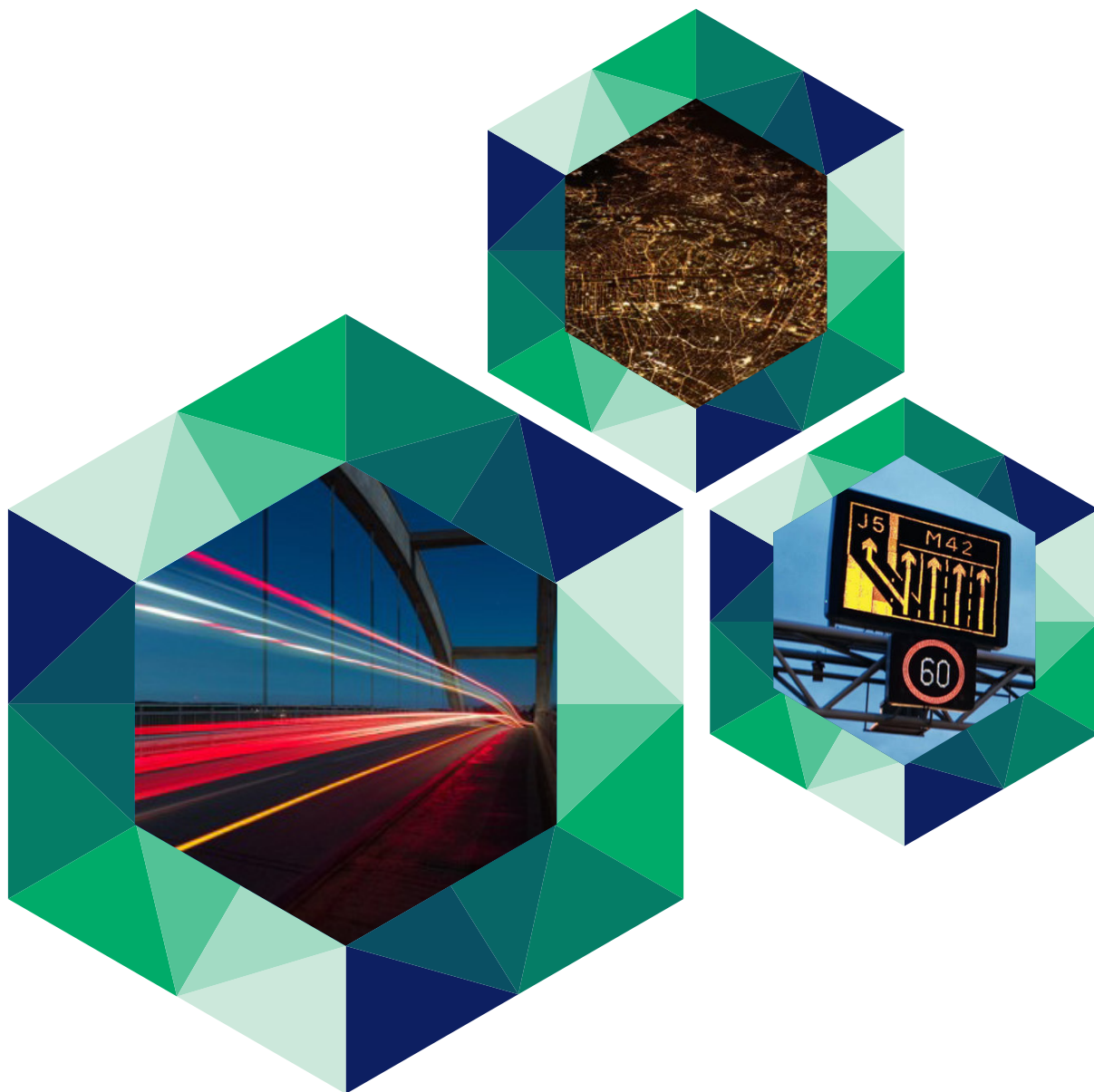




Procuring Intelligent Transport Systems and Traffic Technologies

TTF - 03/04/2021

© Copyright 2021 Transport Technology Forum (the TTF)

All rights reserved

Copyright in the typographical arrangement rests with the Transport Technology Forum.

This publication, excluding logos, may be reproduced free of charge in any format or medium for non commercial research, private study or for internal circulation within an organisation.

This is subject to it being reproduced accurately and not used in a misleading context.

The copyright source of the material must be acknowledged and the title of the publication specified.

First published: 2021

First edition: 2021

Prepared for the TTF by Arup

Printed in the United Kingdom for the Transport Technology Forum



Procuring Data

The top 10 factors to consider

No.1

Engage with the market, do it early and use it to inform the development of your requirements.



No.2

Understand what type of data you can buy and what systems or platforms exist to integrate it and provide insights.



No.3

Obtain benchmarks for the cost of data and related products or services- prices can be volatile.



No.4

When the solution is unclear or unknown, focus on the outcomes you are trying to achieve, not how the supplier may choose to deliver.



No.5

Structure your procurement to emphasise and reward quality, the achievement of outcomes and social value.



No.6

Not all R&D in innovative technologies or services is successful, structure procurement in stages giving both parties opportunity to manage the risk.



No.7

If only 1 supplier exists and there is IP in the final product, consider an Innovation Partnership.



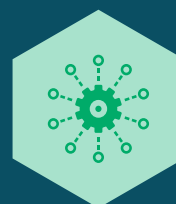
No.8

Data and IP has value. It can be used to offset the cost of development and maintenance.



No.9

Many routes to market already exist, such as the Transport Management Technology framework, with 15 Lots and 75 pre-qualified suppliers.



No.10

Follow the 6 Pillars and reach out to the wider community where help and support is available.



Contents

Executive Summary	4
Introduction	5
Why is it difficult to procure innovative solutions?	5
The benefits of procuring innovation	6
Who is this guidance for?	6
Procurement best practice	7
Pillar 1 - Identifying requirements	9
Pillar 2 - Market engagement	13
Pillar 3 - Packaging approach	15
Pillar 4 - Contract model selection	17
Pillar 5 - Route to market	21
Open Procedure	21
Restricted Procedure	21
Framework Agreements	23
Procurement procedure selection	24
Pre-commercial procurements	25
Competitive Dialogue	25
Competitive Procedure with Negotiation	27
Innovation Partnership	28
Selection criteria	29
Award criteria	29
Pillar 6 - Benefits communication	31
Check List	32
Glossary of Terms / References	33
References	34
Appendix A – Procurement procedures	35
Appendix B – Enabled Frameworks	42



Executive Summary

The UK Local Road Networks (LRN) are of critical importance to local communities and the national economy. LRNs connect businesses of all sizes, workers to their employment and local citizens to their families, friends and communities. During 2018 a total of 185.4 billion miles were travelled on the UK LRNs compared with 95.7 million miles travelled on the Strategic Road Network¹.

The UK government understands the value and importance of LRNs. At the October 2018 Budget, the Government announced that £3.5 billion of the National Roads Fund would be spent on local roads between 2020 and 2025 through the Major Road Network programme². Whilst most of this budget will be spent on improving and maintaining existing roads and building new roads to alleviate congestion, significant investment will also be made in the use of smart technology and data to further raise the performance of the LRN.

Now, more than ever, the development of innovative traffic technology and services is critical. Procuring innovative traffic technology enables Local Authorities to modernise their road networks faster and deliver positive outcomes such as improving road safety, reducing congestion and pollution and supporting the local economy.

Local Authorities can drive change and innovation within the traffic technology industry by acting as technologically demanding customers that buy the development and testing of new products, services and solutions. This approach also creates opportunities for companies to take the lead in new markets for innovative products, creating growth and jobs.

From a procurement perspective, the challenge for Local Authorities is to adapt to the changing nature of the goods and services it procures such as next generation traffic models, smart city data platforms or new sensor technologies.

The procurement of these good or services requires proactive engagement with the supply chain, the ability to develop outcome-based specifications and an equitable sharing of risk. It may also require buyers and project management professionals to utilise new routes to market such as Innovation Partnerships and purpose developed Dynamic Purchasing Systems.

This guidance document provides the knowledge and insights to improve the procurement of intelligent transport systems and traffic technologies. The guidance draws on best practice developed by leading experts in procurement and supply chain management and is illustrated throughout with case studies gathered from across the TTF community.



Introduction

In 2018 the TTF published its research into the barriers to the adoption of new technology and innovation in the traffic technology sector³. One of the main recommendations was the need to develop improved procurement guidance to address some of the challenges of procuring advanced technologies and innovation.

The 2020 TTF publication “State of the Connected Nation” expanded upon these themes identifying:

- The specialist skills and knowledge Local Authorities require to make effective procurement decisions including access to best practice and case studies;
- The associated challenge of identifying the most effective route to market through the Public Contract Regulations (2015);
- The awareness in the supply chain, particularly for new entrants, of how to engage with a procuring Authority and their competitions;
- The need to balance creativity, innovation and encourage new market entrants whilst achieving value for money; and
- The requirement to manage and mitigate risk whilst maximising public benefit.

This guidance is intended to address these challenges and raise awareness of good practice and practical steps that can be taken to improve the procurement and delivery of technology.

Why is it difficult to procure innovative solutions?

Local Authorities face 3 main challenges when procuring innovative products and services.

1. Cost

Innovative products and services can often appear costlier than the business-as-usual alternative. This can lead to Local Authorities being reluctant to commit to procuring innovation and relying on tried and trusted methods. This guidance will help the reader understand the importance of taking a whole life cost approach and considering alternative commercial models rather than focusing on the initial purchase alone.

2. Legal considerations

Local Authorities must work within the parameters set out in the Public Contract Regulations (2015) and the Local Authority Transparency Code. As such, the principles of transparency, fair competition, non-discrimination and value for money are the underpinning values of every public procurement process. These values can often lead to risk aversion particularly in terms of dialogue with the supply chain. This guidance seeks to provide advice on how Local Authorities can successfully procure innovation whilst still adhering to legal requirements.

3. Knowledge and skills

To successfully procure innovative products and services Local Authorities need to have strong capabilities in pre-market engagement, the creation and evaluation of outcome-based tenders and performance monitoring of contracts. We reference recent case studies illustrating how local councils and project teams have developed capability by adopting new approaches.

This guidance contains case studies throughout that address each of these challenges and how they were overcome.

The benefits of procuring innovation

Despite the challenges, procuring innovative solutions has many real benefits for Local Authorities, suppliers and the public:

Local Authorities:

- Introduces new suppliers to Local Authorities supply chains;
- Provides Local Authorities with the opportunity to access funds/grants linked to innovation;
- Contributes to Local Authorities environmental, social and health & safety policies;
- Provides Local Authority staff with an opportunity to develop their skills and expertise;
- Creates positive publicity for Local Authorities;
- Can lead to cost savings or revenue generation; and
- Provides licensing benefits (if intellectual property rights (IPR) are shared with the supplier).

Suppliers:

- Provides opportunities for suppliers to access to funds/grants linked to innovation;
- Gives suppliers exposure to new clients/customers;
- Increases potential for suppliers to win future contracts with new clients;
- Raises publicity and awareness of supplier's business;
- Creates opportunities for suppliers to develop skills and expertise;
- Increases supplier's exposure to public sector procurement;
- Opportunity for suppliers to share best practice across the traffic technology industry; and
- Licensing benefits (when the supplier retains all or shares the IPR)

Public:

- Improved public services as innovative products and services are usually an improvement on traditional alternatives;
- Better use of taxpayer's money;
- Increased end user satisfaction;
- Job creation;
- Supports Small and Medium sized Enterprises (SMEs);
- Develops new industries; and
- Tackles social and environmental issues.

