

New Generation Transport

Short-listed Legislative
Frameworks, Procurement
Options and Appraisal

KPMG LLP

2 October 2009

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This is an Appendix to the MSBC Commercial Case for NGT. It provides a summary of the legislative frameworks and the procurement options that have been short-listed and appraised for their appropriateness for NGT.

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1 Legislative Frameworks

A key consideration in determining the appropriate operational solution for NGT is the legislative framework within which the services will be delivered. There are a number of frameworks that are available for bus-based systems (potentially including trolley vehicles) which could either be used on their own or in combination. For example, a Statutory Quality Partnership Scheme (QPS) or Quality Contract (QC) could be used in conjunction with a Transport and Works Act Order (TWAO) authorising the infrastructure, and overall scheme delivery can be enhanced by the use of Voluntary Partnership Agreements (VPA) with operators. This Appendix only provides a summary of the legislative frameworks. A more detailed description of the legislative options is provided, their benefits and limitations are provided as Commercial Case Appendix 1 – Legislative Frameworks.

Voluntary Partnership Agreement (VPA)

The Promoters can reach a voluntary agreement to work in partnership with the operator(s) where the Promoters provide certain facilities (e.g. priorities) and the operator(s) commit(s) to certain standards in return. The agreed arrangements can be contractual and binding. The VPA modifies the competition test that applies to such agreements, recognising the benefits that they can bring to passengers.

New entrants can operate services without signing up to the VPA and therefore not be obliged to comply with the terms of the VPA. Existing operators can also decline to participate in a VPA or only participate on a basis which they have agreed to. Competition law still applies (in modified form) to such agreements, and where significant benefits accrue to operators party to a VPA, state aid and procurement implications need to be considered.

Statutory Quality Partnership Scheme (QPS)

A QPS is a scheme which is made by the authority. The scheme imposes binding standards on operator(s) who use facilities provided by the Promoters. A QPS is not exclusive, and applies to all operator(s) using the provided facilities. Any such operator(s) can run services providing they meet the defined standards. Existing operator(s) have an ability to challenge certain terms within a scheme, in particular where the terms would impact on the commercial viability of existing services.

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Quality Contract Scheme (QC)

This would allow for tendered concession arrangements not dissimilar to the London bus regime. It would allow the Promoters a high level of control over services and the ability to grant exclusive rights for the provision of services on a specific route or corridor, or in a specified area.

More than one quality contract could be let under a QC. For example, a scheme could be made for multiple services, and a separate contract could be let for each service (as is the case in London).

If need be, the Promoters would be able to lease vehicles to the successful tenderer. This would reduce barriers to entry and may therefore drive competition resulting in more competitive pricing.

Transport & Works Act Order (TWAO)

The Secretary of State can make an order authorising the construction and/or operation of a transport system. The order can grant exclusive operating rights of the system, and also enable the Promoters to let these rights to third parties. This can be done through a discrete concession, or in combination with a QC, QPS and/or a VPA.

A TWAO can be made to authorise a trolley vehicle system, and a guided bus system, but not a non-guided bus. Where a route corridor has both guided and non-guided sections, the guided sections and ancillary sections can be authorised by the TWAO, but non-ancillary, non-guided sections (i.e. where the vehicle runs on the normal highway) cannot be restricted through the TWAO.

TWAO is distinct from the other legislative frameworks mentioned above since it governs not only operations, but also the Promoters' ability to acquire land and other construction issues. The other frameworks relate to operations only and would need to be supplemented by additional permissions (e.g. compulsory purchase powers, planning permission, listed building/conservation consent, and traffic regulation orders) with respect to land acquisition and highway and/or general powers for construction matters.

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2 Procurement Options

For purposes of the procurement options appraisal the requirements of NGT were split into the following three key elements:

1. Infrastructure
2. Vehicles
3. Operations

Initially a long list of procurement options was identified. A high level appraisal was then carried out to produce a shortlist of options which were then appraised in further detail. The procurement options that were shortlisted for each of the elements of the NGT system are outlined below and appraised in the next section.

Infrastructure

Consideration must be given to the requisite infrastructure components of NGT. For purposes of the procurement strategy we have grouped the list of infrastructure assets as follows:

- Assets that Promoters currently have responsibility for and are on the highways (or directly related):
 - Road surface
 - Kerbside guidance
 - Shelters
 - Lighting
 - Signalling
- Assets that Promoters have responsibility for but are not directly related to highways:
 - - Park & Ride (P&R) sites
- Assets that Promoters have no responsibility for which are not related to highways but are necessary for NGT operations:
 - Depot
 - Control Room
- Assets that Promoters have no responsibility for but would be linked to the highways:
 - OHE

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It is important to note the above list is a representative, yet in-exhaustive list of NGT infrastructure assets. There may be other assets that are added as the scheme and procurement strategy evolves.

The infrastructure works would also include creation of any additional highways, and any segregation or physical changes to existing highways.

