2018 resource costs) Phase 1	£50,000	£450,000
Annual cost (2018 resource costs) Phase 2	£50,000	£950,000

Conversion to appraisal terms

To inform the cost benefit assessment, both direct and indirect costs were converted to present values (PV) in 2018 market prices, for consistency with the benefits estimates and in line with HM Treasury Green Book guidance. Table C.6 summarises the assumptions and parameters involved in the conversion process.

Table C.6. Key assumptions in converting to appraisal terms

General assumptions in converting to appraisal terms

- All costs considered in 2018, real market prices for the appraisal
- DfT WebTAG indirect taxation factor of 1.19 used to convert from resource to market prices
- Staff costs assumed to grow in real terms by the differential between the values given in the DfT December 2017 WebTAG databook for:
  o Nominal earnings increase
  o Standard inflation (GDP deflator)
- Optimism bias allowance uplift of 10% applied for all costs
- Costs discounted using HM Treasury discount rate of 3.5%

Appendix D – Financial Case – Supporting Detail

This appendix provides further detail to support the Financial Case in the following areas:

- Costs of Coordination PA Phase 1
- Potential funding options
- Assessment of viability of potential funding options
- Potential approaches to subscription allocation
- Alignment between Coordination PA and Lane Rental Fund

Costs of Coordination PA Phase 1

Direct costs

Table D.1 below summarises the estimated direct operational costs for the Coordination PA Phase 1 (delivery of services over the initial two-year period), based on the hybrid staffing model for the Scalable option set out in the Commercial Case. Costs are broken down between the pan-London and Area Specific entities, assuming three local area specific teams.

Table D.1. **Direct cost of Coordination PA Phase 1**

Sourcing	FTE	Role	Grade	1 year cost	2 year cost
Pan-London					
Inhouse	1	Coordination Leader	14	£135,000	£270,000
Inhouse	1	Central Unit Manager	12	£110,000	£225,000
Inhouse	0.66	Comms	9	£80,000	£155,000
Inhouse	0.66	Admin	6	£55,000	£105,000
Outsource	0.66	Analysis	14	£75,000	£150,000
		Non-staff costs			
		Margin		£5,000	£15,000
		Mgmt. of Outsource		£55,000	£115,000
		Operational Costs			
		Research (lobbying)		£150,000	£300,000
			Pan-London	£665,000	£1,330,000
Sourcing	**FTE**	**Role**	**Typical Grade**	**1 year cost**	**2 year cost**
Local Area					
Outsource	1	Technical	Grade 14	£85,000	£165,000
Outsource	1	Facilitation	Grade 14	£85,000	£165,000
Outsource	1	Technical	Grade 14	£85,000	£165,000
Outsource	1	Facilitation	Grade 14	£85,000	£165,000
Outsource	1	Technical	Grade 14	£85,000	£165,000
Outsource	1	Facilitation	Grade 14	£85,000	£165,000
		Non-staff costs			
		Outsourced Margin		£50,000	£100,000

Operational Costs		£0	£0
DIF studies	1/area	£225,000	£450,000
	Area Specific	**£775,000**	**£1,550,000**
Total Costs		**£1,440,000**	**£2,880,000**

NB::Figures may not sum due to rounding (to nearest £5000)

The estimates shown have been based on the following assumptions:

- They reflect operational costs of fully staffed teams;
- Operational costs include provision for 1 Development Infrastructure Funding (DIF) study at a cost of £150,000 per growth area;
- An additional provision of £300,000 for other regulatory or lobbying consultancy services over the two years is included;
- GLA salary band data has been used to estimate cost of employment of the inhouse element;
- The outsourced team costs have been estimated on the basis of Atkins' Staff Cost Rates;
- The margin assumed on outsourced staff is 10%;
- An additional margin of 10% has been assumed associated with managing the outsourced service provider;
- Pan-London Central Team assumed to be located either with GLA or with TfL; and
- Local Area Teams assumed to be located at the head offices of the three local boroughs identified in the Strategic Case.

Indirect costs

In addition to the direct costs of operation, indirect costs will be incurred by participating organisations in the course of setting up and operating the Coordination PA entity for Phase 1 and through the internal impact of changes in ways of working. Estimates for these costs are summarised in Table D.2.

Table D.2. **Indirect cost of Coordination PA Phase 1**

	Cost type	Description	Contributor	Cost p.a.	Total Phase 1
1	Stakeholder management (see Management Case)	Post IHLG sign-off each prospective contributing party will need to be engaged. Cost of 3 x GLA FTEs to undertake this work.	GLA	3 months £65,000	£65,000
2	Set-up of the Coordination PA (see Management Case)	Finance & Funding, HR & Legal, Sourcing, Hosting, Change & Engagement, Delivery and Operation	GLA	£150,000	£150,000
3	Cost of contribution in kind from participating organisations (see Economic Case, Appendix C, Table C.5)	Cost of resources required for Pan-London Steering Group and Local Area Task Force and supporting technical communities	11 Steering Group members, 8 Local Area Task Force members and 40 technical community	£500.0000	£1.000.000

	Cost type	Description	Contributor	Cost p.a.	Total Phase 1
			members from Utilities, Telcos, Developers, Boroughs and TfL		

The estimated indirect costs shown are based on the following assumptions and sources:

- Stakeholder management:
  - GLA salary band data Grade 10
- Set-up of Coordination PA:
  - 5.2 FTEs as per Management Case
  - Assumed to be contribution in kind
- Cost of contribution in kind:
  - See Economic Case and Appendix C, Table C.5

Potential funding options

The following funding options considered for the Coordination PA and are described in more detail below

- Lane rental funding;
- Subscription model;
- Public Private Partnership model; and
- Alternative funding sources:
  - Business Rate and Council Tax Supplement;
  - Revolving Infrastructure Fund (RIF);
  - Community Infrastructure Levy (CIL);
  - New Homes Bonus;
  - Business Rates Retention; and
  - Stamp Duty land tax.

Lane Rental Funding

The TfL Lane Rental Scheme (TLRS) was introduced in June 2012 to reduce obstructions to the TfL Road Network (TLRN). To achieve this utilities, developers and other companies are charged a daily fee for any obstruction to affected highways (including cycle ways and carriageways). It applies to 56% of the TLRN, covering the most traffic-sensitive locations at the most traffic-sensitive times of day.

The funds raised by the scheme form the Lane Rental Fund (LRF) which is intended to fund innovative measures to reduce disruption, which fall in one of six identified bid categories and contribute to five identified drivers as outlined in Table D.3.

Table D.3. **Lane Rental Fund bid categories and project drivers**

Bid categories	Project drivers
• Innovative technology	• Reduce disruption from street works • Political and legislative

Bid categories	Project drivers
• Infrastructure improvements • Improvements to skills/capability • Innovative techniques/working practices • Extraordinary measures to reduce congestion • Improvements to asset data record collection/accessibility	• Reduce adverse effects cause by street works • Technical, contractual, system, equipment.