Who is this guidance for?

This guidance is aimed at Local Authority highway engineers, project managers and procurement professionals but may also be of interest to other Local Authority officials, sub-national transport bodies, Local Enterprise Partnerships, professional consultants and the supply chain.

The reader should follow this guidance in conjunction with their relevant Local Authority procurement guidance and governance procedures. Other useful sources of information include:

- Local Government Association National Procurement Strategy
- The Local Government Transparency Code (2015)
- The Public Contract Regulations (2015)
- State Aid Rules

Further resources and publications, including the Infrastructure & Projects Authority "Routemap"⁴ and the 2020 Cabinet Office "Construction Playbook"⁵ can be found online.

Existing routes to market

Utilising existing routes to market, in the form of framework agreements, can rapidly speed up the time taken to procure products and services. The Crown Commercial Service (CCS) has commercial agreements with over 75 suppliers in the transport industry and provides several frameworks that local authorities can utilise. The most recent framework, TMT2 (Traffic Management Technology 2 – RM1089), has been used successfully in a number of the case studies referenced in this guide.

Further developments are anticipated in 2021 and the development of the Transport Technology & Associated Services framework. This will build on the success of TMT2 and provide an easy route to market accessible for suppliers of all sizes, from micro SME's to large corporations. Suppliers who meet the needed selection criteria can be appointed to the agreement at no cost. Updates on the progress of this framework can be found online⁶.

Procurement best practice

Over recent years there has been a significant public sector effort to collate best practice and exemplar approaches from across industry. The Infrastructure & Projects Authority has worked collaboratively with industry and organisations such as the Institution of Civil Engineers to produce guidance under the “Project Initiation Routemap”. Published in 2013 the Routemap provides a structured approach to aid successful project delivery and a wide range of modules in key disciplines including procurement.

The procurement module, published in 2015, details an approach to successful procurement based on 6 Pillars:

1. Identifying requirements;
2. Market engagement;
3. Packaging approach;
4. Contract model selection;
5. Choosing the right route to market; and
6. Benefits communication.

This approach is illustrated in the diagram below.

For many projects, the procurement process is considered to begin with the publication of a Prior Information Notice or Supplier Questionnaire and is finalised on the successful award of a contract. In reality, successful procurement begins with the definition of the key requirements of the procuring Authority. This may be in the form of explicit requirements or, as is the case when procuring technology, a key outcome or set of minimum performance requirements. A successful procurement process also enables the communication of the benefits achieved so that performance against the specified requirement or desired outcome is measurable.

Using the 6 pillars as an overarching framework for successful procurement the following sections provide further detail on best practice and case studies from the TTF community and Crown Commercial Services.

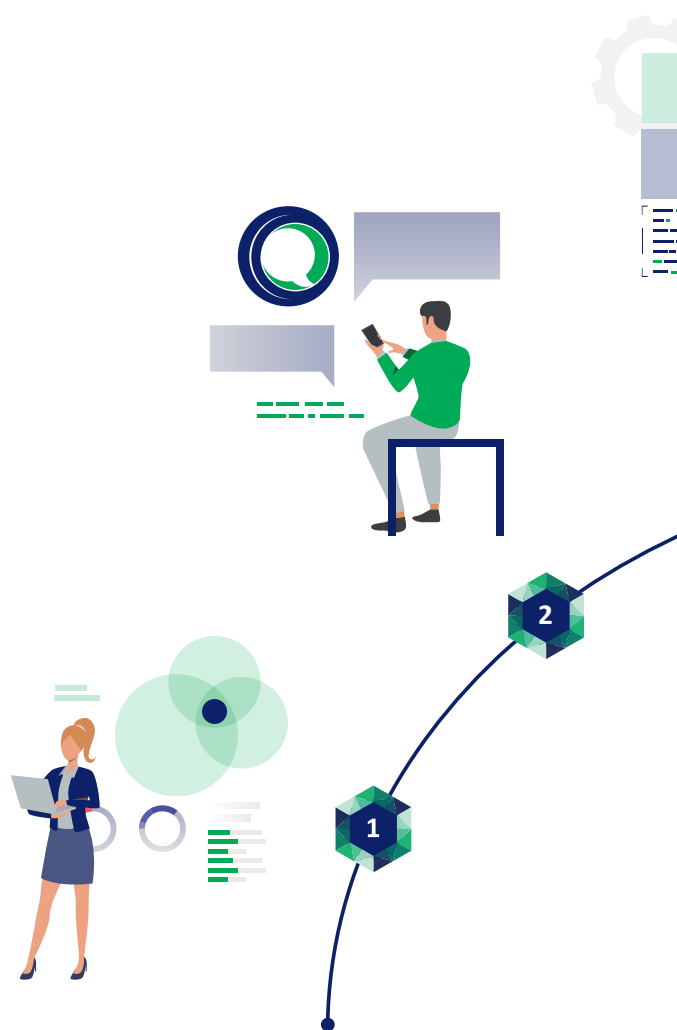




Figure 1.0: 6 pillars of procurement (Project Initiation Routemap, Procurement Module, 2015, HM Treasury)

Pillar 1 - Identifying requirements

When procuring innovative products and services the end solution is usually not known until after the contract is awarded. As a result, Local Authorities can find it challenging to draft specifications for issue with the tender documents. Similarly, it can be difficult for Local Authorities to draft evaluation criteria when they are not entirely clear on what they are purchasing.

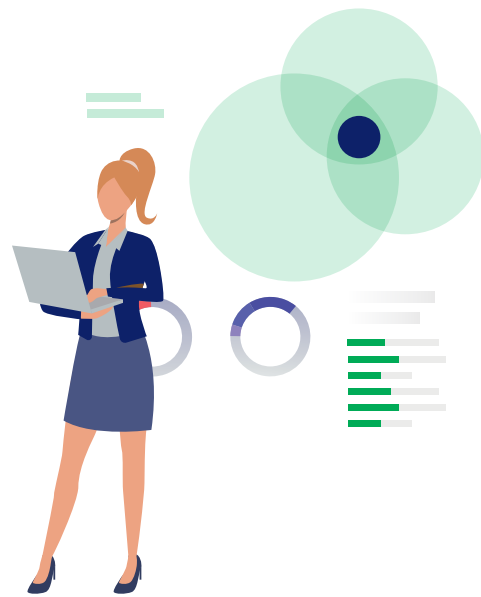
Local Authorities can use outcome-based specifications and evaluation criteria as opposed to conformance specifications and evaluations when procuring innovative products and services. This approach will encourage wider participation in the procurement as it focuses on the new solutions suppliers can provide rather than the existing products and services within the market.

Specifications

A performance specification focuses on the operating function of the required solution rather than the production or delivery methods. Focusing the specification on the outcome to be achieved rather than a description of how it should be achieved encourages suppliers to propose innovative solutions. Local Authorities should draft the specification to articulate their needs as opposed to their wants.

Local Authorities should also consider any standards that are built into the specification. Wherever possible, Local Authorities should only include standards where necessary as being overly prescriptive in the requirements can inhibit supplier's ability to offer innovative solutions.

A key step in developing a requirement or specification is to engage early with the supply chain in informal dialogue. This may happen through industry conferences, events and "industry days" where challenges can be presented, and the supply chain is given the opportunity to provide feedback.



Use of scorecards

Best practice procurement considers a broader range of outcomes than a simple focus on cost, time and quality. Local authorities need to consider a wider range of factors such as Social Value, sustainability, providing opportunities for SME's and local training and employment.

These factors or priority themes can be captured and communicated more effectively using a "Balanced Scorecard". This is a common enough tool in the public sector [Ref. Scorecard for Growth] and should be used to provide the necessary structure to the desired outcomes, the priority themes and Critical Success Factors.

Balanced Scorecards are not intended solely for the use of major projects and are a straightforward means of communicating requirements, both internally and with the supply chain. A key benefit of their use is being able to identify the means of measuring whether a procurement strategy has been successful by developing a suite of Key Performance Indicators (KPI's) to include in future contracts. This development of a simple scorecard is recommended at the earliest stages of project development to guide future decision making.

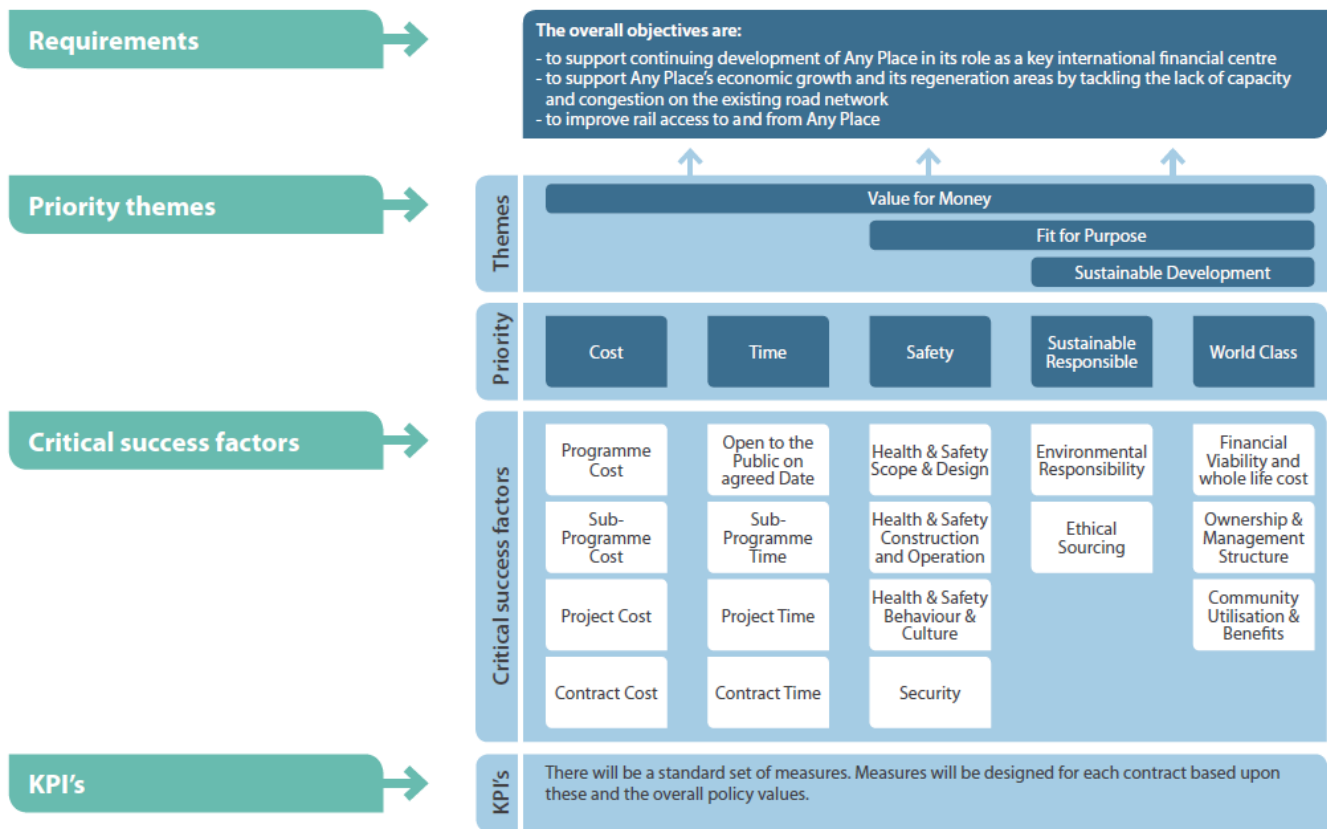


Figure 2.0: Balanced Scorecard structure and content (IPA Routemap – Procurement Module)



THE MOBILITY DATA EXCHANGE

Convex enables new mobility solutions by *sharing*,
transforming and *integrating* dynamic mobility
data between organisations and systems.