The options available for procuring these infrastructure assets are outlined below. Each asset could be procured under separate contracts or some or all of the assets could be combined into one contract.

i. Separate Design, Build and Maintenance Contracts

The Promoters would tender for a contractor to design the asset. Once the design is complete, it would be transferred to the Promoters. The Promoters would then tender for a contractor to build the asset. Once built, the Promoters would then tender for a contractor to maintain the asset.

ii. Build (B) or Design & Build (D&B) Contract with separate Maintenance Contract

This is a conventional procurement approach where the Promoters develop a reference design and take it through the statutory process, although the Promoters may leave some responsibility to the contractor to secure final consents. The Promoters then either: develop the detailed design and tender for a contractor to build the asset; or tender for a contractor to complete the detailed design and then build the asset. Once the construction is complete, the construction contractor's involvement ends and the asset is taken over by the Promoters who are then responsible for its maintenance (which can either be done in-house or outsourced under a separate contract).

iii. Design, Build and Maintain (DBM) Contract

The Promoters would develop a reference design and most likely take it through the statutory procedures. The Promoters would then tender for a contractor to design, build and maintain the asset.

There may, however, be instances in which the Promoters wish the DBM contractor to undertake certain consents given the contractors' need to design for long term maintenance. Under these circumstances the Promoters are accepting some degree of risk that this design also satisfies all statutory requirements.

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Payments are normally in the form of milestones during the construction phase and with an incentive based payment mechanism during the maintenance period.

Vehicles

There are a number of options available for the procurement of trolley vehicles which can be procured either by the Promoters or by the operator(s). The flexibility and options are compatible with the TWAO-method of authorising the system. Some of these options and the flexibility within the TWAO are explained in more detail in [Commercial Case Appendix 1 – Legislative Frameworks].

For the detailed appraisal, the following options were considered for procuring vehicles if these are to be procured by the Promoters:

i. Build (B) or Design and Build (D&B) with separate Maintenance Contract

(This procurement option is the same as the one described above for infrastructure).

ii. Design, Build and Maintain (DBM)

Although the depot has been considered as part of the list of infrastructure assets (see above); the options available for depot can be linked to the strategy for vehicles. These options have been considered both separately and in combination.

Having one contract for designing and then another one for building the depot and vehicles is not considered in detail. The manufacturers of vehicles and depot are specialists in doing detailed design. The detailed designs can hinge on existing and planned production lines and as such they are normally best able to suggest what the cost effective design is within the bounds of minimum specifications requested by the Promoters (e.g. right hand drive trolley vehicles). Furthermore, carrying out detailed design and then tendering the build could limit the vehicle specification, or result in little interest from bidders (causing costs to rise). Ultimately the Promoters are expected to have a minimum specification that they require to be met, with bidders, manufacturers or operators proposing alternative solutions above this base line specification.

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Operations

A number of operational scenarios were considered. Where the operations were contractually let, the following two procurement options were considered:

i. Operations Contract

The Promoters would tender an operations contract for NGT that would not include any additional service responsibilities.

ii. Operations and Maintenance (O&M) Contract

The Promoters would tender an operating contract with maintenance provisions. Depending on a Value for Money assessment, the Promoters would determine whether the maintenance responsibility was for a) the vehicles only; b) the vehicles and other infrastructure assets; c) the vehicles and OHE as well as the whole infrastructure kit.

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Appraisal

In order to assess the merits of different legislative frameworks and the three components of the NGT system (i.e. infrastructure, vehicles, and operations), a comparative appraisal was undertaken for each identified procurement option to assess their respective advantages and disadvantages. The results for each of these are shown below:

Legislative Frameworks

The table below summarises the appraisal of the procurement options against the NGT Procurement Objectives for legislative framework. Detailed description and a more detailed review of the benefits and issues of each of these legislative frameworks are included within Commercial Case Appendix 1.

TABLE 1 PROCUREMENT OPTIONS – LEGISLATIVE FRAMEWORK

	VPA (Voluntary Partnership Agreement)	QPS (statutory Quality Partnership Scheme)	QC (Quality Contract)	TWAO (Transport and Works Act Order)
<p>Maximise the deliverability of the procurement approach</p> <p><i>There are significant commercial and legal constraints (including competition, state aid and procurement) that need to be considered when developing the procurement strategy for NGT. The procurement approach should take these into account and maximise the likelihood of the</i></p>	<p>VPA could be challenged under procurement rules and/or state aid rules if it provides significant benefits to an operator, especially if this distorts competition. Could be challenged for breach of competition law if the terms of the agreement are not clearly for customer benefit and proportional to the adverse impact on competition.</p>	<p>QPS would have to be designed so that NGT does not limit competition and does not provide disproportionate benefits to particular operator(s).</p> <p>A QPS is imposed upon the operator(s); however if they successfully challenge the terms it will be varied and/or not go ahead. This will therefore make high vehicle standards difficult to impose given the level of investment required from</p>	<p>There are significant issues in delivering a QC under the planned timeframe. These include:</p> <ul style="list-style-type: none"> Final government guidance is yet to be published (with the consultation closing in October) There is a relatively long statutory timeframe from commencement of promotion of a QC to implementation 	<p>Although there have been no recent trolley vehicle procurements, the TWAO can be used to deliver trolley vehicle systems such as NGT which would give Promoters powers to build NGT and the powers to operate it.</p>