Applications for funding are considered by the Lane Rental Governance Committee (LRGC) on a quarterly basis with the next session timetabled for May 2018. If the application is successful, funds are made available to successful applicants in arrears.

The 'subscription model'

The Strategic and Economic Cases identify utility companies and developers as groups who stand to benefit significantly from coordination. Assuming the benefits of coordination are accepted by beneficiaries, a form of 'subscription' could be introduced for these groups to contribute to funding for an element of the operation.

A clear and straightforward means of distributing the costs between subscribers in a manner that is perceived to be fair would be required for the subscription model to work well and be sustainable.

If implemented for Phase 1, the approach could take the form of a 'promotional or sponsorship model'. Triggered by a GLA marketing and communications programme, the aim of such a model would be attract a relatively small number of private-sector partners who would consider it to be of value (both from a promotional and commercial perspective) to contribute financially on a one-off basis.

The specification and targeting of Phase 1 would need to be clearly aligned to the business operations of sponsors likely to contribute to encourage support. In order to minimise risk to Phase 1's successful establishment, it would be appropriate to aim for no more than approximately 10 key sponsors. In the main, these are most likely to include utilities companies and developers.

One of the key issue with the long-term financing sustainability of the Coordination PA relates to a subscription model's reliance on the 'goodwill' or commitment of utilities providers and developers. If this stopped there is no mechanism to lock in the commitment. It is also not clear whether the subscription model would be subject to 'free-riding' where developers and utilities choose not to pay because they feel they can benefit from the work of the Coordination PA regardless. We would recommend the GLA to investigate powers or other forms of influence whereby a commitment to pay can be guaranteed over fixed time periods (e.g. in 5-year blocks). Irrespective of this constraint, if those paying the subscription consider to be receiving consistent, on-going benefits whilst getting promotional gain from sponsorship status, the model should be self-sustaining.

The Public Private Partnership model

There are numerous examples of public and private partnership organisations set up to enable better delivery of infrastructure and economic growth. The overarching principle for these organisations is that they help to 'fill the gap' that the private sector is not currently addressing. These organisations help deliver a 'public good' e.g. faster delivery of infrastructure, housing and jobs at the same time as benefits to the private sector partners, e.g. revenue to the companies that deliver the development or infrastructure. In theory as both sectors benefit these organisations are both administered and funded by the public and private sector. The technical detail on how these organisations are constituted varies

on a case by case basis with some bodies informal, unincorporated bodies, while others set up as legal entities.

A relevant London example is the Nine Elms Vauxhall Partnership. The Partnership was created in 2010 to coordinate and drive forward the transformation of an entire district of Central London. It is an informal unincorporated partnership. It is co-chaired by the leaders of Wandsworth and Lambeth Council and includes the area's main developers and landowners, the Mayor of London, Transport for London and the Greater London Authority. It is responsible for setting and delivering the strategic vision for the area, including the £1 billion infrastructure investment package. It also includes numerous private sector partners including, amongst others major developers, contractors, landowners and occupiers such as Battersea Power Station, Vinci, Ballymore, Berkeley Homes, Taylor Wimpey, Sainsburys and Royal Mail.

According to the 2016/17 Nine Elms Vauxhall Business Plan the five-year budget to administer the running costs (i.e. staff and operations) of delivering the infrastructure fund is £2.5m. This cost is 100% covered by Wandsworth Borough Council (75%) and Lambeth Borough Council (25%).

Local Enterprise Partnerships (LEPs) are another example of public and private partnership set up to enable better delivery of infrastructure and economic growth. In relation to the funding of their running costs, a 2016 report from the National Audit Office (NAO) said the following:

'The government initially intended that LEPs would be able to fund their own running costs primarily by drawing upon the resources of local authorities and private sector partners. In the LEPs we visited, we found evidence of extensive private sector involvement; for example, individuals voluntarily giving up their time to sit on committees overseeing the approval of infrastructure projects. However, overall, we found that contributions from the private sector have not materialised to the extent that LEPs initially expected. The Department provides LEPs with £500,000 in core funding for administrative purposes, subject to LEPs securing £250,000 in match funding from local partners. All LEPs received the same core funding, regardless of size or structure'[29].

The 2016 NAO LEP report stated that 51% of LEPs in the England are companies limited by guarantee, 41% unincorporated voluntary partnerships and 8% a variety of miscellaneous unincorporated arrangements.

In conclusion, there are a variety of options for ways in which the Coordination PA could be set up to enable the public and private sectors to contribute to its funding. This level of detail would be covered in future stages of the overall business plan.

Alternative funding approaches

Business Rate and Council Tax Supplement

It is possible that the GLA has the devolved powers to introduce a Mayoral precept or supplement to business rates and/or Council Tax in London without requiring a change to UK statute. In theory, the revenue generated by the supplement would be ring fenced to fund the operation of the Coordination PA. However, this would be politically very sensitive and may generate substantial legal constraints. It may also be argued that if such an unpopular rise in local taxes was to take place, it should be targeted at other issues considered more important by local residents and businesses. Furthermore,

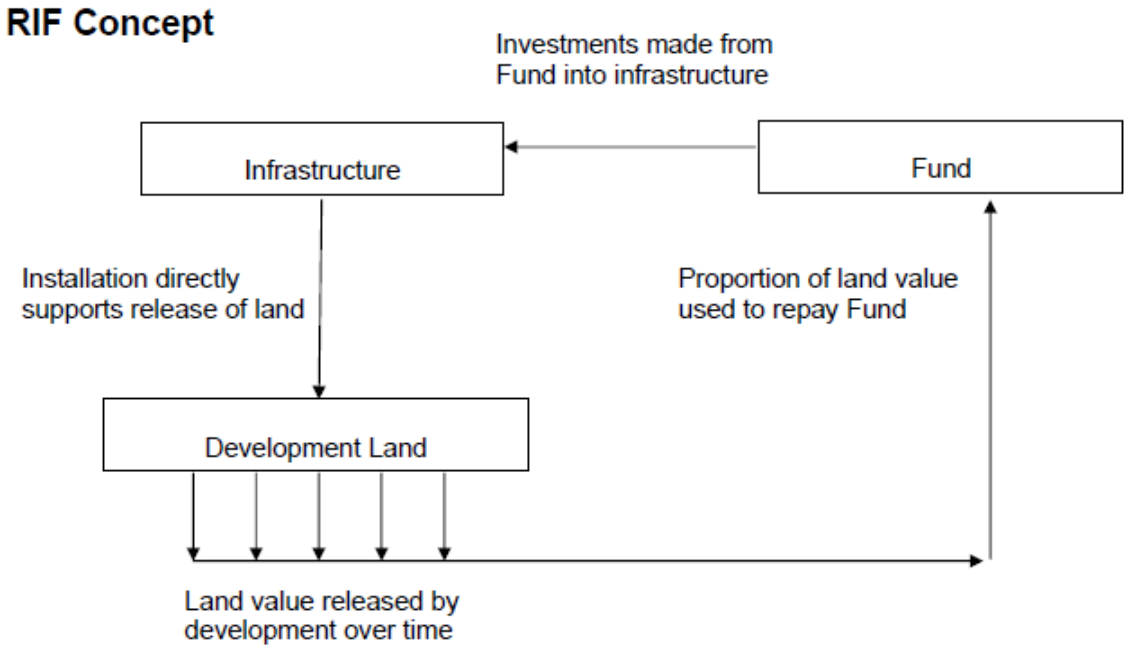
[29] NAO , Local Enterprise Partnerships (2016), p17 para 1.10

introduction of such a measure would be impossible without being complemented by contributions from the utility and development industries.