Case study:

Transport for the West Midlands (TfWM) Project “Convex”.

TfWM is currently leading an £8m public-private consortium to develop new transport products including 5G road sensors, NB-IoT radio technology and LTM services. A range of options were considered before adopting a staged procurement strategy including an R&D phase using the Competition with Negotiation procedure under the PCR.

Context

Project Convex is a live project to support the development of new transport products and technologies accessing public and private sector funding from organisations including Future Transport, West Midlands 5G and the Department for Digital, Culture, Media and Sport (DCMS). TfWM will utilise a proposed national data exchange and new products and services to improve understanding of the live transport network and manage future network evolution.

The public-private consortium will set up a national data exchange named ConVEx with £4 million of funding from the UK Government, matched by a further £4 million from the private sector. The consortium also includes Jaguar Land Rover, Bosch, Warwick Manufacturing Group and three innovation partners: Valerann, Synaptiv, and Immense.

Procurement good practice

TfWM specified the minimum requirements of the authority and the supply chain was able to develop a solution using their own technology. Critical Success Factors were used to define the desired outcomes and priorities assigned or weighted e.g. Transport operational efficiency, 5G performance levels and cyber security. Applying innovation was a requirement of the DCMS funding.

A traditional procurement and tender strategy would have constrained the supply chain and the achievement of best value. A prescriptive strategy will not reflect the innovation in the marketplace.

The procurement strategy was based on the Competition with Negotiation procedure so that the scope of the work could be refined over 2 phases of the procurement. The initial step was an SQ generally followed by 2 phases of procurement.

This is a new approach delivered using sensible procurement “stages” under the PCR procedure and illustrates an alternative to the use of an Innovation Partnership. The time periods have been somewhat longer in structuring the procurement but have been manageable. Award is anticipated in 2021.

Pillar 2 - Market engagement

The procurement of innovative products and services takes time, so it is important to plan well in advance. Local Authorities need to present their challenges and requirements to the supply chain whilst generating interest in the upcoming competition.

Best practice is to publish a Procurement Pipeline to give suppliers a forward look at the future purchasing intentions of a purchasing authority. Communicating long term procurement plans gives the industry time to develop products and services that meet a Local Authority's requirements. It is particularly important when a Local Authority has a high value or complex requirement as SMEs may want to identify potential partners to bid with.

To gain maximum benefit from a Procurement Pipeline, Local Authorities should publish updates to it on a regular basis. To ensure transparency and fair competition, Local Authorities can publish procurement plans via their websites so that the information is made available simultaneously to all potential suppliers.

To ensure transparency and fairness, market engagement and research must be undertaken in an open and transparent manner. Any information shared by a Local Authority during the pre-tender market engagement phase must also be shared with all suppliers as part of the tender exercise to avoid any perceived conflicts of interest.

Market engagement allows suppliers to learn more about the underlying problem the Local Authority are attempting to address and gives them greater freedom to develop innovative solutions. There are several methods of engaging with and analysing the market prior to launching a procurement exercise, some examples include:

- **Market sounding questionnaires** – These provide potential suppliers with the opportunity to comment on a Local Authority's requirements and contracting approach and confirm their capacity and capability for delivering the requirements and their appetite for bidding for and delivering the contract.
- **Meet the buyer** – These engagement events are an opportunity for buyers and suppliers to meet face-to-face to discuss the buying organisations forthcoming purchasing intentions. Local Authorities can hold their own meet the buyer events or join larger scale events such as those organised by TTF, techUK or Local Enterprise Partnerships.



- **Trade Associations** – Most Trade Associations will be keen to support Local Authorities in identifying suitable suppliers to meet their requirements. Trade Associations may also assist with issuing market soundings or hosting Meet the Buyer Events.
- **Financial Analytics** – All Local Authorities should have access to a financial analytics database such as Dun & Bradstreet or Company Watch. Access to these types of databases can enable informed decision making as they provide up to date and independent financial data of all potential and existing suppliers.
- **Prior Information Notices (PINs)** – Local Authorities should publish PINs via their e-procurement portal to give suppliers advanced notice of their requirements. If a Local Authority fails to do this and only notifies suppliers of their requirements when publishing the contract notice the procurement programme may be too short to permit the development of innovative ideas and solutions.

The above approaches to engagement help generate healthy market appetite and strong interest in entering a procurement process.

Investing in supplier relationships

Many emerging providers of new technologies are small to medium enterprises without the resources of larger, more established companies. These suppliers may require guidance on how to engage in local authority tenders, what arrangements to have in place (e.g. professional indemnity) and how to register on a procurement portal. They may have limited experience of public procurement, so the key requirement is to engage early and adopt a collaborative approach, building the supplier relationship in advance of a competition.

Case study:

City of York Council, Smarter Transport Evolution Programme (STEP)

The Smarter Transport Evolution Programme (STEP) is intended to drive the City of York in becoming the first UK city ready to manage whole city mobility using data and adoption of Connected and Autonomous Vehicles (CAV). In 2018, STEP was awarded funding from the National Productivity Investment Fund to improve connectivity and data collection across York's transport technology assets, improving how data is captured, processed and utilised to react to real time changes in conditions.

Context

Through STEP, CYC is investing in improvements encompassing its travel data platform, improved network and asset knowledge and data to support SPAT and GLOSA services.

As an example, Project Pergamentum uses council refuse vehicles, fitted with cameras and live telemetry, to detect road sign asset changes and any defects. This data is used to update the York Asset Management System and enables more targeted asset management interventions, providing rich data sources for modelling and supporting the growth in use of CAV's.

Additionally, CYC procurement of trial GLOSA (Green Light Optimisation Advice) technology is paving the way for pro-active Urban Traffic Control (UTC) as the market and use of CAVs grows. The following narrative details recent learning from the procurement of this technology.

Procurement good practice

CYC has made good use of existing routes to market developed by the Crown Commercial Service. CYC made use of the Traffic Management and Technology 2, a comprehensive framework of 15 Lots and 75 pre-qualified suppliers in use from 2016 to 2021. Tendering under the framework took between 6 and 8 weeks under Lot 2 for Traffic Monitoring and Traffic Enforcement Cameras.

The CYC requirement for GLOSA was developed over the following stages:

1. **Market Research** – To identify the technologies to create a pro-active UTC environment. Undertaken in good time and with enough breadth.
2. **Informal consultation** – Through supplier meetings and market soundings, building a greater understanding on the merits of the technology.
3. **Development of requirements** – Working with several suppliers to develop appropriate specifications that are targeted but create scope for innovation.
4. **Budgeting** – Develop an understanding of the likely cost of the technology through market soundings.
5. **Formal procurement** – Based on a well drafted specification that is scalable and manages risk appropriately between supplier and client.

Key to the successful and cost-effective purchase of GLOSA by CYC has been early engagement, an excellent understanding of the supply chain, the development of a robust specification and the use of an existing framework to speed up the procurement process. The projects initial demonstrator/proof of concept has been specified in such a way as to enable roll out in a further 22 locations. A procurement portal was also used to manage the tender process efficiently.

The use of an existing CCS framework has also enabled the project team to focus on managing commercial risk and ensuring that the requirement was well defined and in line with the services the market could provide.

This case study demonstrates Pillars 1, 2 and 5 in particular – the development of robust requirements, understanding and engagement with suppliers and in using an appropriate route to market.

Pillar 3 - Packaging approach

Packaging the work enables standard sets of contract requirements to be developed for individual categories. The importance of packaging is often overlooked in procurement and plays a key part in achieving the desired outcomes. It is appropriate to consider packaging when you have a larger project, have several components or systems to be procured and where opportunities exist to leverage buying power and achieve greater value for money.

The components of packaging decision making are illustrated in Figure 3.0.

Developing packages of work, based on the above model, allows bidders to become familiar with documents, risk allocation, pricing requirements and evaluation criteria.

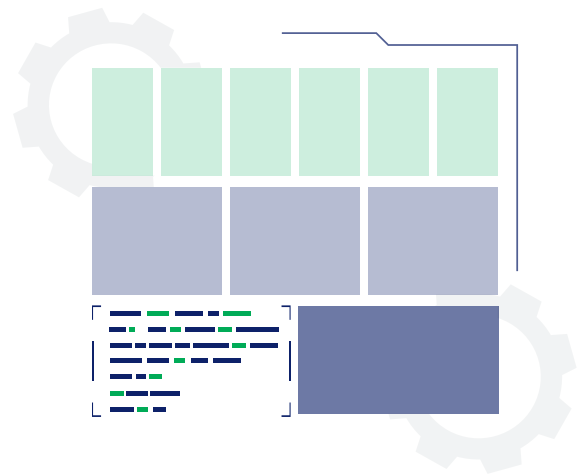
Benefits

We have outlined in previous sections the importance of developing a clear understanding of benefits at the outset and these also have an influence on the packaging of work. For example, the Government agenda to enhance Social Value through public sector spending can be realised through creating opportunities for local SME's or in developing local employment and training opportunities. Similarly, themes of productivity, efficiency and increasingly influence how value is perceived and how it can be realised through more considered procurement activity.

Client preferences

Identifying client preferences covers a range of factors and determines how the client wishes to manage a range of risks or procurement issues. These include:

- Whether the authority wishes to procure technology products or longer-term services;
- Who will be responsible for the performance of the technology;
- How broader system interface risks are managed;
- Opportunities to align investment with other authorities;
- The anticipated spend profile for investment in technology; and
- The preferred level of design maturity envisaged before going to market.



These decisions are often best captured in a business case and for clarity it is advisable to collate them as part of the rationale for the chosen packaging and procurement strategy.

Market & supply chain

Developing a packaging strategy without considering the size, structure and preferences of the supply chain can result in low market interest and a lack of competition. Shaping your procurement into packages of work that are attractive to suppliers will generate much healthier competition especially when the desired benefits are clear, and risks associated with client preferences are balanced fairly and reasonably.

Key questions to consider include:

- What is the size of the market you are advertising the opportunity to?
- What are the characteristics of typical suppliers in this category of procurement?
- Are market conditions healthy?
- How much capacity exists in the market to respond to your opportunity?
- What is the level of capability that exists in the supply chain?

For longer term, higher value procurements it may be necessary to produce category specific plans to engage with different market sectors e.g. proprietary software providers versus data houses. These plans can be tailored to achieve the right balance of preferences with the supply chain.