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	VPA (Voluntary Partnership Agreement)	QPS (statutory Quality Partnership Scheme)	QC (Quality Contract)	TWAO (Transport and Works Act Order)
<i>timely and affordable delivery of the scheme.</i>		operator(s).	<ul style="list-style-type: none"> This process does not fit well with the certainty required for major infrastructure works such as a trolley vehicle scheme. There are no precedents 	
<p>Secure a level of investment that optimises the fulfilment of the overall NGT Scheme Objectives</p> <p><i>The procurement approach should seek to optimize the level of investment in NGT whether from public or private sources.</i></p>	<p>Sustained improvements in public transport cannot be guaranteed (with probably only limited contractual enforceability and a risk of operators walking away if terms become unfavourable) and Promoters are limited in how much they can control in terms of outputs. This in turn limits the fulfilment of scheme objectives. Because of the lack of guarantees of services, VPA is unlikely to garner sufficient investment by the Promoters.</p>	<p>Sustained improvements in public transport cannot be guaranteed as operators could simply choose not to operate services. Although Promoters have some control in terms of outputs, these are unlikely to be sufficient to fulfil scheme objectives.</p>	<p>Successful implementation of a QC would give Promoters significant control over the inputs and the outputs to fulfil majority of the scheme objectives. This in turn could encourage investment in NGT by Local Authorities and potentially local businesses as there is more certainty that the services will be provided.</p>	<p>As TWAO powers can give significant control over the inputs to deliver NGT and over the required outputs, TWAO should give sufficient assurance to stakeholders that NGT scheme objectives can be fulfilled and services are secured. This in turn should encourage investment in NGT by the Promoters.</p>

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	VPA (Voluntary Partnership Agreement)	QPS (statutory Quality Partnership Scheme)	QC (Quality Contract)	TWAO (Transport and Works Act Order)
<p>Ensure the long-term affordability of NGT for the Promoters <i>Revenues from passengers and any grants/subsidies from Promoters should be able to pay for all the operating and maintenance costs of NGT over the life of the scheme.</i></p>	<p>It is possible that operator(s) that do agree to higher standards are then competing with operator(s) that do not agree to the same standards. This would impact the commercial viability of NGT (possibly resulting in tendered services if commercial operators walk away). This, in turn would adversely impact affordability.</p> <p>(Note that under a VPA, operator(s) would be responsible for running services and maintaining the vehicles. The Promoters would be responsible for the maintenance of the infrastructure.)</p>	<p>QPS can only apply to facilities for a limited period of time. At the end of this, vehicles of lower standard could compete (unless facilities were enhanced, at a cost, to allow continuance of the QPS) and affect the commercial viability of some NGT services. This, in turn may adversely impact affordability.</p> <p>(Note that under a QPS, operator(s) are normally responsible for running services and maintaining vehicles. The Promoters would be responsible for infrastructure maintenance.)</p>	<p>Vehicle maintenance costs may have to be borne by Promoters, but Promoters could have control over NGT operating revenues which could fund some, or all, the vehicle maintenance costs.</p> <p>QC also gives significant controls to Promoters along the corridor which in turn can be used to ensure commercial viability of NGT.</p> <p>Therefore QC should be more affordable than VPA and QPS in the long term.</p> <p>There is a risk of not achieving value on a re-letting of the QC, or on any renewal of the scheme, if the scheme significantly restricts competition in the market. This would have to be managed through the contract structure.</p>	<p>Vehicle costs may have to be borne by Promoters. But this is still likely to be more affordable than VPA and QPS over the long term, given the ability for the Promoter to be able to fully specify the NGT services and manage risk, and the ability for the Promoter to retain NGT revenues (although also taking responsibility for losses).</p>

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	VPA (Voluntary Partnership Agreement)	QPS (statutory Quality Partnership Scheme)	QC (Quality Contract)	TWAO (Transport and Works Act Order)
<p>Maximise the Value for Money of NGT within the affordability envelope</p> <p><i>The procurement should be structured so as to provide best value to the Promoters..</i></p>	<p>Likely to be poor VfM given the inherent risks of not being able to deliver improvements in services over the long term.</p>	<p>A renewal or variation of the QPS would require the Promoters to demonstrate that the standards applicable were still appropriate. This may impact on the VfM, as in either case it would be possible for operator(s) to challenge the standards under the new or varied scheme.</p>	<p>The successful implementation of NGT operations using QC could deliver significant benefits which delivers improved VfM.</p> <p>However parts of QC could impact other non-NGT services which in turn could adversely impact the overall public transport offering in the region.</p>	<p>The successful implementation of NGT under TWAO can deliver significant benefits and secure these over the length of the project. This should deliver VfM.</p>
<p>Lock-in delivery of the NGT Scheme benefits</p> <p><i>The procurement approach should ensure the envisaged benefits of NGT are secured and delivered for all stakeholders over the life of the scheme.</i></p>	<p>VPAs are voluntary agreements and operator(s) do not have to take part. It is difficult to see how an operator could sign up to a voluntary scheme on a long term basis to provide trolley vehicles without gaining any benefit (otherwise it would have to be competitively tendered). VPA is therefore unlikely to lock-in scheme benefits</p>	<p>QPS have an effective life of at least 5 years, with a maximum lifetime related to the benefits provided by the scheme. A scheme could become even shorter if operator(s) challenged the validity of the scheme. The Promoters would have to justify the length of the scheme when it was made, leading to potential for challenge where a long-term scheme was proposed due to the potential impact on competition. At the end of the scheme, Promoters would</p>	<p>QC can lock in most of the scheme benefits for the duration of the QC contract (and its subsequent renewals).</p>	<p>TWAO can lock in most of the scheme benefits for the duration of the NGT life.</p>