Revolving Infrastructure Fund (RIF) Principles

The principles that are applied to RIFs provide a potential option to enable the long term, sustainable funding of the Coordination PA. An example of how a RIF works is shown in Figure below. For example, LB Croydon has set up a £60m RIF used to forward fund infrastructure investment. The key principle of a RIF is to establish initial seed funding (e.g. through public sector grant) which is added to and paid back incrementally through future revenue streams generated by mechanisms such as developer contributions, New Homes Bonus, business rate retention and land value capture instruments.

Figure 3 - Example of Revolving Infrastructure Fund



The RIF model is not a realistic option for financing Phase 1. However, it could be considered for the longer term on the back of a successful initial period financed through alternative means.

The main constraint with the RIF model for the longer term is that it is not widely used as yet in the UK and can be perceived to be complex and potentially unfair. Furthermore, in pooling a range of funding sources into a single infrastructure pot, it is unlikely to be effective in solely funding the Coordination PA. In other words, such a mechanism would need to be introduced for a range of infrastructure interventions including some transport schemes.

Overall, we consider that the RIF is too untested and somewhat cumbersome for the purposes of funding the Coordination PA.

Community Infrastructure Levy (CIL)

CIL is a mechanism for collecting development contributions, from new development in an area, in order to fund a wide range of infrastructure items, based on a tariff structure. Previously,

contributions from new development could only be secured by Section 106 ('S106') agreements, designed to address impacts directly arising from the development.

CIL is intended to work alongside planning obligations, and to pool development contributions in an area in order to fund a wide range of infrastructure items – which may include roads, other transport facilities, flood defences, schools, medical facilities etc. CIL charges are based on a tariff structure adopted by each local authority – with evidence to date from adopted charging schedules suggesting fairly significant variation in the level of CIL that is being set. There is a powerful imperative for setting CIL locally as it is not possible for local authorities to use S106 on a pooled basis for non-site-specific infrastructure. A local authority must publish a list of items in respect of which it wishes to levy the charge. That list is subject to examination by an independent inspector.

A critical issue is the question of whether or not CIL can realistically be used to fund the Coordination PA as it is not physical infrastructure but a revenue cost. The CIL regulations do allow 5% of collected revenue to be 'ringfenced' to pay for administrative costs, but this is generally to specifically administer the CIL. Other important considerations include:

- Additional or increased tariffs may be negatively perceived by developers whilst losing sight of the benefits to be gained by the Coordination PA;
- Developers may argue that additional tariffs will undermine viability of some schemes, particularly affordable housing developments;
- CIL is applicable only to new developments which raises the issue of fairness given that existing residents and businesses will benefit from the Coordination PA; and
- CIL is applicable only to developers and is not set up to generate funds from utility companies.

Another aspect of CIL is the potential for a proportion of the Mayoral CIL to be used to fund the Coordination PA. Currently the Mayoral CIL is collected in addition to Borough level CIL. The first tranche of Mayoral CIL (MCIL1) was 'ringfenced' to help fund Crossrail and is estimated to have collected around £600m. The second tranche of Mayoral CIL (MCIL2) is expected to fund Crossrail 2 and is estimated to raise around £4.5billion of receipts. It is not clear whether it would be politically or legally acceptable to use a small element of the MCIL2 to fund the Coordination PA but it clearly represents a significant potential funding source that in principle is used to fund strategic London wide infrastructure.

New Homes Bonus

New Homes Bonus (NHB) is the government's flagship housing policy, aiming to start "… a local house building revolution where communities who go for growth by building new homes reap the benefits and at the same time deliver a much-needed economic boost to their local area"[30]

The NHB is a grant paid by central government to local councils for increasing the number of homes and their use. The bonus is paid each year for 6 years and is based on the amount of extra Council Tax revenue raised by new-build homes, conversions and long-term empty homes brought back into use. There is also an extra payment for providing affordable homes. Therefore, the additional growth in NHB receipts as a result of the infrastructure unlocking development in London could potentially be utilised to pay for the infrastructure.

However, there are a number of constraints associated with using the NHB:

- Given the scale of revenue generated by the NHB, there are too many other demands on it;
- Revenue generated is spatially concentrated and not representative of all parts of London; and

[30] https://www.gov.uk/government/news/grant-shapps-kickstarts-local-housebuilding-revolution

- It relates generally only to new housing development so any revenue generated by NHB for the Coordination PA would need to be supplemented by other sources.

Business Rates Retention

The aim is that by the end of the current Parliament, local government will retain 100% of taxes raised locally. The Government recognises that a centralised system of business rates (where business rates are collected by local authorities, paid over to HM Treasury and then redistributed back to Councils based on a formula grant calculation) act as a disincentive for growth.

The move to 100% business rates retention builds on the current system, in which local government retains 50% of locally collected business rates. That system was introduced in April 2013. Before then, all business rate income collected by councils formed a single, national pot, which was then distributed by government to councils in the form of formula grant. Through the Local Government Finance Act 2012, and regulations that followed, the Government gave local authorities the power to keep half of business rate income in their area by splitting business rate revenue into the 'local share' and the 'central share'.

Business Rates Retention (BRR) could in theory represent an important strand in delivery of infrastructure across London assuming that proposed investments successfully unlock industrial/commercial development and generates associated growth in business rates income in London. It offers an opportunity to access new and flexible financial resources. However, a particular challenge associated with BRR will involve the difficulty of accurately forecasting economic and business rate growth and the inevitable lag between investment in infrastructure and associated BRR income.

LB Croydon and the GLA are proposing the use of a Tax Incremental Finance model over a designated area within the Croydon Opportunity Area as a means of funding the delivery of critical infrastructure required to unlock the potential for housing and economic growth in the Croydon Opportunity Area. The 39 critical infrastructure projects planned include key transport improvements to the tram and bus network, highways including the A232/A23 and schemes at West Croydon station, public realm, walking and cycling improvements as well as energy and health projects.

LB Croydon intends to borrow £309m to fund its share of the design and construction costs of these projects. The borrowing will be financed and repaid using the expected growth in business rates in the Croydon Growth Zone area over a period of up to 16 years with an option for a 3-year extension if required. The GLA's share of business rates will go directly towards funding the critical infrastructure costs.