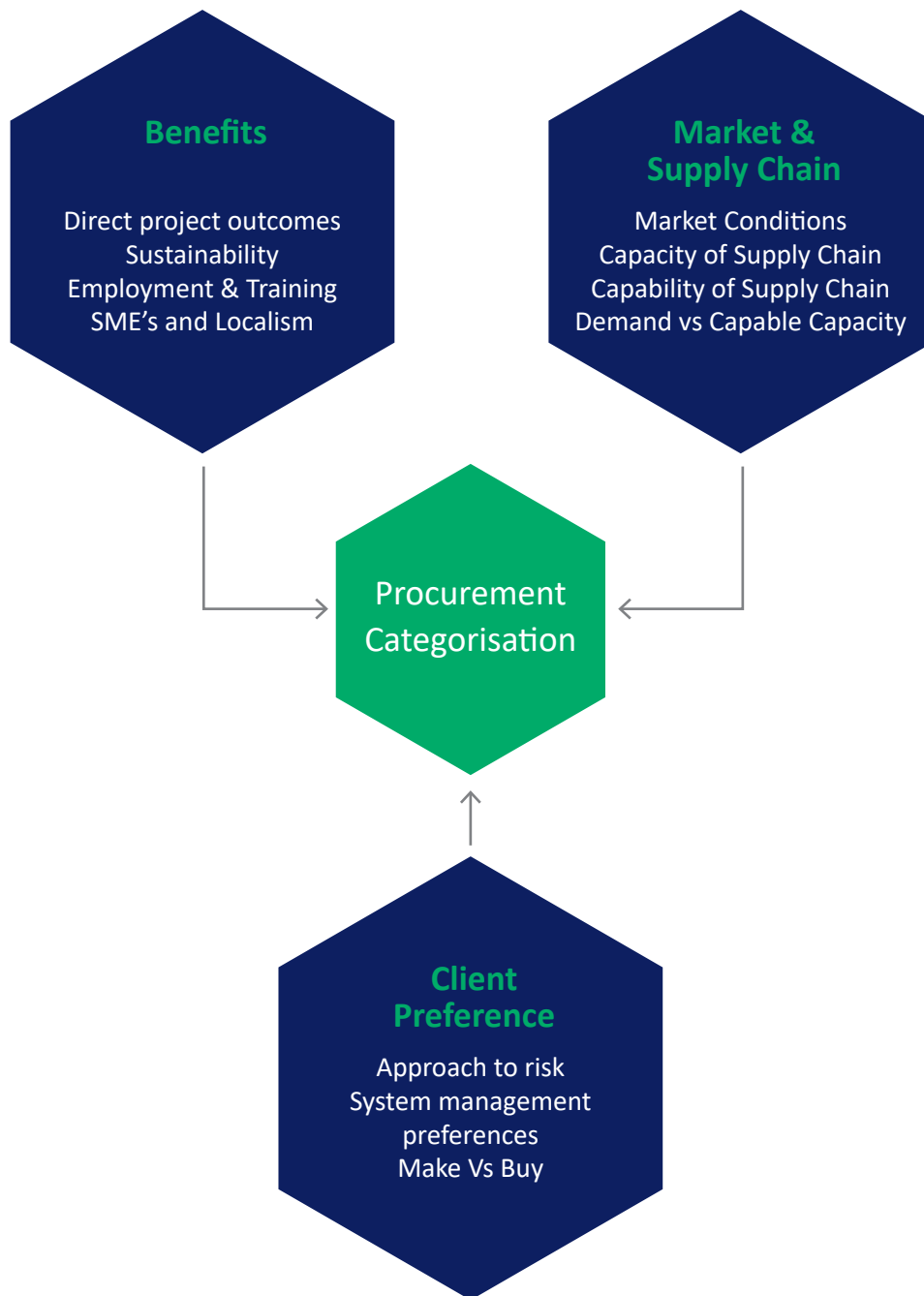


Fig.3.0. Factors influencing successful packaging decisions (Arup)

Pillar 4 - Contract model selection

Allocation of risk

Procurement of technology and innovative products or services often entails higher risk than buying off the shelf. For innovative new technologies there remains a risk that prototype systems or products may not be implemented. This is a risk but an acceptable part of the development process.

It is important that Local Authorities assess and manage such risks and have a clear policy on how to deal with risk rather than avoiding it. Procurement risk analysis should identify as a minimum:

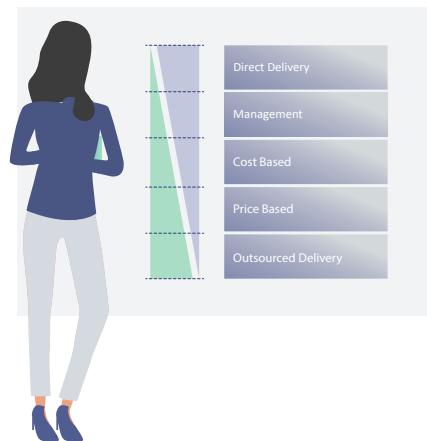
- The risks associated with the contract;
- The potential impact of each identified risk; and
- The anticipated risk ownership for each identified risk.

Tenderers should be asked to analyse the risks in their proposals and suggest how they could be mitigated. This approach makes it easier for Local Authorities to understand if the risks associated with a contract are acceptable.

Benefit sharing

The use of target contracts can actively encourage innovation. The key to driving innovation through a pain/gain sharing contract mechanism is specifying the requirements at the right level. Local Authorities may have a preconceived idea about how to achieve the outcome and include these methods in the specification. This can lead to missed opportunities for innovation as suppliers will aim to deliver the specification in full.

However, when Local Authorities create performance specifications it gives suppliers flexibility in how they deliver the solution. This approach to specifications, along with the use of target contracts can act as an incentive for suppliers to propose innovative methods and solutions that outperform traditional methods.



Intellectual Property Rights

When procuring innovative products and services the issue of intellectual property rights (IPR) will need to be considered. If a Local Authority chooses to retain the IPR it may prevent suppliers from bidding. It can also lead to higher costs for Local Authorities as suppliers will charge more for their product or service as they are unable to sell it to other clients. Suppliers that can retain the IPR for their products and services usually charge a lower price as they can grow their business by selling the product or service to other clients.

An alternative approach is to consider co-ownership of the IPR. This would involve the Local Authority receiving an agreed percentage of the supplier's sales with other clients. This has been shown to be achievable in recent procurements for new transport models.

For the purposes of economic development, it is preferable that some or all the IPR is retained by the supplier as this encourages them to participate in the tender and enables them to be able to attract further investment and grow their business.

This information can be captured in a simple matrix as illustrated below.

Example risk allocation table	Potential allocations			Key issues
	Sponsor/Asset Mngr	Client	Supply Chain	
Policy risk	✓			
Sponsor requirements	✓			
Planning and consents		✓		
Design		✓		
Construction (to cost and time)			✓	
Availability and performance	✓			
Commissioning			✓	
Procurement risks		✓		
Technology and obsolescence risks	✓			Low level technology...
Funding (or financing)	✓			
Legislative and regulations	✓	✓	✓	
Other risks				

The preferred risk allocation will then need to be considered in relation to other criteria to determine the preferred Contract Model and ensure the risk allocation is appropriately reflected.

Other criteria are reflected in the tables on the following pages and may be used in a format as shown in the illustration below.

Contract Model Option 1, 2, 3 etc							
Selection criteria	Speed - design and construction	Cost certainty	Dealing with complexity	Supply Chain Innovation	Capacity for variations	Incentivised performance	Separation of design and management
High							
Low							

Fig.4.0. Example risk allocation table (IPA Routemap – Procurement Module)

Case study:

Oxfordshire County Council (OCC) IHub, Transport Model Procurement

OCC has recently made use of the Innovation Partnership procedure under the PCR to procure its new transport model. The project was managed by the councils Innovation Hub (IHub), a unit tasked with introducing data and digital services across the Council. This case study illustrates good practice across all 6 Pillars of Procurement best practice.

Context

OCC's existing SATURN strategic transport model, after several years use, was approaching the limits of its capability. The IHub team identified an opportunity to introduce a new system able to benefit from new and larger data sources and faster processing and interpretation speeds. Rather than procuring an existing system, the team identified that a more open specification would allow the supply chain to develop more innovative solutions with the potential to both meet project outcomes and generate revenue arising from Intellectual Property (IP).

Pillar 1 - Outcome definition

OCC's objectives were relatively straightforward. As well as basic performance criteria the new system had to be cloud based, fast, flexible, be functional in real time and be capable of generating income. OCC had a simple and clear vision for the project. Items such as the system architecture, commercial model, IP and limits of liability were not fixed, creating opportunities to develop more innovative solutions.

Pillar 2 - Approaching the market

OCC first raised the opportunity informally through industry conferences, presenting their challenges and their desire for greater innovation in the upcoming procurement. This was followed by soft market engagement to firm up the requirements, iterating each step with suppliers at "speed dating" sessions. These sessions made it possible for suppliers to develop their strategy and consortia members.

This pre-procurement activity generated high levels of market interest and clarified the requirements and how to frame them to generate healthy competition.

Pillar 3 - Packaging

The packaging approach was relatively simple. The contract, worth up to £1.2m, was only possible to procure as a single package as it could be neither broken down into smaller elements or expanded to leverage buying power. OCC required a single service provider and for that provider to propose a value for money solution within the funding envelope.

Pillar 4 – Contract model

The most significant step OCC took was to adopt a more forward-thinking risk approach. If the Council followed business as usual processes, a new model would have been procured using existing proprietary technology. Opportunities to innovate and co-create a solution that would provide functionality and revenue would have been lost. The development of a contract model that would allocate risk as envisaged by the team and provide the necessary protections required close cooperation with the Councils in-house legal team.

Pillar 5 – Route to market

Working with OCC's strategic procurement team, the project presented their vision for the project. The model needed to be procured through the PCR (2015) and was quickly identified as meeting the requirements for an Innovation Partnership. This required a distinct R&D phase before a contract was let in full.

The procurement consisted initially of an SQQ for all consortia members and their sub-contractors. This simple requirement enabled suppliers to move between consortia at differing levels as the procurement progressed (e.g. to act as a lead or 2nd tier supplier). SQQ evaluations were based on R&D experience and several pass/fail criteria. Nine bidders qualified for the next stage, an Invitation to R&D (IRAD) of which 6 responded.



The IRAD stage evaluated consortia responses in 3 areas – The R&D approach, the proposed commercial model and the proposed heads of terms agreement. At this stage, OCC envisaged that a further down selection would be made for a Full IRAD stage prior to evaluation and award. In fact, one of the proposed solutions offered clearly met the full requirements across the 3 areas of evaluation and, in accordance with the PCR (2015), the Council was able to successfully award a contract.

Four of the partners in the successful consortia are local to the Oxford-Cambridge Arc demonstrating the value of the pre-engagement phases and success in attracting SME's to public sector procurement.

Pillar 6 – Benefits realisation

The procurement of the new transport model has entered its R&D stage and will be subject to review late in 2020. In accordance with the agreed commercial model, the Council is protected in part by milestone payments so will not lose the full investment if the innovation stage fails.

Success will be measured by the degree of alignment with the projects original vision namely realising the benefits of technology in a new transport model and generating enough revenue from IP to cover the cost of investment.