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	VPA (Voluntary Partnership Agreement)	QPS (statutory Quality Partnership Scheme)	QC (Quality Contract)	TWAO (Transport and Works Act Order)
		have to demonstrate that any new scheme or extension to the existing scheme was still justified, with the potential for further operator challenge. QPS therefore may not guarantee lock-in of scheme benefits over the life of the NGT assets.		
Ensure the scalability of NGT <i>Subject to affordability and value for money, the procurement approach should preserve flexibility for NGT to be extended (or reduced) as the Promoters may require in due course.</i>	VPAs are flexible and could be extended to other routes or reduced without any major contractual or legal impediment (assuming that original contracts were legal). They would, however, require the agreement of participating operator(s)	QPS can be extended to other routes or reduced but these will require a new QPS to be established or an amendment of an existing QPS, either of which could be subject to operator(s) challenge.	QC can be amended (extended or contracted) but this would require going through the long statutory processes again, and import significant risk.	Unless included in the original TWAO submission (which would have to be justified on its merits at the time of application), a new application will probably need to be made if NGT is to be extended. It is unlikely that any reduction of NGT will require a new application [except if it was part of the main body of the original TWAO application].

Infrastructure

The table below summarises the appraisal of the shortlisted procurement options against the Procurement Objectives for infrastructure.

It is important to note that this appraisal is closely linked with the legal framework options outlined above. For instance, if any procedure other than a TWAO is adopted, then it will be incumbent upon the Promoters to

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secure the appropriate CPOs, consents (including planning permission) and other statutory approvals under separate processes.

TABLE 2 PROCUREMENT OPTIONS – INFRASTRUCTURE

	Separate D, B and M Contracts	B / D&B with Separate M contract	DBM
<p>Maximise the deliverability of the procurement approach</p> <p><i>There are significant commercial and legal constraints (including competition, state aid and procurement) that need to be considered when developing the procurement strategy for NGT. The procurement approach should take these into account and maximise the likelihood of the timely and affordable delivery of the scheme.</i></p>	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> • Civil works not considered complex to Design, Build and then Maintain. • Setting limits of responsibility difficult for maintenance (Promoters have statutory duties in relation to roads, kerbs and stops which they already maintain). • Promoters already have or may have long-term contracts (Streetlighting PFI, Highways maintenance PFI). • Maintenance could be kept in-house. • Therefore separate D and B contracts deliverable although M contract would need to consider future flexibility. • <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> • As for road-surfaces except that the same issues for maintenance do not apply as limits of responsibility will be easier and there will not be the same interface as normal highways. • Therefore separate D, B and M contracts are deliverable. 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> • Civil works and subsequent maintenance not considered complex. • D&B contracts would provide Promoters more control over the outputs. • Maintenance will have same issues as D, B and M contracts. • Maintenance could be kept in-house • Should be deliverable. <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> • Based on the fact that Promoters already have experience with procuring P&R sites, a D&B contract with separate M contract should be deliverable. 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> • Defining maintenance responsibility may be more complex than the other two options as maintenance requirements need to be defined earlier and likely term of contract probably longer making interface more difficult. • Total maintenance may not appeal to contractor that would build the infrastructure. <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> • Maintenance element may be too small and therefore not appealing to builder.

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	Separate D, B and M Contracts	B / D&B with Separate M contract	DBM
<p>Secure a level of investment that optimises the fulfilment of the overall NGT Scheme Objectives</p> <p><i>The procurement approach should seek to optimise the level of investment in NGT whether from public or private sources.</i></p>	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Separate contracts for various elements would provide Promoters with control over type of output they want from infrastructure. [Separate D, B and M would not impair the fulfilment of NGT scheme objectives.] <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above. 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Provides Promoters with control over type of output they want from infrastructure. Promoters have more control over maintenance regime than a DBM. [This procurement route would not impair the fulfilment of NGT scheme objectives.] <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above plus Promoters retaining control of P&R sites ensures pricing and usage contributes to successful delivery of NGT objectives while also delivering VfM. 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Promoters would need to consider full maintenance requirements (as output specification) before construction starts. This would include anticipating future developments and changes to NGT corridors over the DBM contract period. [DBM is unlikely to impair the fulfilment of NGT scheme objectives.] <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above.
<p>Ensure the long-term affordability of NGT for the Promoters</p> <p><i>Revenues from passengers and any grants/subsidies from Promoters should be able to pay for all the operating and maintenance costs of NGT over the life of the scheme.</i></p>	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Promoters are responsible for maintenance of infrastructure. Scale of maintenance for NGT infrastructure may not be of sufficient size to result in economies of scale therefore tendering the M contract may adversely impact affordability. Rolling maintenance into existing or future contracts may 	<ul style="list-style-type: none"> Road surface, Kerbside guidance, Shelters, Lighting, Signalling Promoters are responsible for maintenance of infrastructure. Scale of maintenance for NGT infrastructure may not be of sufficient size to result in economies of scale therefore tendering the M contract may adversely impact affordability. Rolling maintenance into 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Maintenance element may be small and there are a number of interface risks that need to be reflected and priced in resulting in overall costs to rise (because contractor either sub-contracts maintenance and/or builds in maintenance capacity which is not efficient given lack of economies of scale).