The Mayor is requested to endorse the proposed funding arrangements including the creation of a designated area under the 1988 Local Governance Finance Act by the Secretary of State for Communities and Local Government which will allow LB Croydon to retain 50%vof the business rates growth in the area for up to 16 years with an option for a 3-year extension if required. This will in effect result in the GLA forgoing 20% of the uplift in business rates it would otherwise have received during the period of the designation through the existing retained business rates regime and avoid this growth being partially removed by the Secretary of State through the expected regular reset process.

Whilst BRR could offer a significant opportunity to part-fund the Coordination PA, it would be one of many potential recipients of revenue from this source. This issue of 'competition' brings with it complexities in terms of procedure, accountability and political prioritisation. Furthermore, BRR

clearly is targeted a raising funds from the existing and future business base of a locality based on increased property values stimulated by infrastructure investment. Consequently, it does not provide the appropriate vehicle for revenue collection from developers and utility companies.

Stamp Duty Land Tax

Stamp Duty Land Tax (SDLT) is a tax on land transactions in all of the UK except Scotland that was introduced by the Finance Act 2003. Each time a property is purchased, a tax is paid, calculated on the value of the property being acquired. Currently SDLT is collected by central government and is not available as a local funding resource. However, with the devolution agenda and the push for new funding deals for local government, SDLT could prove to be a significant tax revenue available to help fund local services but more importantly local infrastructure.

Whilst retention of SDLT is more likely to occur in London before other parts of England, it will remain politically sensitive and improbable to be implemented in the short term.

Assessment of viability of potential funding options

Table D.4 summarises an assessment of each of the options for the Coordination PA outlined above in terms of relative level of complexity, applicability and viability for Phase 1 and in the longer term for Phase 2.

The assessment considered viability of each option in terms of the following factors:

- Is the establishment of the mechanism achievable in the timescales?
- Do the funders share the same strategic objectives and the Coordination PA?
- Is the cost of administration of the fund affordable?
- Can the funding be recurring and sustainable in the long-term?
- If sourced from beneficiaries, is the structure of contributions fair and proportionate to the benefit?
- If sourced from beneficiaries, will the contributions impact on the viability of existing business operations or planned development projects?

Table D.4. **Assessment of funding options**

Funding approach	Complexity	Phase 1 viability	Phase 2 viability	Comments
Subscription Model	Low	High	High	Viable with relatively small number of contributing partners, negotiated distribution of contribution
Public Private Partnership/ Local Enterprise partnership	High	Low	Medium	Variety of options for how the IDC could be set up to enable the public and private sectors to contribute to its funding for phase 2. High cost of administration, initially intended to be drawn from local authorities and private sector partners. NAO evidence suggests private sector contributions in kind, however cash contributions have not materialised to the extent that was initially expected.
Business Rate & Council Tax Supplement	High	Low	Low	Politically sensitive and legally constrained. Introduction would require contributions from the utility and development industries.
Revolving Infrastructure Fund (RIF)	High	Low	High	A precedent exists in the relation to the Northern line extension. A £1 billion loan and supporting guarantee repaid by developer contributions and incremental business rates from an Enterprise Zone covering key development sites across the area.

Funding approach	Complexity	Phase 1 viability	Phase 2 viability	Comments
				Not widely used as yet in the UK and can be perceived to be complex and potentially unfair. Such a mechanism would need to be introduced for a range of infrastructure interventions including some transport schemes.
Community Infrastructure Levy (CIL)	Medium	Low	Medium	CIL intended to fund assets, not services. Councils could contend that IDC is 'infrastructure' on the basis of it being an essential component of infrastructure delivery (in the same way that a PMO overhead is backed into the overall cost of physical infrastructure) and include the IDCU on their list of projects to be funded by CIL revenue (called the Regulation 123 list). This process takes time, requires consultation and examination and would require evidence as the approach is untested. Section106 is not a valid avenue for funding the IDCU as it is now legally restricted to funding infrastructure directly required to mitigate the development and no more than 5 x s106 payments from various developments can be pooled to fund one item of infrastructure.
New Homes Bonus	High	Low	Low	Central government grant to local councils paid each year for 6 years based on Council Tax revenue from new homes. Additional growth in New Homes Bonus as a result of the infrastructure unlocking development in London could potentially be utilised to pay for the infrastructure. Untested and would require evidence, there are existing significant demands on this source of funding.
Business Rates Retention	High	Low	High	BRR is targeted at raising funds from the existing and future business base of a locality based on increased property values stimulated by infrastructure investment, not utilities or developers. BRR could offer a significant opportunity to part-fund the IDC, it would be one of many potential recipients of revenue from this source. This issue of 'competition' brings with it complexities in terms of procedure, accountability and political prioritisation.
Stamp Duty Land Tax	High	Low	Medium	With the devolution agenda and the push for new funding deals for local government, SDLT could prove to be a significant tax revenue available to help fund local services and infrastructure. Whilst retention of SDLT is more likely to occur in London before other parts of England, it will remain politically sensitive and improbable to be implemented in the short term.
Lane Rental Funding	Low	High	High	The Lane Rental Governance Committee (LRGC), comprising representatives from utility companies and TfL meets quarterly to consider investing surplus income generated from the Lane Rental scheme in projects aimed at reducing disruption and other adverse effects caused by street and roadworks. A precedent has been set for funding similar local level initiatives.
Network Innovation Allowance (NIA)	Medium	Low	Medium	Innovation stimulus package available for gas and electricity companies to fund smaller innovation projects that can deliver benefits to customers as

Funding approach	Complexity	Phase 1 viability	Phase 2 viability	Comments
				part of a RIIO-Network Licensees' price control settlement
Network Innovation Competition (NIC)	Medium	Low	Medium	Annual competition between gas and electricity companies to fund larger-scale flagship innovative Projects that could deliver low carbon and environmental benefits to customers
Innovation Roll-out Mechanism (IRM)	High	Low	Medium	Innovation stimulus package available for gas and electricity companies Intended to fund the roll-out of proven innovations which will contribute to the development in Great Britain (GB) of a low carbon energy sector or broader environmental benefits.

For Phase 1, two viable funding avenues were identified; TfL's Lane Rental Fund and a voluntary subscription model (from utilities and developers). These options are discussed in more detail in the next section.

For Phase 2, additional funding mechanisms were identified as potentially viable, including the Community Infrastructure Levy, Public Private Partnerships, Revolving Infrastructure Funds, Business Rate Retention and Stamp Duty. They are precluded from consideration for Phase 1 due to the time required for consultation and the requirement for each mechanism to be informed by evidence on impacts that will be obtained during the course of Phase 1.

Potential approaches to subscription allocation

Allocation of subscription

A clear and straightforward means of distributing the costs between subscribers in a manner that is perceived to be fair would be required for the subscription model to work well and be sustainable. The following sections summarise an initial analysis of potential approaches to subscription distribution to provide an understanding of the issues involved. Agreement on a final approach would require further stakeholder engagement and negotiation as detailed in the Finance and Funding workstream outlined in the Management Case.