Pillar 5 - Route to market

If a public authority contract is above a certain contract value (above the threshold), the Public Contract Regulations (2015) require that the contract must be awarded using an OJEU compliant route to market. The following section looks at each of the available procedures under the regulations and how to apply them. Supporting information on each procedure is provided in Appendix A.

As of 1st January 2020, the OJEU thresholds for UK Local Authorities are set as follows:



Fig.5.0. Public Contract Regulations (2015) – Threshold values

The OJEU compliant routes are:

- Open Procedure
- Restricted Procedure
- Competitive Procedure with Negotiation
- Competitive Dialogue
- Innovation Partnership
- Framework Agreements
- Dynamic Purchasing Systems

For sub-OJEU requirements, the procedures set out in each individual Local Authorities' internal guidance and governance should be followed. For off the shelf requirements, most public OJEU Procurements use either the open procedure, the restricted procedure or a framework agreement.



Open Procedure

The open procedure is suitable for simple procurements where the requirement is straightforward. It is most commonly used where the requirement can be clearly defined. As there is no pre-qualification stage within the open procedure, any supplier can submit a tender. It is therefore possible that many suppliers will submit a tender.

Relevant regulation: The open procedure is prescribed under Regulation 27 of the Public Contract Regulations (2015).

Process: The open procedure is a one stage procedure where the Local Authority advertises the opportunity via a Contract Notice in the OJEU. The tender documentation is made available to all interested suppliers.

The Local Authority must evaluate all tenders that are returned in accordance with the selection and evaluation criteria set out in the tender documentation, the contract is awarded to the highest scoring tenderer. Appendix A and the steps outlined below set out how the open procedure should be conducted.

Open Procedure Process Key Steps

Call for competition

- The Local Authority issues a Contract Notice to publicise the call for competition. The Local Authority must clearly define the requirements and identify the evaluation and award criteria within the procurement documents.
- The Local Authority must give participants a minimum of 35 calendar days from the publication of the Contract Notice days to respond to the call for competition.

Evaluation stage

The Local Authority evaluates all tenders received against the evaluation and award criteria set out within the procurement documents.

Award stage

- The Local Authority informs all tenderers of their intention to award the contract and observes a ten-day standstill period.
- The Local Authority awards the contract based on the specified award criteria.

Restricted Procedure

The restricted procedure is suitable for use when a Local Authority wants to pre-qualify suppliers based on their financial standing, technical and professional abilities and adherence to legislative requirements. It is most commonly used where the requirements can be clearly defined, and a large supplier market can deliver the requirements.

Relevant regulation: The restricted procedure is prescribed under Regulation 28 of the Public Contract Regulations (2015).

Process: The restricted procedure is a two-stage procedure where the Local Authority advertises the opportunity via a Contract Notice in the OJEU. The Selection Questionnaire and tender documentation is made available to all interested suppliers.

Suppliers respond to the Selection Questionnaire (SQ) and the Local Authority evaluates the responses against the selection criteria set out within the SQ. The Local Authority then invites a minimum of five participants to the tender stage, (provided enough qualified participants apply).

The Local Authority must then evaluate all tenders that are returned in accordance with the evaluation and award criteria set out in the tender documentation, the contract is awarded to the highest scoring tenderer. The diagram in Appendix A and the steps outlined below set out how the open procedure should be conducted.

Restricted Procedure Process Key Steps:

Call for competition

- The Local Authority issues a Contract Notice to publicise the call for competition. The Local Authority must clearly define the requirements and identify the selection, evaluation and award criteria within the procurement documents.
- The Local Authority must give participants a minimum of 30 calendar days from the publication of the Contract Notice days to respond to the call for competition.
- The Local Authority assesses the requests to participate against the selection criteria set out in the Standard Selection Questionnaire.

Tender Stage

- The Local Authority invites a minimum of five participants to the tender stage, (provided enough qualified participants apply).
- The Local Authority must give participants a minimum of 30 calendar days from the date on which the invitation to tender was sent to respond to the call for competition.

Evaluation stage

The Local Authority evaluates all tenders received against the evaluation and award criteria set out within the procurement documents.

Award stage

- The Local Authority informs all tenderers of their intention to award the contract and observes a ten-day standstill period.
- The Local Authority awards the contract based on the specified award criteria.

Framework Agreements

Framework agreements are put in place with a supplier or a range of suppliers. The Framework then allows a Local Authority to place orders via a call off contract without the requirement to run a full tendering exercise.

Local Authorities may be able to deliver their requirements through one of their own frameworks or a framework set up by another public body that has been enabled for use by others.

Relevant regulation: The use of Framework Agreements is prescribed under Regulation 33 of the Public Contract Regulations (2015).

Crown Commercial Services (CCS) have various frameworks that can be used by Local Authorities. For example, the Spark Dynamic Purchasing System (DPS) can be used by Local Authorities to access new and emerging technology products. Many suppliers on the Spark DPS are micro enterprises or SMEs, having a place on the DPS gives these suppliers access to the large public sector market. A full list of relevant enabled frameworks can be found in Appendix A of this guidance.

Whilst the use of framework agreements can save time, resource and money for Local Authorities, greater flexibility is often required when sourcing innovative solutions and it is often more appropriate to use one of the flexible OJEU procedures.

The next section of this guide provides advice on how to identify the most appropriate procurement procedure to generate greater communication and dialogue with the supply market when procuring innovative solutions.

Procurement procedure selection

The choice of procurement procedure is influenced by the following issues:

- The Local Authority's knowledge of the supply market;
- The size and structure of the supply market;
- The amount of research and development work required;
- The extent to which the Local Authority can define the specification;
- Whether or not the Local Authority want to purchase the solution after the testing phase? and
- The time and resource allocated to the procurement.

The following diagram demonstrates how these issues can inform the choice of procurement procedure:

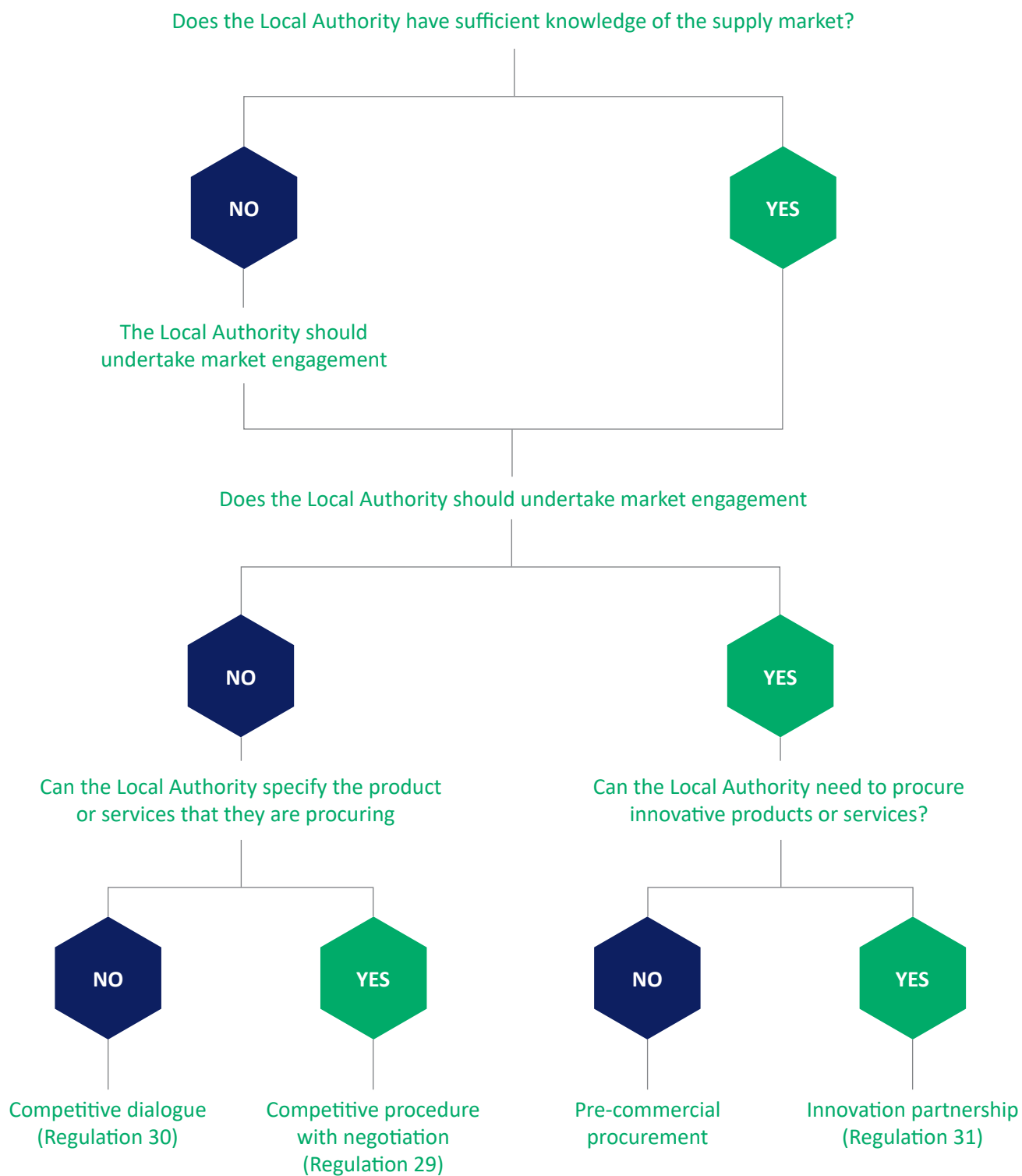


Fig.6.0. Procurement procedure selection process

Pre-commercial procurements

Pre-commercial procurement (PCP) is used to purchase Research and Development (R&D) services, up to the prototyping or first test production stages. PCPs may include the purchasing of a limited number of prototypes and/or developed test products, but it must not include the purchasing of larger volumes of the final product or service.

Relevant regulation: PCPs fall outside of the Public Contract Regulations (2015). However, a PCP must procure the R&D services without involving State Aid. PCPs must be implemented through transparent, competitive and non-discriminatory procedures in line with the EU Treaty principles and competition rules

Process: As PCPs are not prescribed by the Public Contract Regulations (2015) there is no set process and timescales to follow.

When using the Pre-Commercial Procurement process, Local Authorities buy R&D services from several competing suppliers to compare alternative approaches and identify the best value for money solution(s) that the market can deliver. R&D is split into phases (solution design, prototyping and validation/testing of a limited set of first products) with the number of competing R&D providers being reduced after each R&D phase.

The diagram in Appendix A and the steps outlined below are an example of how a PCP could be conducted.

Pre-Commercial Procurement Process Key Steps

1: Preparation Phase

- The Local Authority identifies a requirement which cannot be met by an existing product or service but could benefit from dedicated research and development work.
- The Local Authority undertakes market engagement and research to establish who the active parties are within the industry/market.
- The Local Authority considers their approach to risk and benefits (e.g. cost payment and licensing of intellectual property rights).
- The Local Authority develops the terms and conditions to cover the required services.

- The Local Authority launches the call for tender to invite proposals. Wherever possible, PCP contracts should be awarded to more than one provider for each phase.