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	Separate D, B and M Contracts	B / D&B with Separate M contract	DBM
	<p>result in economies of scale over the maintenance period, making it more affordable.</p> <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above. 	<p>existing or future contracts may result in economies of scale over the maintenance period, making it more affordable.</p> <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above. 	<ul style="list-style-type: none"> This would adversely impact affordability. <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above.
<p>Maximise the Value for Money of NGT within the affordability envelope</p> <p><i>The procurement should be structured so as to provide best value to the Promoters</i></p>	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Separate contracts for Design and for Build add an additional layer of complexity. It places Promoters in the middle of the two contractors. This reduces VfM compared to a D&B contract but is limited as infrastructure is not considered complex, so D&B contractor is unlikely to add material price on interface risk between D&B elements and instead could potentially achieve savings through developing a design that optimises its machinery and resources. Separate standalone M contract is likely to lower VfM because the maintenance contract is unlikely to achieve economies of scale and because risks arising from lack of defined responsibilities 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> D&B contract should deliver better VfM than separating individual D and B contracts (which add a layer of complexity without any material benefits). However, the benefit to VfM is likely to be limited given the limited complexity of the designs and works (which are works and risks that the Promoters have extensive experience managing). Separate standalone M contract is likely to lower VfM because the maintenance contract is unlikely to achieve economies of scale and because risks arising from lack of defined responsibilities being priced-in. Interface risks between the two contracts (D&B and M) exist but this would be limited 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Maintenance part unlikely to achieve economies of scale causing price to rise. Contractor would price-in risk due to maintenance interface with other contracts (e.g. Highways maintenance, Streetlighting PFI, etc) especially as it does not have control over or can forecast accurately the usage of the assets it maintains. [This option is likely to have the lowest VfM.]

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	Separate D, B and M Contracts	B / D&B with Separate M contract	DBM
	<p>being priced-in.</p> <ul style="list-style-type: none"> Interface risks between the three contracts (D, B and M) exist but this would be limited compared to tram or other complex systems as the works required are already works and risks that the Promoters have extensive experience in managing. Retaining maintenance in-house (and retaining flexibility to combine the maintenance with existing or future contracts) could lead to economies of scale and so would increase VfM. [This option is likely to have a higher VfM than DBM, but lower than D&B contract.] <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above except the number of interfaces will be lower as there may not be any highways maintenance and/or streetlighting with the P&R. Furthermore the Promoters retaining control of P&R sites should ensure the pricing and usage of the P&R contributes to successful delivery of NGT objectives while also delivering VfM. 	<p>compared to D, B and M contracts and compared to tram or other complex systems as the works required are already works and risks that the Promoters have extensive experience in managing.</p> <ul style="list-style-type: none"> Retaining the maintenance in-house (and retaining flexibility to combine the maintenance with existing or future contracts) could lead to economies of scale and so would increase VfM. [This option likely to have the highest VfM.] <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above except the number of interfaces will be lower as there may not be any highways maintenance and/or streetlighting with the P&R. Furthermore the Promoters retaining control of P&R sites should ensure the pricing and usage of the P&R contributes to successful delivery of NGT objectives while also delivering VfM. 	<p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above except there are not expected to be as many interface with other contracts as the P&R is off highway.

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<p>Lock-in delivery of the NGT Scheme benefits</p> <p><i>The procurement approach should ensure the envisaged benefits of NGT are secured and delivered for all stakeholders over the life of the scheme.</i></p>	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Separate maintenance contract would secure infrastructure quality during the contract duration. Rolling maintenance into existing maintenance regimes would give Promoters control over quality. There is a risk that Promoter budgetary constraints over time create pressure to reduce maintenance. [There is no significant difference between the three approaches.] <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above. 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> As separate D, B and M contract option. <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above. 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> DBM would lock-in asset quality /maintenance for contract duration. However unlikely contract would be as long as NGT asset life and there may be renewals and maintenance contract(s) after a number of years at which point there is a risk that Promoter budgetary constraints over time create pressure to reduce maintenance. [There is no significant difference between the three approaches.] <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above.
<p>Ensure the scalability of NGT</p> <p><i>Subject to affordability and value for money, the procurement approach should preserve flexibility for NGT to be extended (or reduced) as the Promoters may require in due course.</i></p>	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Sufficient flexibility expected to scale up or down as are not tied to a long term contract. There may be some costs and interface risks that need to be considered. Separate agreements could be let for design and construction of any extension. Only the maintenance contract (if awarded 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> Sufficient flexibility expected to scale up or down as are not tied to a long term contract. There may be some costs and interface risks that need to be considered. Separate agreements could be let for design and construction of any extension. Only the maintenance contract (if awarded 	<p>Road surface, Kerbside guidance, Shelters, Lighting, Signalling</p> <ul style="list-style-type: none"> May require renegotiation or termination of the contract before a scheme could be scaled up or down although provision could be made within the agreement either for extensions, or to require appropriate interfaces with the party constructing any extension.