Analysis of potential approaches for distributing subscriptions has been undertaken separately for utilities and developers at this stage, reflecting the fact that the interests of the two groups are likely to differ. For instance, developers benefitting directly from the services offered by the Coordination PA's Area Specific element would be more likely to fund activity directly related to their area of interest. Developer subscriptions could therefore scale in step with the expansion of growth opportunity areas requiring funding beyond Phase 1. On this basis, one potential approach would be for developer subscriptions to form an element of the Area Specific funding, with utility subscriptions forming an element of the Pan-London funding.

Utilities

A number of options could be considered for dividing coordination costs between utilities including:

1. Divide costs equally across major stakeholders;
2. Divide costs based on benefits generated per stakeholder;
3. Divide costs based on relative scale of organisational operation using a variety of data (e.g. customer and asset base, turnover etc.); or
4. A combination of (2) and (3).

Table D.5 summarises an assessment of these options. Early feedback from the utilities indicates that distributing the costs equally across contributors is not credible and measuring the benefit impact would be too complex and subjective. For Phase 1 this suggests that the most viable funding strategy would be likely to be to distribute according to relative size of each organisation's operation.

Table D.5. **Assessment of subscription allocation models**

Distribution options	Complexity	Timeframe	Admin burden	Risk	Contributor Feedback
1 Divide equally	Low	Low	Low	Credibility	Discouraged
2 Distribute according to benefits generated	High	Phase 2	High	Affordability	Complexity concerns
3 Scale of contributor operation	Low	Phase 1	Low	Lack of consensus	Early preference
4 Combination of 2 & 3	High	Phase 2	High	Affordability	Complexity concerns

Organisational size can be considered in several ways. Table D.6 summarises analysis of a range of variables with the potential to provide an understanding of the relative scale of the relevant key utilities:

- Kilometres of road network containing assets for each utility;
- Population served;
- Households served; and
- Planned residential development served (over the next 10 years).

The analysis illustrates that Thames Water, SGN, Cadent Gas, UK Power Networks and Openreach dominate in terms of the proportion of their operation. Furthermore, these organisations operate in the growth opportunity areas highlighted in Phase 1.

Table D.6. **Measures of organisation size for utilities**

Provider	km road network containing provider assets	%age	Population	London households served by provider	%age	10 yr plan residential development	%age
Thames (Clean)	6634	14%	6801399	2833916	16.41%	350822	17.24%
Thames (Waste)	9217	20%	8856374	3690156	21.37%	423888	20.83%
E&S	819	2%	30795	30795	0.18%	30795	1.51%
SES	497	1%	9981	9981	0.06%	9981	0.49%
Affinity	1268	3%	32289	32289	0.19%	32289	1.59%
Cadent	5656	12%	5701865	2375777	13.76%	281467	13.83%
SGN	3561	8%	3154509	1314379	7.61%	142421	7.00%
UKPN	7918	17%	7822060	3259192	18.88%	395211	19.42%
SSE	1299	3%	28677	28677	0.17%	28677	1.41%
Openreach	7374	16%	7085099	2952125	17.10%	254333	12.50%
Other telcos	1843	4%	1771275	738031	4.27%	84778	4.17%

Data sources:
Participating organisations Area of operation obtained from provider websites, over laid with: Borough level km Road network - https://data.london.gov.uk/dataset/length-road-network-borough-and-region; Borough level population and households GLA London Borough Profiles

- https://data.london.gov.uk/dataset/london-borough-profiles; Residential development 10 yr plan - https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-chapter-three-londons-people/policy

Table D.7 illustrates a potential distribution between the top five impacted utilities, using the variables above and also factoring in turnover as detailed in the 2016/17 annual reports for each organisation, pro-rated to households served.

Table D.7. **Indicative distribution between top 5 utilities**

Provider	Road network impacted (km)	Proportion	10 yr plan residential development targets (units)	Proportion	Turnover (London)	Proportion
Thames Water (Clean+waste)	15851	38%	423,888	27%	£492,020,778	29%
Cadent	5656	13%	281,467	18%	£207,556,525	12%
SGN	3561	8%	142,421	9%	£245,053,665	14%
UKPN	7918	19%	395,211	25%	£287,352,065	17%
Openreach	9217	22%	339,110	21%	£461,269,479	27%

The data presented is intended to inform future discussions in the Finance and Funding workstream as detailed within the Management Case. It reflects stakeholder feedback which included an interest in identifying an emerging trend in the proportional size of each organisation. It suggests that focussing on obtaining subscriptions from a subset of utilities could be one viable approach for further consideration during engagement with the utilities, as it reflects the key beneficiaries whilst limiting the number of subscribers for simplicity.

Developer subscription allocation

Table D.8 summarises one potential approach to distributing costs on the basis of relative levels of development activity. The assessment uses data obtained from the local authority planning portal and the precedent set by the Community Infrastructure Levy, that contributions proportional to the square meterage of developments would reflect relative impact on infrastructure provision requirements.

The analysis suggests that sufficient levels of contributions could potentially be derived from the top three residential and commercial developers per growth area through this approach. It could therefore provide a viable option for further consideration during engagement with the developers, as it reflects the key beneficiaries whilst limiting the number of subscribers for simplicity.

Table D.8. **Illustrative model for developer contributions**

- 2018-2022 approved or submitted detailed and outline planning applications (residential and commercial)
- Applications regarding developments within the designated Growth Opportunity area boundaries

Source: local authority planning portal accessed via the GLA's Infrastructure Mapping Application

Total Area Specific cost P/A	773856
Assumed 50% LRF	386928
Contribution required per area	128976