2: Exploration Phase

- The successful providers begin the R&D works in line with their proposals.
- The successful providers share information as directed under the contract terms.
- The Local Authority decides on whether to proceed to the prototype phase.

3: Prototyping Phase

- The Local Authority selects the providers to produce prototypes.
- The successful providers produce prototypes.
- The Local Authority decides on whether to proceed to the testing phase.

4: Testing Phase

- The successful providers produce limited quantities of the newly developed product or service.
- The Local Authority assess the products or services produced during the testing phase and publish the outcome (if appropriate)
- Further purchases of additional quantities will require a new competition under the Public Contract Regulations (2015).

Competitive Dialogue

The competitive dialogue procedure is used to award contracts for supplies, services or works following dialogue with the selected tenderers. Tenderers submit offers based on their own solution to the requirements outlined by the Local Authority, rather than responding to a complete specification. Competitive dialogue is often used for large or complex projects where the technical specifications cannot be adequately defined in advance by the Local Authority and suppliers have a major role in using their specialist expertise to define the solution.

Relevant regulation: The competitive dialogue procedure is prescribed under Regulation 30 of the Public Contract Regulations (2015).

Process: The competitive dialogue procedure is a multi-stage procurement process which permits dialogue with limited potential suppliers to develop suitable solutions where the delivery of the requirement isn't pre-determined.

Following closure of the dialogue and receipt of final tenders, the PCRs permit that tenders may be clarified, specified and optimised but this must not involve changes to the essential aspects of the tender or procurement. Post evaluation, the PCRs permit the Local Authority in negotiating with the winning tenderer to confirm financial commitments or other terms by finalising the terms of the contract provided this does not materially modify the essential aspects of the tender or the procurement.

The diagram in Appendix A and the steps outlined below set out how the competitive dialogue procedure should be conducted.

Competitive Dialogue Process Key Steps

1: Selection Stage

- The Local Authority issues a Contract Notice to publicise the call for competition. The Local Authority must identify the nature of the intended procurement and the criteria for the selection of participants. The procurement documents must specify the characteristics of the required goods, services or works, the minimum requirements and award criteria. The Local Authority must give participants a minimum of 30 calendar days from the publication of the Contract Notice days to respond to the call for competition.
- The Local Authority assesses the requests to participate against the selection criteria set out in the Standard Selection Questionnaire.
- The Local Authority invites a minimum of three participants to the tender stage, (provided enough qualified participants apply).

2: Dialogue Stage

- The Local Authority issues the descriptive document to the selected tenderers, setting out their requirements, the award criteria and an indicative time frame for response.
- The Local Authority opens the dialogue phase with the tenderers, this involves tenderers submitting outline solutions which are progressively refined. Local Authorities must ensure the confidentiality of solutions is maintained unless tenderers agree otherwise.
- The Local Authority may reduce the number of tenderers by application of the award criteria. The number of tenderers participating in the final stage must make for genuine competition.

3: Award Stage

- The Local Authority closes the dialogue and invites tenderers to submit final tenders based on the solution or solutions discussed with each tenderer.
- The Local Authority may clarify, specify or optimise the tenders but cannot make changes to essential aspects of the tenders as this may distort the competition.
- The Local Authority applies the award criteria to determine the preferred bidder. Negotiations may be carried out with preferred bidder to confirm financial commitments or other contractual terms.

Competitive Procedure with Negotiation

The competitive procedure with negotiation is used to procure goods, services or works which include an element of adaptation, design or innovation, or other features which make the award of a contract without prior negotiations unsuitable. Unlike the competitive dialogue procedure, the Local Authority must specify the required characteristics of the goods or services in advance of the competition.

Relevant regulation: Competitive procedure with negotiation is prescribed under Regulation 29 of the Public Contract Regulations (2015).

Process: The competitive procedure with negotiation is a two-stage process that allows Local Authorities to negotiate with providers to improve the tenders submitted.

Following the selection procedure, all selected tenderers are invited to negotiate but this procedure can be carried out in successive stages provided this is indicated to tenderers in advance in the procurement documents. Local Authorities may negotiate initial and all subsequent tenders but not the final tender. Local Authorities may reserve the right to award the contract following receipt of initial tenders without negotiation, but this must be made clear at the start of the procurement process within the procurement documents.

The use of the Competitive procedure with negotiation is appropriate for services or supplies that require adaptation or design inputs.

The diagram in Appendix A and the steps outlined below set out how the competitive procedure with negotiation should be conducted.

Competitive Procedure with Negotiation Process Key Steps

1: Call for competition and selection stage

The Local Authority issues a Contract Notice to publicise the call for competition. The Local Authority must identify the nature of the intended procurement and the criteria for the selection of participants. The procurement documents must specify the characteristics of the required goods, services or works, the minimum requirements and award criteria. The Local Authority must give participants a minimum of 30 calendar days from the publication of the Contract Notice days to respond to the call for competition.

- The Local Authority assesses the requests to participate against selection criteria set out in the Standard Selection Questionnaire.
- The Local Authority invites a minimum of three participants to the tender stage, (provided enough qualified participants apply).

2: Negotiation stage

- The selected participants are invited to submit initial tenders which are then subject to negotiation. The minimum requirements and award criteria cannot be negotiated.
- Successive rounds of negotiations may take place. The Local Authority must inform all tenderers of changes to the technical specifications or other procurement documents and give adequate time to modify their tenders to ensure the equal treatment of all tenderers.
- The Local Authority may reduce the number of tenderers by applying the award criteria. The number of tenderers participating in the final stage must make for a genuine competition.

3: Award stage

- The Local Authority informs the remaining tenderers of intention to close negotiations and sets the deadline for the receipt of final offers.
- The Local Authority awards the contract based on the specified award criteria (without further negotiation).

Innovation Partnership

The innovation partnership is a new procurement route within the Public Contract Regulations (2015). Innovation partnerships are used to research, develop and procure new products and services on a commercial scale. The innovation partnership allows for the award of a phased contract covering all stages from R&D through to the procurement of large quantities of finished products or services, with the involvement of one or more supplier in each phase. This procedure has recently been shown to be advantageous in the procurement of new transport models.

Relevant regulation: Innovation partnerships are prescribed under Regulation 31 of the Public Contract Regulations (2015).

Process: The procurement process largely follows the competitive procedure with negotiation. Following the issue of the contract notice, the Local Authority receives expressions of interest and negotiates with the potential partner(s) it has selected as tenderers. The partnership agreement is then awarded to one or more partner based on the best price quality ratio.

Following the contract award, the structure of the process is completed in two phases. The first involves the development of the innovative product, service or works and the second is the purchase of the resulting supplies, services or works.

The development phase should be structured in successive phases following the sequence of steps in the R & D process.

The innovation partnership must set intermediate targets to be attained by the partners and provide for payment in appropriate instalments. Based on these targets, the Local Authority may decide after each phase to either terminate the innovation partnership or where there are several partners, reduce the number of partners by terminating individual contracts.

The subsequent purchase of the resulting innovative product, service or works can then take place if they correspond to the performance levels and maximum costs agreed between the Local Authority and the participants.

The diagram in Appendix A and the steps outlined below set out how the innovation partnership should be conducted.

Innovation Partnership Process Key Steps:

1: Competitive procedure with negotiation

- The Local Authority follows the competitive procedure with negotiation to select the partners.
- The Local Authority outlines the need for an innovative product, service or works in the procurement documents.
- The Local Authority must ensure that the selection criteria relate to candidates' capacity to carry out R&D and develop and implement innovative solutions.
- The Local Authority award of one or more phased contracts to the selected partners. Local Authorities must ensure that there is contractual provision for intellectual property rights.

2: Development Stage

- The partners execute the requirements of the contracts through separate R&D, prototyping and testing phases.
- At the end of each phase the Local Authority may decide to terminate the partnership or reduce the number of partners involved.

3: Purchasing

- The Local Authority purchases the final product or service from the remaining partner(s) if they correspond to the agreed performance requirements and budget.

Selection criteria

To maximise the number of interested suppliers, Local Authorities should ensure any mandatory selection requirements such as financial and economic standing, technical and professional ability, insurance requirements are all proportionate to the value and complexity of the contract.

Award criteria

All public sector procurements must demonstrate that value for money has been achieved through the delivery of a more efficient public service and cost savings. Therefore, the award criteria should be drafted to identify the Most Economically Advantageous Tender (MEAT), as this will enable the Local Authority to consider the qualitative, technical and sustainability aspects of the tender as well as the price when evaluating tenders and reaching an award decision.

When procuring innovative products and services it can be difficult to evaluate tenders. The award criteria should be drafted to measure compliance against the desired outcome so that evaluators can be confident that the product or service will meet the Local Authority's needs.

To truly understand the cost of an innovative product or service, Local Authorities should follow a whole life cycle cost approach to their commercial evaluation criteria considering the Opex costs as well as the Capex costs. This approach will enable Local Authorities to understand the following costs of each tender:

Acquisition Costs: Including the purchase price, delivery costs, insurance and taxes, installation and commissioning, training and support.

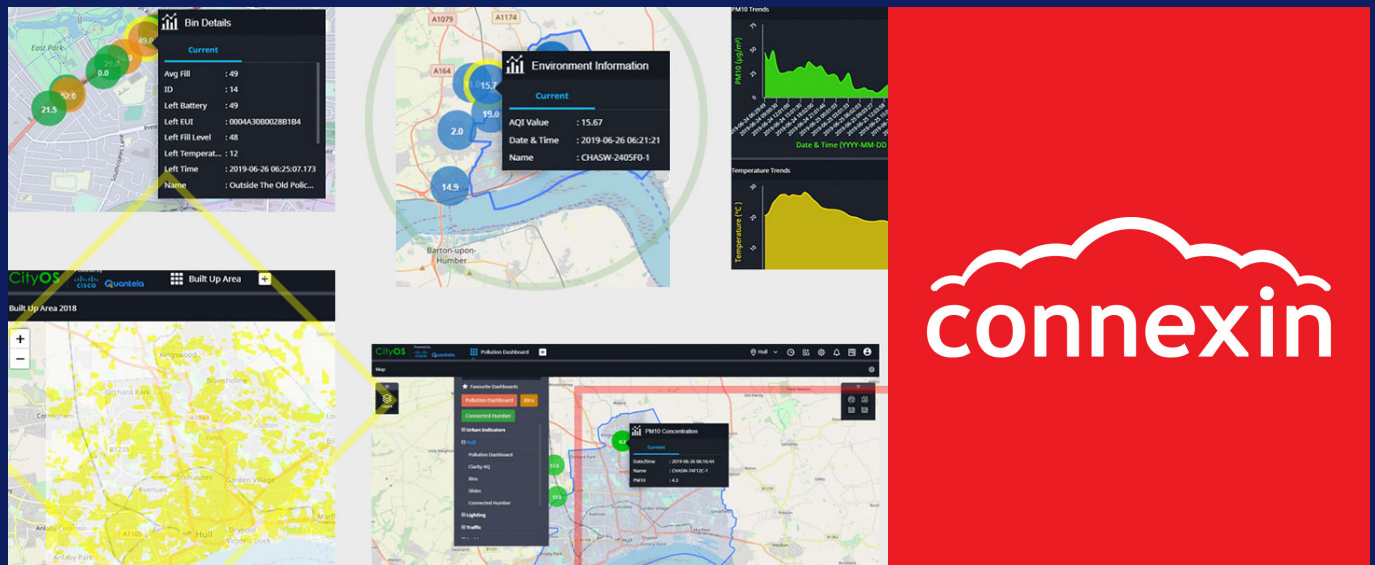
Maintenance Costs: Including inspection, servicing and repair costs and labour and parts.