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	<p>over a long term) would be impacted but this could be amended to incorporate changes to NGT through contract variations. If amendments are difficult, any extensions to NGT could be part of a separate maintenance contracts, to the extent required.</p> <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above. 	<p>over a long term) would be impacted but this could be amended to incorporate changes to NGT through contract variations. If amendments are difficult, any extensions to NGT could be part of a separate maintenance contracts, to the extent required.</p> <p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above. 	<p>Park & Ride (P&R)</p> <ul style="list-style-type: none"> As above.

The OHE infrastructure and the depot are two other critical elements that need to be procured and maintained for the successful operation of the NGT system. For example, the OHE requires specialist skills and engineering whilst the depot is critical for the maintenance of the trolley vehicles. Procurement options for OHE and the depot are still being appraised and will be further considered as the scheme design is developed and following market testing to determine what option delivers best value.

Vehicles

The table below summarises the appraisal of the procurement options against the Procurement Objectives for vehicles where the Promoters are responsible. Benefits and issues for options where operators are responsible for procuring the vehicles, e.g. under a QPS, are outlined in the Commercial Case Appendix 1.

TABLE 3 PROCUREMENT OPTIONS – VEHICLES

	B / D&B with Separate M contract	DBM
<p>Maximise the deliverability of the procurement approach</p> <p><i>There are</i></p>	<ul style="list-style-type: none"> There are several precedents for this approach. The maintenance contract could be awarded to either the operator(s) or a third party specialist. There are precedents for both of these. 	<ul style="list-style-type: none"> Tying in maintenance with the delivery of vehicles has precedents. <ul style="list-style-type: none"> <i>In some cases the Operator has been responsible for the delivery of vehicles and</i>

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	B / D&B with Separate M contract	DBM
<p><i>significant commercial and legal constraints (including competition, state aid and procurement) that need to be considered when developing the procurement strategy for NGT. The procurement approach should take these into account and maximise the likelihood of the timely and affordable delivery of the scheme.</i></p>	<p>Careful consideration needs to be given to ensure the maintenance contract does not result in any particular company having undue advantage in a competitive tender (otherwise competition rules may be breached).</p> <ul style="list-style-type: none"> Overall this procurement approach should be deliverable. 	<p><i>then its maintenance. In other cases, manufacturers have both built and then maintained vehicles.</i></p> <ul style="list-style-type: none"> The contract will need to ensure requirements / output specifications do not give undue advantage to a particular company which may impact competition. Overall this procurement approach should be deliverable.
<p>Secure a level of investment that optimises the fulfilment of the overall NGT Scheme Objectives</p> <p><i>The procurement approach should seek to optimise the level of investment in NGT whether from public or private sources.</i></p>	<ul style="list-style-type: none"> Whether vehicles secure investment is tied to the Legal Framework assessment. QC and TWAO can provide the Promoters with more assurance on the securing of the scheme benefits and on the locking in of these benefits over the long term (these benefits would include availability and quality of the vehicles). QC and TWAO are thus more likely to secure investment from the local authorities as these legislative frameworks are more likely to fulfil the scheme objectives. B / D&B contract with separate M contract will not impair ability to secure investment and maximise fulfilment of NGT scheme objectives. 	<ul style="list-style-type: none"> As D&B and M contracts option. DBM will not impair ability to secure investment and maximise fulfilment of NGT scheme objectives.
<p>Ensure the long-term affordability of NGT for the Promoters</p> <p><i>Revenues from passengers and any grants/subsidies from Promoters should be able to</i></p>	<ul style="list-style-type: none"> Separate maintenance contract could be shorter than the life of the vehicles If so, at the end of the initial contract, Promoters would take the risk of any increases in maintenance costs (that result from the retendered contract price). Separating out the maintenance contract from the design and 	<ul style="list-style-type: none"> DBM contract can provide fixed maintenance contract prices (subject to mileage) during the contract life which the contractor takes the risk for. However the contractor is likely to price that risk in and given the fact that it will not have full control over vehicle usage, road quality and/or interaction of NGT vehicles with other users, that price could be significant. This could have a