Total Opportunity Area Floor area for all 2018-2022 approved or submitted planning applications (resi or commercial)	Floor area for top 3 developments 2018-2022 approved or submitted planning applications (resi or commercial)	Project_ID	Title	Growth Opportunity Area	Simple theme	Value	Leading_Organisation	Start Date	Floor area	Top 3 developer type (res or comm) % contribution by floor space	Contribution
15131	15045	BB_11941162	Centrale Shopping Centre Redevelopment	Croydon	Commercial	50000000	Turley Associates	2018	6510	43%	27904
		BB_12327761	28 Dingwall Road Croydon - Office Extension	Croydon	Commercial	4000000	LOM Architecture and Design	2018	5915	39%	25354
		BB_12130125	Ruskin Square - Plot B01	Croydon	Commercial	60000000	Boxpark	2022	2620	17%	11230
36224	35251	BB_11617572	1 Lansdowne Road - 794 Flats Restaurant & Pool	Croydon	Residential	130000000	Vectos Highway Infrastructure	2018	32262	92%	59020
		BB_12129925	Ruskin Square - Plot R03	Croydon	Residential	15645000	DP9 Planning Consultants	2018	1830	5%	3348
		BB_12050402	Taberner House & Queens Gardens Redevelopment	Croydon	Residential	40868000	Faithful+Gould Limited Head Office	2018	1159	3%	2120
72562	71867	BB_12008525	Royal Albert Dock Redevelopment - Phase 1b	Royal Docks	Commercial	46000000	London Communications Agency	2019	63118	88%	56637
		BB_12201484	Marriott Courtyard Hotel - London City Airport	Royal Docks	Commercial	13500000	Marriott International Hotels (Head Office)	2018	7106	10%	6376
		BB_12271990	Hire Station Limited - Warehouse/office Extension	Royal Docks	Commercial	2400000	The Hire Station (Midlands)	2018	1643	2%	1474
4554	4463	BB_12239789	Peruvian Wharf - 946 Apartments & Commercial	Royal Docks	Residential	74502000	DP9 Planning Consultants	2018	2368	53%	34216
		BB_12299766	Store Road North Woolwich - 160 Flats & 3 Houses	Royal Docks	Residential	12300000	Hyde Group Head Office	2018	1200	27%	17339
		BB_12332830	Brunel Place (Western Site)	Royal Docks	Residential	14000000	The Canning Town Development Company	2018	895	20%	12932
Total Opportunity Area Floor area for all 2018-2022 approved or submitted planning applications (resi or commercial)	**Floor area for top 3 developments 2018-2022 approved or submitted planning applications (resi or commercial)**	**Project_ID**	**Title**	**Growth Opportunity Area**	**Simple theme**	**Value**	**Leading_Organisation**	**Start Date**	**Floor area**	**Top 3 developer type (res or comm) % contribution by floor space**	**Contribution**
155902	150163	BB_12247637	10 Bank Street Heron Quays West	Tower Hamlets	Commercial	187540500	DP9 Planning Consultants	2018	125027	83%	53693
		BB_12176952	25 Cabot Square - Refurbishment	Tower Hamlets	Commercial	45000000	BW: Workplace Experts	2018	18600	12%	7988
		BB_12210839	The Quay Club Bank Street Canary Wharf -	Tower Hamlets	Commercial	10000000	Lindner Plc	2018	6536	4%	2807
373830	372859	BB_12287839	North Quay Poplar - Offices 1243 Flats & Retail	Tower Hamlets	Residential	800000000	WSP Parsons Brinckerhoff (Head Office)	2018	339243	91%	58674

		BB_12162264	Westferry Printworks	**Tower Hamlets**	Residential	200000000	Mace Limited Head Office	2019	19305	5%	3339
		BB_12110330	Alpha Square - South Quay	**Tower Hamlets**	Residential	100000000	Rider Levett Bucknall	2018	14311	4%	2475

Alignment between Coordination PA and Lane Rental Fund

Table D.9 and Table D.10 provide further details of the close alignment between the Coordination PA and the LRF bid categories and project drivers.

Table D.9. **Relevance of Coordination PA to LRF bid categories**

LRF Bid Category	Relevance of Coordination PA
Innovative technology	The pan-London element seeks to understand London's growth and infrastructure requirements through the use of innovative tools such as the London Infrastructure Mapping Application.
Infrastructure improvements	This is core to the strategic objectives of the Coordination PA, namely to improved efficiency effectiveness and to accelerate the delivery of London's major new investment, maintenance, renewal and resilience measure programmes and large scale area-specific infrastructure and development initiatives.
Improvements to skills/capability	The Coordination PA will seek to systematically identify local focus areas in London where stronger coordination capability is needed, because activity is taking place across multiple borough boundaries, development activity or potential is high, and/or there are few existing mechanisms for coordination.
Innovative techniques/working practices	The Coordination PA will be actively seeking to identify co-production practices at the local level and to promote coordinated approaches to these practices across London, establishing construction consolidation sites/centres; shared health and safety inspection, equipment and plant, logistics, traffic management plans and signage
Extraordinary measures to reduce congestion	The formulation of the IHLG following industry wide consultation process and the sustainably funded Coordination PA with the range of services as described in the strategic and commercial cases represents a comprehensive range of measures to reduce congestion.
Improvements to asset data record collection/accessibility	The Coordination PA will identify value adding data at the area specific level and also coordinate the funding and delivery of studies, such as up-to-date Development Infrastructure Funding Studies, to enable providers to better identify instances where infrastructure reinforcement is required

Table D.10. **Relevance of Coordination PA to LRF project drivers**

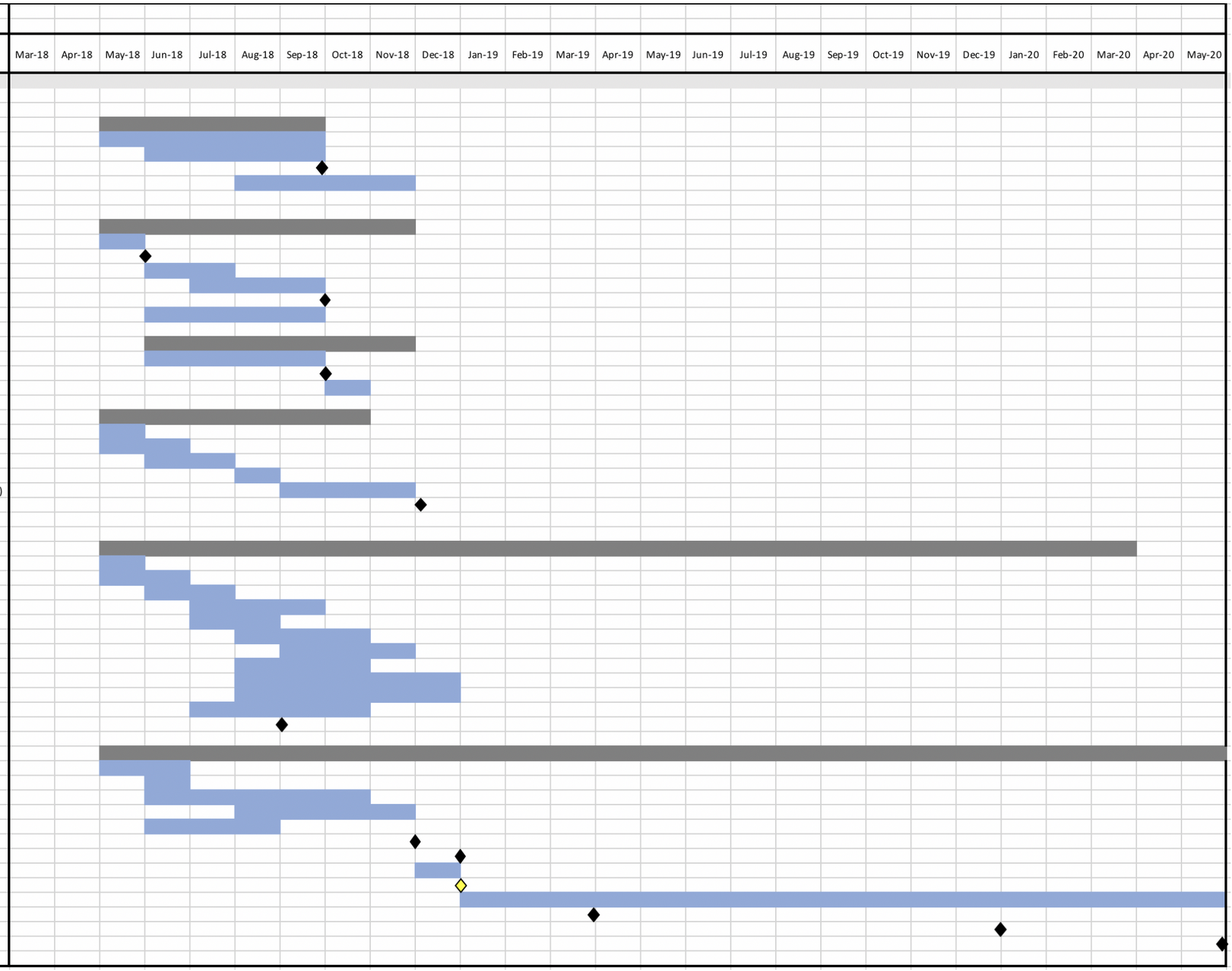
LRF Project Drivers	Relevance of Coordination PA
Reduce disruption from street works	As stated in the strategic objectives, a primary goal of the Coordination PA is to Improved journey times and reliability through reductions in traffic delay caused by street works.