End of Life Costs: Including decommissioning and disposal costs.

Consideration should also be given to environmental and social costs which are more difficult to quantify and assign numerical values to. This demonstrates how the approach taken under Pillar 1, and producing a simple balanced scorecard with associated measures of performance, can be useful.

Case study:

City of Hull, Smart Cities Platform



Hull City Council (HCC) has created a sector leading partnership with smart city operator Connexin to place Hull at the leading edge of smart city technology. Using Connexin's smart city platform the local authority can gather and integrate data from new and existing data producing sensors to improve the efficiency of public service delivery for residents.

Context

The smart city partnership uses local suppliers Connexin CityOS platform to manage information from sensors linked to smart lighting, parking, traffic signals, waste management and Wi-Fi deployments. Gathering information from across the city into a single platform consolidates information previously held in multiple systems and enables council employees to integrate data and manage public assets more efficiently in real time.

Alongside this partnership, HCC is developing a Dynamic Purchasing System to facilitate access to a growing supply chain as new requirements emerge and remaining compliant with the 2015 Public Contract Regulations. Smaller suppliers and innovators are also being nurtured to understand how to compete for public contracts and create a healthy competitive environment for new contracts.

Procurement good practice

The smart city platform was procured under the 2015 Public Contract Regulations using a Competitive Procedure with Negotiation. The procurement was for a 7-year contract with a possible extension for 3 years so was a substantial commitment with an estimated value of £1m.

Given the strategic implications of the procurement and the potential for significant public benefits, the award criteria were based on a 70/30 quality/price basis as follows:

Functional requirements:	25%
Technical requirements:	15%
Detailed specification of requirements:	20%
Social value:	10%
Total quality:	70%
Price:	30%

From the above, key learning points are to seek high quality submissions that are based on a thorough understanding of requirements over the long term and a focus on social value. As social value in public sector becomes further mandated it will be an increasingly important consideration in the procurement of traffic technologies.

A common theme in the procurement of innovation, subject to a period of research and development, may in fact fail. In these circumstances rather than being risk averse, buyers can structure the procurement in stages or make use of an Innovation Partnership under the regulations.

This flexible approach provides opportunities for small to medium sized enterprises and innovators, significant contributors to national productivity, to develop relationships with authorities and bid for further opportunities. This can be seen in the development of new connected sensor technologies that provide data to the smart city platform.

Pillar 6 - Benefits communication

In Pillar 1, we described how the use of a balanced scorecard approach with an accompanying suite of success factors and Key Performance Indicators (KPI's), maintains a continued focus on outcomes. Fortunately, the process of mapping benefits is described very clearly in the Public Sector Programme Management Approach (PSPMA). Again, the IPA Routemap "Requirements Module"⁷ provides more information for practitioners.

KPI's should align to the outcome-based specification and evaluation criteria established at the outset. This will ensure that the supplier focuses on creating and delivering a solution that meets the requirements set out by the Local Authority.

Local Authorities should allocate enough time and staff resource to managing the contract and maintain ongoing dialogue with the supplier to ensure continuous improvement and innovation during the life of the contract.

The reality is that people and suppliers will move quickly on to the next challenge or project and it is important to build time into the end of a project to capture:

- Alignment with the stated outcomes identified in Pillar 1;
- Practical lessons learned from the planning, procurement and delivery of the project;
- Lessons learned by the sponsor, delivery organisation, advisors and supply chain;
- The success or otherwise of the procurement strategy; and
- Opportunities to gather data and innovation to inform future projects or to share more broadly with other Local Authorities or industry groups such as the TTF.

Platforms such as the TTF provide an ideal opportunity for the sector to innovate and communicate lessons learned from many different types of project.



Check List

Identify the need

Focus on resolving an issue or problem through innovation.



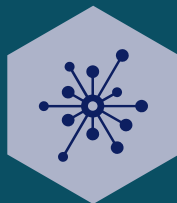
Tender exercise:

Simplify the process to ease the burden on suppliers.



Engage with the Market:

Share requirements early to generate market interest.



Contract Terms:

Include incentives to encourage further innovative improvements.



Specification:

Don't over specify the requirements, it inhibits innovation.



Performance Management

Maintain communication with the supplier.



Encourage SME participation:

Structure the procurement with SMEs in mind.



Lessons Learnt:

Document lesson learnt throughout the process for future tenders.



Glossary of Terms

Call for competition:

The formal start of the procurement process via the publication of a Contract Notice in the OJEU.

Call-Off Contract:

An individual contract awarded under a framework agreement, or dynamic purchasing system for the provision of goods, works or services. Also, sometimes referred to as a 'specific contract' or 'task order'.

Capex Costs:

Purchases of significant goods or services that are used to improve an organisations performance, e.g., property, plant and equipment. These purchases benefit an organisation for longer than one tax year.

Contracting authority:

A defined term within the Public Contract Regulations (2015) meaning a public body that is subject to and must comply with those Regulations. The definition of contracting authority includes the State, Regional and Local Authorities together with any other body governed by public law.

Contract Notice:

An advertisement notifying suppliers of a contract opportunity. This will be published in the OJEU and Contracts Finder.

Intellectual Property Rights (IPR):

The assignment of property rights through patents, copyrights and trademarks. These property rights allow the holder to exercise a monopoly on the use of the item for a specified period.

Local Authority:

A public body that is officially responsible for all public services and facilities in a particular area.

Local Enterprise Partnership:

Locally owned partnerships between Local Authorities and businesses. LEPs plays a central role in deciding local economic priorities and undertaking activities to drive economic growth and create local jobs.

Local Government Transparency Code (2015):

The Code requires Local Authorities to publish information related to various themes including their procurement activities.

Market Engagement:

Takes place prior, during and after the tender process with the aim of identifying potential bidders and building capacity within the market.

Micro Enterprise:

A company with less than 10 staff or an annual turnover of less than €2million.

Official Journal of the European Union (OJEU):

Published every working day in all official languages of the European Union. It consists of two related series (L for legislation and C for information and notices) and a supplement (S for public procurement). This supplement is where OJEU notices (contract and award notices) are published. Typically, suppliers access the information via an online portal such as Tenders Electronic Daily (TED).

References

1. Department for Transport, Road traffic estimates in Great Britain: 2018 Report
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/808555/road-traffic-estimates-in-great-britain-2018.pdf
2. Department for Transport, Major Road Network and Large Local Major Programmes: Programme Investment Planning
<https://www.gov.uk/government/publications/major-road-network-and-large-local-majors-programmes-investment-planning/major-road-network-and-large-local-majors-programmes-investment-planning-guidance>
3. Transport Technology Forum, Barriers to Innovation
<https://www.ttf.uk.net/wp-content/uploads/2018/07/TTF-Barriers-to-innovation-traffic-technology-July-2018.pdf>
4. <https://www.gov.uk/government/publications/improving-infrastructure-delivery-project-initiation-routemap>
5. <https://www.gov.uk/government/publications/the-construction-playbook>
6. <https://www.crowncommercial.gov.uk/agreements/RM6099>
7. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/529338/0643_Requirements_Module.pdf