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	B / D&B with Separate M contract	DBM
<p><i>pay for all the operating and maintenance costs of NGT over the life of the scheme.</i></p>	<p>build of the vehicles will need to consider any Intellectual Property Rights related to, for example, spares. I.e. spares may only be available from the manufacturer or its licensed suppliers. Acquiring these spares could lead to higher costs even if the actual maintenance costs are more competitively priced. Therefore if this approach is taken, the procurement strategy will need to ensure that there is more than one prospective tenderer for any retendered maintenance contract and spares will be available.</p> <ul style="list-style-type: none"> • Costs are expected to be lower compared to pricing vehicle maintenance very early when NGT vehicle usage, NGT vehicle interaction with other traffic modes, and/or the level of protection given to NGT may not be clear. However this could be offset by higher costs to source spares over the longer term. • Further consideration will be given post programme entry as to whether this approach is more affordable than DBM approach. 	<p>material impact on the long-term affordability.</p> <ul style="list-style-type: none"> • The total number of NGT vehicles is not considered to be high, so pricing at the onset will reflect inefficiencies (due to lack of economies of scale). • However maintenance and spares strategy may be better in the long term due to IPR and manufacturer warranties ensuring spares supply – however <i>if the DBM contract length is less than the vehicle life, then the procurement strategy needs to ensure that (in particular in respect of IPR on spares) that there is more than one prospective tenderer for any retendered maintenance (and/or refurbishment) contract.</i> • Further consideration will be given post programme entry as to whether this approach is more affordable than D&B plus M.
<p>Maximise the Value for Money of NGT within the affordability envelope</p> <p><i>The procurement should be structured so as to provide best value to the Promoters</i></p>	<ul style="list-style-type: none"> • Promoters would need to manage the interface risk between the D&B and maintenance contracts which would bring some cost and expertise in house together with contract management. • Savings that can be expected from the contractor not pricing in maintenance cost risks over the long term need to be weighed against the interface risk that Promoters retain and any issues that might arise with the supply of spares compared to the DBM approach. • Further consideration needs to be given whether this approach provides higher VfM than a DBM approach. 	<ul style="list-style-type: none"> • The contractor would take the risk of D&B with maintenance during the contract life. • Any value that can be expected to be achieved from transferring the maintenance risk to the contractor as well as through having a more secure spares regime needs to be balanced against the pricing of this maintenance risk by contractors. Furthermore, any cost increases resulting from ensuring that there is a competitive market at retendering will also need to be reflected. • Further consideration needs to be given whether this approach provides higher VfM than D&B plus M approach.

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	B / D&B with Separate M contract	DBM
<p>Lock-in delivery of the scheme benefits</p> <p><i>The procurement approach should ensure the envisaged benefits of NGT are secured and delivered for all stakeholders over the life of the scheme.</i></p>	<ul style="list-style-type: none"> • Whether benefits are locked in depends on legal framework used. Promoters would probably own the vehicles under a TWAO (or a QC), but not under a QPS or VPA. • Under a TWAO, Promoters would have more control over outputs as the maintenance contracts are likely to be shorter and retendered more often • There is a risk that retendering provides Promoters with more opportunities to scale down maintenance (and therefore benefits) due to budgetary constraints. This could lead to a reduced performance in the later years as vehicle and depot maintenance has a strong correlation with performance. • Overall, under a TWAO, it is expected that D&B with separate maintenance contracts would lock-in scheme benefits. But whether more benefits are locked in compared to DBM approach will depend on whether separating the maintenance contract results in lower quality vehicles due to any potential issues with IPR, spares and overall cost. Further consideration needs to be given in this regard. 	<ul style="list-style-type: none"> • Whether benefits are locked in depends on legal framework used. Promoters would probably own the vehicles under a TWAO (or a QC), but not under a QPS or VPA. • DBM would be able to lock-in asset and maintenance requirements for the duration of the contract. • However it is unlikely that the contract would be as long as NGT asset life (otherwise a high risk premium may be priced in) and there may need to be a renewals and maintenance contract after a number of years at which point budgetary considerations of the Promoters could impact the quality of assets and therefore the benefits. • As vehicle maintenance has a strong correlation with performance there are risks attached to reducing maintenance. • Overall, under a TWAO, it is expected that DBM would lock-in the scheme benefits. But whether more benefits are locked in compared to D&B plus M approach will depend on whether separating including maintenance and locking in spares maintains the quality compared to the overall cost. Further consideration needs to be given in this regard.
<p>Ensure the scalability of NGT</p> <p><i>Subject to affordability and value for money, the procurement approach should preserve flexibility for NGT to be extended (or reduced) as the Promoters may require in due course.</i></p>	<ul style="list-style-type: none"> • A separate contract can be awarded for any new vehicles if the scheme is scaled up. Whether the same type of vehicle can be provided will depend on whether the production line is still available, but if not a more modern vehicle could be bought and can be made to fit on the existing system. Any maintenance contract could be extended, however if the new vehicles require a different maintenance regime then another option may be to tender 	<ul style="list-style-type: none"> • Any expansion of the system will be similar to D&B plus M approach. • If the DBM contract has maintenance price linked to mileage, then scaling down NGT can be incorporated within that contact with a saving going to the Promoters. If the price is fixed for maintenance, then the system can still be scaled down but without any cost savings. • This approach should provide sufficient flexibility to scale up or down.

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	B / D&B with Separate M contract	DBM
	<p>a separate maintenance contract.</p> <ul style="list-style-type: none"> • If the system is scaled down, savings in vehicle maintenance can be captured built into the existing maintenance contract through tiered maintenance prices or at the retendering of the maintenance contract. • This approach should provide sufficient flexibility to scale up or down. 	

Operations

The table below summarises the appraisal of the procurement options against Procurement Objectives for operation of NGT. Benefits and issues where operations are not tendered are discussed in Commercial Case Appendix 1.