Political and legislative	The Coordination PA pan-London function is committed to work with regulators, providers and statutory authorities to propose necessary changes to law, policy and regulation so as to promote the stated strategic objectives and the Mayors policies.
Reduce adverse effects cause by street works	As stated in the strategic objectives, the Coordination PA will seek to deliver benefits to the public from improved coordination, specifically: • Improved air and noise quality; • Reduced carbon emissions and carbon footprint; • Reduced number of accidents and safety incidents; • Reduced loss of utility services; and • Reduced loss and degradation of community amenities.
Technical, contractual, system, equipment.	The Coordination PA will establish and standardise co-production technical construction practices involving shared processes (e.g. health and safety inspection), shared use of equipment and plant. Shared logistics and traffic management systems, and Agreeing standardised contracts or frameworks for shared liabilities of reinstatement, and other construction coordination issues.

Appendix E – Management Case - Project Implementation Plan

Infrastructure Development Coordination - Implementation Plan

ID	Activity Description	Sub-Activity
1.0	**Finance & Funding**	
		Contribution assessment and modelling
		Cash flow analysis (operations)
		Budget sign-off and agreement (GLA)
		Post-agreement/sign-off works (Contributaries)
2.0	**HR & Legal**	
		Review options for staffing IDC (external/internal)
		Agree staffing strategy
		Develop draft agreements for stakeholders
		Consultation on agreements
		Implement finalised agreements
		Recruitment
3.0	**Sourcing**	
		Procurement exercise (if required)
		Contract award
		Consultant mobilisation
4.0	**Hosting**	
		Establish a working group
		Establish project board
		Agree hosting organisation and reporting structure
		Develop an accommodation brief
		Review potential property solutions (local and pan-London teams)
		Implement preferred hosting solution
5.0	**Change & Engagement**	
		Establish working groups
		Finalise service offering and structure
		Review current procedures and policies
		Agree stakeholder oversight arrangements
		Process redesign (Pan-London and local level)
		General training
		Specialist in-house training (IMA)
		Benefits realisation plan
		Internal communications
		Stakeholder communications
		Marketing communications
		Sign off redesigned processes
6.0	**Delivery & Operation**	
		Preparation work & requirements elicitation
		Security and data management review
		Design & build required IT functions
		New IT Infrastructure
		Implement management and governance structure
		Implement Pan-London function
		Implement local officers/functions
		Establish steering group
		Go-live date of IDC
		Continuous review and improvement of service
		Initial project review/lessons learned
		Mid-point project review/lessons learned
		Decision-point to proceed with phase 2



Appendix F – Stakeholder Feedback

SECTION 1 – INTRODUCTION

QUESTION 1: Are you comfortable with the identified focus for coordination activity and the strategic objectives identified?

- Makes sense conceptually – but questions about implementation
- At what stage can coordination issues be impacted? How will parties know the Coordination PA is there?
- (from Croydon): it is essential that the Coordination PA area officer is embedded into the area and is doing on the ground work rather than facilitation
- Need for this to be proactive / to know the pipeline of works rather than be reactive (like LondonWorks)
- Coordination PA can serve as a neutral arbiter
- Thames – agreement
- Principle of coordination is good – some question about how we deliver this complex function is difficult
- LA's don't want anything 'imposed' upon them. Risk that coproduction might do this (fear for a borough). Emphasis from SH that coproduction is about enabling collaboration, not imposition of rules.
- Questions about how you ensure the right people are in the right 'corner of the world'
- Thames Challenge is understanding what growth is coming when, in what format. "What we build and when" is part of the challenge – we need to not build white elephants but we need to have confidence in delivery. GLA providing that confidence allows for better business case definition by Thames which is beneficial. This would allow Thames to discuss directly with the regulator to 'unlock' a lowest common denominator approach.
- At the moment, the way 'we' are driven is we are pushed to do the bare minimum or repair. Most systems at max capacity. Ability to take a holistic view (that regulators do not enable – speculative investment) – coordination for future et al would be significantly improved. The regulator functions naturally drive us away from coordination.
- Need to ensure boroughs are engaged at local scale.
- Challenge here is how can coordination 'unlock' what might be seen as speculative investment (the stick the regulators use to beat providers with).
- Coordination might help 'depoliticize' this challenge. Mayoral 'credit rating' doesn't do this, while as a mixed public-private collaborative body might assist this.
- Challenge is that utilities are regulated services. Need to secede to regulators as well as shareholders. Certainty is one of the few things that will drive investment – typically Openreach do not invest in strategic ideas.
- CLF don't operate in the planning space but do have issues around very large sites.
- Certainty and speculatively seem to be the two key themes of the investment.
- Suggestion that function might fail without involvement (locally) without regulators.
- An ideal behind Coordination PA function is to represent all parties as opposed to just diverse components.
- At present, regulator-utility discussions can never remove the commercial discussion – having a Coordination PA function to 'mediate' this would be beneficial overall.
- In the present word, capital plans are reducing. Much more focused on maxing out existing infrastructure. That is the regulatory route we're being pushed down to protect the customer. Capital programmes are heading south.
- Different for Openreach, changing over from copper to fibre. A lot of it is fix and replace with existing infrastructure, but there is a massive Openreach programme.

QUESTION 2: Are you comfortable with the key success and delivery factors identified?