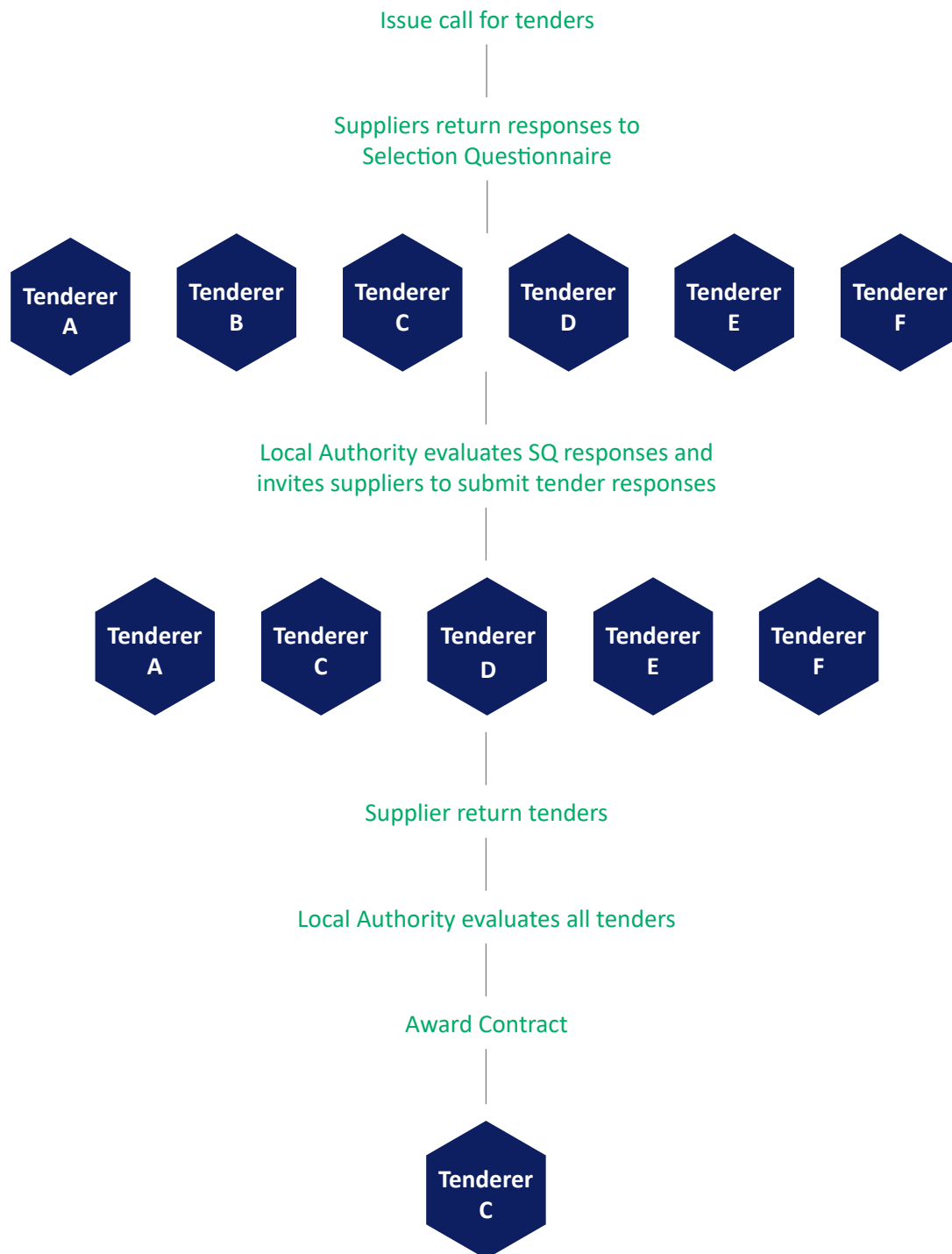
Appendix A

Procurement procedures

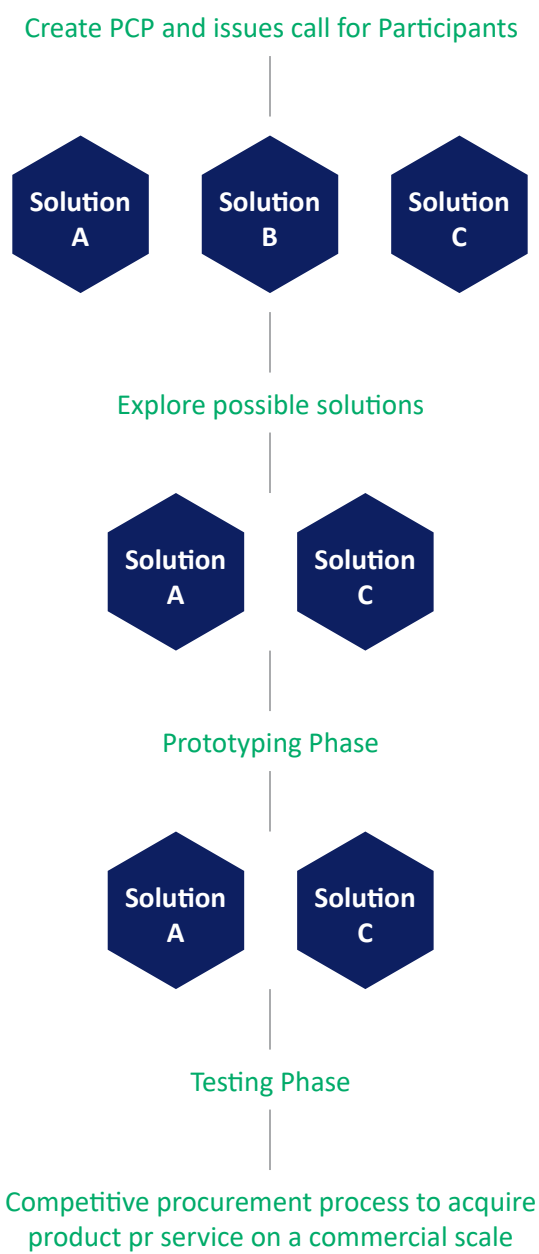
Process for the Open procedure



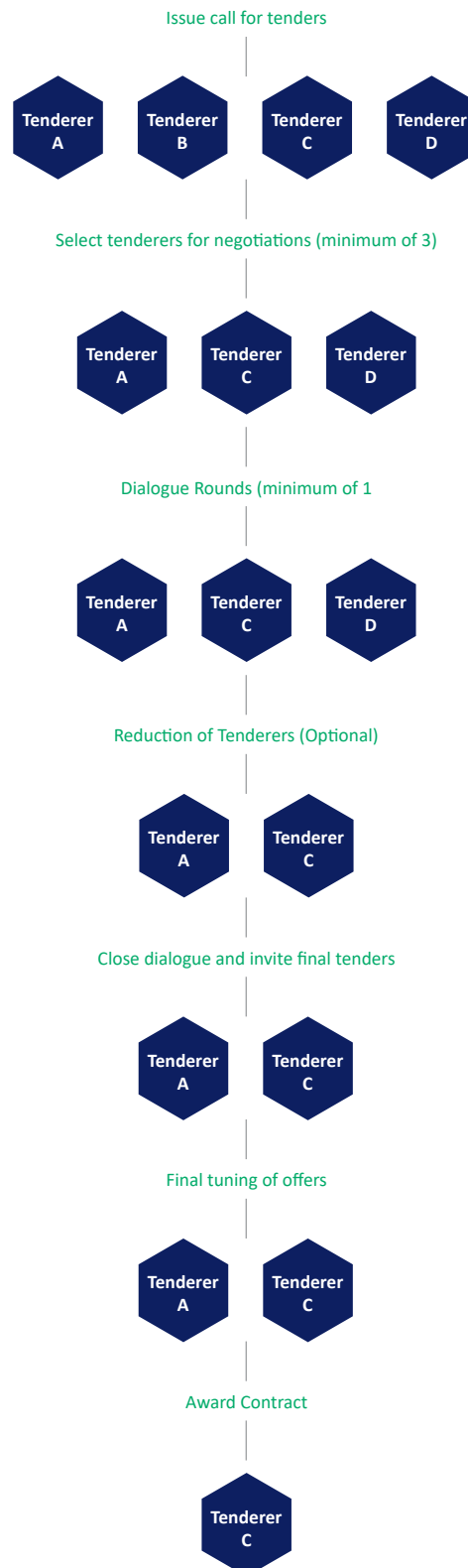
Process for the Restricted procedure



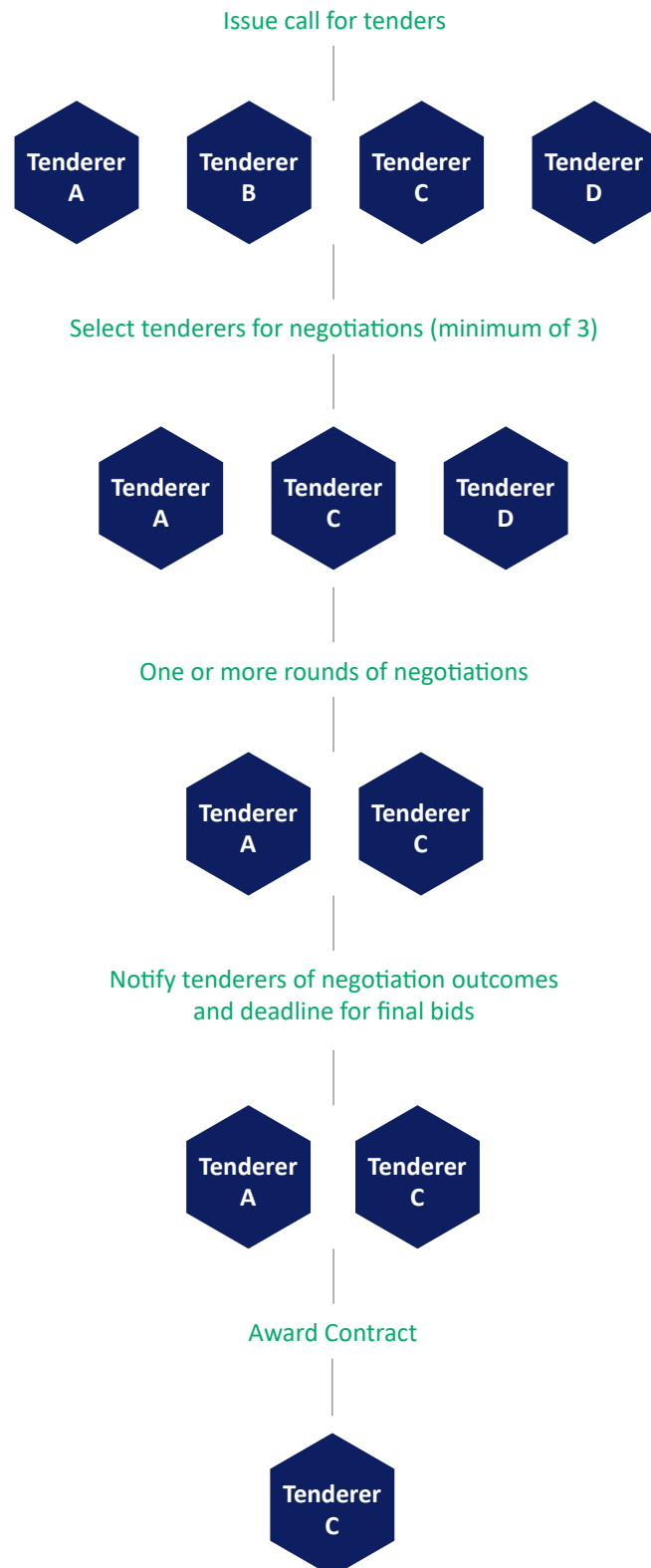
Process for the Pre-Commercial Procurement (PCP)



Process for the Competitive Dialogue procedure



Process for the Competitive procedure with Negotiation



Process for the Innovation Partnership procedure

Competitive Procedure with Negotiation to select Partners



Partners complete Phase 1 R&D Activities

Local Authority reduces the numbers of Partners involved



Partners complete Phase Prototyping Activities

Local Authority reduces the numbers of Partners involved



Partner completed the testing Activities

Local Authority purchases the final product or service



Appendix B

Frameworks and routes to market

Framework	Description	Contact
Traffic Technology Framework 2 (RM1089)	A Crown Commercial Services (CCS) framework agreement for the supply of traffic technology including traffic signals and CCTV, parking and access control, street lighting, intelligent transport systems and professional services.	Website: https://www.crowncommercial.gov.uk/agreements/rm1089 Email: info@crowncommercial.gov.uk Telephone: 0345 410 2222
Transport Technology & Associated Services (RM6099)	Transport Technology & Associated Services is the replacement for Traffic Management Technology 2. CCS are programmed to award the framework during the Autumn of 2020.	Website: https://www.crowncommercial.gov.uk/agreements/RM6099 Email: info@crowncommercial.gov.uk Telephone: 0345 410 2222
G-Cloud 11(RM1557.11)	A CCS agreement that allow UK public sector bodies to choose and buy cloud computing services.	Website: https://www.crowncommercial.gov.uk/agreements/RM1557.11 Email: info@crowncommercial.gov.uk Telephone: 0345 410 2222
Spark Dynamic Purchasing System (RM6094)	A CCS Dynamic Purchasing System (DPS) for emerging technology products including Internet of Things, artificial intelligence and automation, simulation and enhanced environments and transport.	Website: https://www.crowncommercial.gov.uk/agreements/RM6094 Email: info@crowncommercial.gov.uk Telephone: 0345 410 2222
Research Marketplace DPS (RM6018)	A CCS DPS for social, economic or market research for projects of all sizes and values.	Website: https://www.crowncommercial.gov.uk/agreements/RM6018 Email: info@crowncommercial.gov.uk Telephone: 0345 410 2222
Eastern Shires Purchasing Organisation (ESPO)	A Local Authority purchasing and supply consortium, with 150 frameworks including Parking Management Solutions, Traffic Signs, Vehicle Telematics and Associated Products and Services	Website: https://www.espo.org/Home Email: mailto:place@espo.org Telephone: 0116 265 7878
Smart Application Management (SAM)	A national procurement framework with 12 Lots including electronic ticketing machines, mobile ticketing apps and consultancy services.	Website: https://www.talktosam.co.uk/
Specialist Professional, Environmental, Customer Insight, Technical Research and Engineering Services (SPECTRE)	A Highways England enabled framework agreement for the provision of specialist, professional, technical consultancy, engineering advice, research, innovation and procurement advice services across a range of transport related topics	

© Copyright 2021 Transport Technology Forum (the TTF)

All rights reserved

Copyright in the typographical arrangement rests with the Transport Technology Forum.

This publication, excluding logos, may be reproduced free of charge in any format or medium for non commercial research, private study or for internal circulation within an organisation.

This is subject to it being reproduced accurately and not used in a misleading context.

The copyright source of the material must be acknowledged and the title of the publication specified.

First published: 2021

First edition: 2021

Prepared for the TTF by Arup

Printed in the United Kingdom for the Transport Technology Forum