TABLE 4 PROCUREMENT OPTIONS – OPERATIONS

	Operations Contract	Operations and Maintenance (O&M) Contract
<p>Maximise the deliverability of the procurement approach <i>There are significant commercial and legal constraints (including competition, state aid and procurement) that need to be considered when developing the procurement strategy for NGT. The procurement approach should take these into account and maximise the likelihood of the timely and affordable delivery of the scheme.</i></p>	<ul style="list-style-type: none"> • A sole operations contract should be deliverable if vehicle maintenance does not sit with Promoters. • A sole operating contract may be more difficult if vehicles are owned by Promoters who have a third party contractor to maintain these (causing an additional interface risk which Operators would need to be comfortable with). However Operators have experience of working under both scenarios 	<ul style="list-style-type: none"> • Operators already have experience of O&M contracts – although it may need to subcontract some maintenance (depending on what it is and its experience) • As an example, combining the maintenance of the OHE, the vehicles and the depot should make the O&M contract larger and therefore more appealing to the private sector – in addition to being more efficient. However the maintenance of OHE and depot will require market testing first. • However if vehicle maintenance is included, then Operator can only bid for the contract if: <ul style="list-style-type: none"> ○ It already has depot; ○ Depot is provided as part of contract; or ○ O&M contract is sufficiently long ○ Competition could therefore be impacted

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	Operations Contract	Operations and Maintenance (O&M) Contract
		<ul style="list-style-type: none"> The Promoters would need to outline the O&M output specifications to ensure the system was operated and maintained to set standards. Overall this procurement approach should be deliverable
<p>Secure a level of investment that optimises the fulfilment of the overall NGT Scheme Objectives</p> <p><i>The procurement approach should seek to optimise the level of investment in NGT whether from public or private sources.</i></p>	<ul style="list-style-type: none"> In order to ensure the fulfilment of NGT scheme objectives, Promoters need to ensure complementary maintenance contracts are managed properly. If appropriate maintenance regime can be developed (especially for vehicles, depot and OHEs which are critical to the running of trolley vehicles) a simple Operating contract should not prevent this objective from being achieved. 	<ul style="list-style-type: none"> The O&M contract would have a number of performance measures (such as reliability and punctuality targets). Transferring vehicle and OHE maintenance to an Operator would reduce scope of the Operator for disputing any underperformance resulting from vehicle or OHE failures. Appropriate maintenance regime would need to be delivered for other infrastructure assets. A well structured O&M contract should not prevent this objective from being achieved.
<p>Ensure the long-term affordability of NGT for the Promoters</p> <p><i>Revenues from passengers and any grants/subsidies from Promoters should be able to pay for all the operating and maintenance costs of NGT over the life of the scheme.</i></p>	<ul style="list-style-type: none"> A simple operating contract is likely to be cheaper on the face of it (because Operators are taking less risk) but may be less affordable as maintenance still has to be funded and operator may not be incentivised to lower maintenance requirements of vehicles, depot and OHE. 	<ul style="list-style-type: none"> May initially seem more expensive but an O&M contract will combine the operations and maintenance requirements for NGT and therefore provide more certain and transparent approach to budgeting for Promoters whilst also ensuring Operator is incentivised to minimise maintenance.
<p>Maximise the Value for Money of NGT within the affordability envelope</p> <p><i>The procurement should be structured so as to provide best value to the Promoters</i></p>	<ul style="list-style-type: none"> Although a simple Operating contract would have the benefits of providing Promoters more flexibility in defining contract terms and of having a straightforward re-tendering process, it would also mean Promoters are in the middle between the Operator and maintenance contractors where each party could blame the other for a failure. While a separate operations 	<ul style="list-style-type: none"> A combined O&M contract should reduce the direct interfaces which the Promoter has to manage (although Promoters will still need to manage relationship of other maintenance agreements such as road conditions, or street lighting). VfM of O&M contract will depend on the extent of maintenance included in the contract (i.e. for vehicles; for vehicles and OHE; or for vehicles, OHE and the

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	Operations Contract	Operations and Maintenance (O&M) Contract
	contract may provide some benefits, an O&M contract is anticipated to deliver better VfM, however this will be assessed further as more detailed designs are developed and market testing takes place.	entire infrastructure kit). However this will be assessed in further as more detailed designs are developed and market testing takes place.
<p>Lock-in delivery of the scheme benefits</p> <p><i>The procurement approach should ensure the envisaged benefits of NGT are secured and delivered for all stakeholders over the life of the scheme.</i></p>	<ul style="list-style-type: none"> • A simple operations contract creates some interface vulnerabilities over the long-term as the Promoters must manage the maintenance contract separately but it also provides Promoters more control. 	<ul style="list-style-type: none"> • An O&M Contract has the appropriate incentive structures to ensure the NGT benefits are delivered and locked in over the contract term, and Promoters retain control over long term.
<p>Ensure the scalability of NGT</p> <p><i>Subject to affordability and value for money, the procurement approach should preserve flexibility for NGT to be extended (or reduced) as the Promoters may require in due course.</i></p>	<ul style="list-style-type: none"> • A simple operations contract should allow the Promoters the ability to expand or reduce NGT in line with demand over the long term. 	<ul style="list-style-type: none"> • An O&M contract would not limit the ability of the Promoters to adjust the scale of NGT over the long term.