- Four key pieces of common platform for utilities
  - Customers
  - Health of asset
  - Efficiency (customers)
  - Environmental/sustainability
- Common commitment to 'public good'
- Part of the function is to create a public-private partnership
- Comment that the 'deal' for 8 years has been set for utilities – there isn't a major amount of wiggle room around implementing new infrastructure within this bracket (and within the bounds of the infrastructure bodies 'deal'). How you actually get any change is quite difficult. The regulatory arrangements provide a bracket that makes it difficult to react/change.
- What are the best things we could actually **say** to a regulator to have a more developed discussion?
  - Focus on discussion of future-proofing with regulators.
  - Need to move from speculative investment to 'an informed view'
  - Look at the econometric models. These models provide a driving point and structure the conversation, and don't know if presently they pick up the growth in the south-east.
  - Need to discuss incentives with regulators – the incentives (at present) do not drive it

- Presently Thames have to forecast what the housing total will be in 2025 within a 3% accuracy. There have been **17** housing ministers since 1997 – little continuity or presence. Consultants can barely predict 6 months, let alone further than that.

QUESTION 3: Have we identified the correct services for an adopted coordination approach to deliver?

General Comments:

- Developers see the area specific elements of the work as more important. The pan-London is a 'nice to have'.
- Local authorities see benefit of pan-London as sharing expertise
- Needed to be clearer on who is considered a provider
- Better foresight would give greater clarity on where growth is going – this providers certainty in investment decisions
- Need to consider cumulative impact of infill
- Need to be able to respond at any scale

SECTION 2 – THE STRATEGIC CASE

QUESTION 4: Does the assessment of options against service delivery look reasonable?

- Cadent concerned: is incremental option enough people?
- How is the incremental option scalable, and into what?
- Does this actually tick the box?
- Questions about Croydon – there is a Croydon element
- Elements are meant to focus on Tower Hamlets, Croydon and Royal Docks.
- Croydon has undertaken a co-production approach by liaising directly with local utilities –, Thames and Openreach (somewhat)
- Do the different options reflect the requirement to deal with different approaches and boroughs?
- Some question about do we have enough flexibility within our 'organization' to respond to the specific spatial challenges

QUESTION 5: Does the assessment of options against strategic objectives look reasonable?

- Nothing about risk of local politics within the delivery – responsiveness to local government mechanisms.
- How do you get council support? Need to keep them involved.
- Need to be careful around scale – part of the challenge is to deliver consistently, but you need to understand the local authorities resource constraints in delivery.
- What resource could be available to 'transfer' to the borough, or similar.
- Lack of reflection of 'borough' need in this function.
- Lack of consistency within boroughs creates a challenge, and granularity is the true challenge of delivery.

QUESTION 6: Does the assessment of options against key success and delivery factors look reasonable?

- Issues included: how long will it take to see benefits? Works are planned well in advance at places like.

QUESTION 7: Are you comfortable with the identified coordination Preferred Approach?

- Jeremy raised the point that this could be borough or London-regions led as well – but all agreed that would not work
- Of the 5 participants, 3 preferred incremental and 2 were somewhere between incremental and do max
- What is the vision in 3-4 years and what does the mayor want in 10?
- Really need to get the systems right
- Workshop too short!

General Comments:

- From Croydon: the importance of recruiting the right people with lots of experience for area teams (he suggested former TfL staff with engineering / traffic management background)
- Focus is on construction or works end, but a lot of what is talked about is front end
- Needs to capture the cost of things not happening, or being delivered more slowly

- Large upfront infrastructure cost, so lack of certainty should be captured
- Analysis is based on assumption that utilities stop development, which utility providers contest

SECTION 3 – THE ECONOMIC CASE

QUESTION 8: Do you have any issues or concerns with the overall approach taken to determining economic value?

- One provider wanted to see the basis of the figures and thought what was presented was 'just numbers' – wanted further breakdown of savings, etc. for the specific areas being targeted
- Case studies needed – though it was noted that Phase 1 is partly about gathering evidence
- Hard to determine where we save on a local level. How do we save on fixed costs of installation? Is there some benefit in this?
- If Berkeley's pipeline is exposed within an open tool, they have a better approach to planning their utilities
- On the big new developments, there is minimal difficulty. The bigger problem is around **infill.** Can local boroughs coordinate their works around infill?
- Economics are being looked at too simplistically. Three different trenches regardless.
- Opportunities for access change this. Get in get out is the present challenge.

QUESTION 9: Are you comfortable with the assumptions, data sources and parameters adopted?

- There was nervousness that the figures would go public and be viewed as certain before they were finalised / accurate
-

QUESTION 10: Do the scale of economic outcomes seem plausible to you?

General Comments:

- need to make sure that the costs associated with running the business are included in the assessment rather than just the cost of doing works
- Request to shift the focus more towards area specific, and therefore look at cost implications
- Need to look at resourcing of incurred costs, particularly on local authorities
- Getting ownership from Local Authorities requires consideration of Local Authorities. Needs to not just focus on GLA opportunity areas.
- Incremental option is sensible, so long as there are some quick deliverables.
- Yes – largely, but question of benefit.

SECTION 4 – FUNDING OPTIONS AND THE FINANCIAL CASE

QUESTION 11: Do the costs seem about right to support the services?

- Hyde – the ask seems modest from a development perspective as long as there is a ROI
- Concerns from utilities – see below

QUESTION 12: Can we validate the approach of distribution by scale of operation?

- Subscription model was viewed with hesitancy by some. One said this would cause a lot of conversation within their organisation. If this really will produce so many savings, why haven't regulated utilities already been doing it, since regulators would have required it?
- Big concerns – regulators require savings to be shared with customers, so will SGN be able to keep any? What incentives are regulators willing to consider?
- Why has Lane Rental Scheme been thrown out as an option for funding?
- Need to account for the fact that SGN and Cadent serve different areas when determining their contribution (i.e. if there are no local areas being targeted that SGN serves, it shouldn't pay as much.)
- Telecoms – infrastructure provider is bearing all of the cost, (Openreach) – resellers take none of the hit that we do.
- Reduced cost, permitting fast tracking
- Lack of consideration of how we support utilities providers workgang processes – how do we work within organisation's own functions?
- Do we think there is an overall benefit to improving coordination? Absolutely yes. Come back to 'what is the benefit' and how do we calculate that?
- Massive benefit for customers, developers, and others
- How do we really unlock the benefits for utility providers/etc?
- We have missed 'second order suppliers' in the Telco space.

QUESTION 13: Are there other metrics to be considered to determine funding distribution?
QUESTION 14: Does the scale of distribution feel broadly appropriate?
General Comments: • Cost, benefit and governance need to be aligned • Broad beneficiaries identified vs a small number of contributors • Measure of contribution only measures what has already been built, not what is planned • Subscription model implies voluntary, doesn't allow a balanced playing field as not all have to 'pay to play' • However, any taxation options will take time to implement • Tying to viability system through planning (similar to affordable housing) risks planning another burden • Strategic case is undeniable, to the point that investing in a larger function might be necessary. • Economic case – public good benefits are awesome, but the private return models are not that good. This makes the funding model quite difficult. • Commercial case – need to undergo an initial test – over the entirety of London, the investment is quite modest, but can it be delivered more appropriately?