Local Government at Arm's Length

Report to the Society of Local Government Managers.

November 2017

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Introduction

i. This report provides an assessment to the Society of Local Government Managers (SOLGM) of the potential impact that key network infrastructure services being delivered at an arm's length from local elected officials, their decision making and the local council organisations that support them, would have on the shape and nature of local government over the course of the next 30 years.

Arm's Length and Infrastructure

What is Network Infrastructure

ii. For the purposes of this report, we have assumed that the following activities or services make up the suite of network infrastructure for which local government is currently responsible:

- Water
- Wastewater
- Stormwater
- Solid waste
- Transport (roading and associated)
- Public transport.

More Than Pipes and Tar Seal

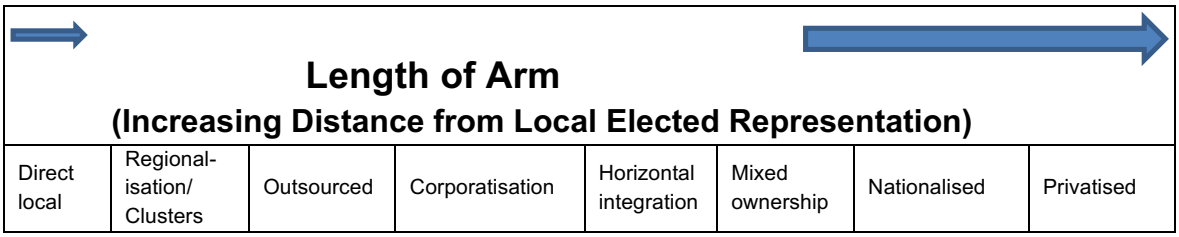
iii. In the provision of any network infrastructure service, the local government entity (either directly or indirectly) has a number of functions:

- Ownership
- Funding
- Asset management planning
- Delivery/operations management
- Customer service
- Pricing
- Standards
- Land use planning.

Defining Arm's Length

iv. Decisions relating to the delivery of network infrastructure can be made directly by local elected representatives or at arm's length from them. There is a whole spectrum of possible distance (length of arm) between elected representatives and potential decision makers.

v. The following table summarises the spectrum of arm's length models.



Constraints

vi. There are a number of factors that will work as a constraint on the extent to which arm's length delivery will develop in the future.

Planning Nexus

vii. The greater the extent of arm's length infrastructure delivery that evolves, the less control (or at least discretion) there will be over land use planning and development at a local level. This will provide an ongoing constraint and tension in terms of the extent to which arm's length models develop.

Funding

viii. For as long as the funding of network infrastructure continues to be heavily reliant on public sources of funding, the extent to which arm's length models can take hold in terms of pricing, ownership and asset management are limited.

Regulatory Models

ix. Regulatory frameworks and models are by their very nature risk adverse and, associated with this, tend to place a restraint on change. Existing regulatory models are geared to the existing delivery frameworks as well as existing technology. Future developments are, therefore, potentially hindered by the ability of regulatory models to adapt and/or facilitate such things as technological or commercial change.

Ownership

x. A strong sense of community or public ownership of network infrastructure. For there to be significant extension in arm's length delivery, this would need to change.

Political

xi. Related to the above issue, the privatisation of state or civic assets in New Zealand tends to be highly controversial, meaning politics tends to have a built-in aversion and restriction mechanism when it comes to the privatisation of state, or civic assets.

Risk

xii. Network infrastructure tends to be associated with significant consequence and/or cost in relation to systems failure. Public control and influence tends to be associated with a (real or perceived) very low risk tolerance, whereas private sector models of arm's length are (at least perceived to be) associated with more active risk-taking behaviours.

Investment Horizon

xiii. The provision of network infrastructure necessitates long-term view investment. Commercial investment, on the other hand, tends to be more focused on short- to medium-term financial and decision-making models.

Choice

xiv. Lack of competitive tension through choice remains apparent. Strong incentives will remain in place for local public delivery models so that direct control mechanisms continue to compensate for a lack of choice induced influence.

Drivers

xv. There are also a number of factors that will drive change in relation to arm's length delivery.

Cost Pressures and Scale

xvi. An important driver of arm's length models is the related objectives of containing costs and realising the benefits of scale. Much of the effort made to create arm's length delivery in recent times has been driven by the perceived benefits that can be provided by increased scale.

Regulatory Pressure

xvii. In response to increasing understanding of risk and impact, greater concern over environmental impacts and externalities, and some notable failures, there will be continuing pressure to raise expected regulatory standards. The consequence is both the need for considerable investment and a significant lift in the complexity of treatment systems. This increased business complexity will in turn drive pressure for increased specialisation, and competition for scarce skills.

Skills Shortages and Specialisation

xviii. Throughout the local government sector there is significant competition for scarce skills across all forms of network infrastructure. This pressure is a direct driver of the pursuit of scale.

Access to Capital

xix. Tight financial situations and investment required to replace ageing infrastructure are creating balance sheet pressure leading to a drive to find and secure access to other sources of capital which creates pressures to consider arm's length delivery models.

Managing Demand

xx. For water, wastewater and transport there is real resource pressure in many parts of the country that raises the need to manage demand and, increasingly, there is consideration of pricing to achieve this. The advent of new, more user pays charging mechanisms will support pressure to shift toward more commercial delivery frameworks.

Impact of Technology

xxi. The greatest unknown in terms of future scenarios, but also potentially the most powerful driver of what becomes realistic, are developments and innovations in technology and how they impact on the constraints identified above.

xxii. Broadly, technology has the potential to impact in two ways. First, on the delivery mechanisms by which the physical services associated with the network infrastructure are provided. And, second, on the transactional systems and commercial relationships between the consumers and the providers, or their agents.

xxiii. The analysis adopts an approach whereby general, direction of travel judgements are made in terms of the impact of technology and whether they will reduce or overcome the constraints identified. It is assessed that technology will make arm's length delivery more likely in terms of transactional and customer service activities and specifically in terms of solid waste and transport.

Likely End States

xxiv. Pulling the analysis and assumptions contained in this part of the report together, the following table summarises the associated assessment of what is realistically achievable in terms of the maximum extent of arm's length delivery of network infrastructure and related service over the next 30-years.

Water	Given the nature of the investment involved in the enabling physical infrastructure, it is unlikely that greater arm's length provision will evolve in relation to water supply. However, an increased private sector involvement in the direct commercial relationships with the "customers" and the broader adoption of the Wellington Waters model are possible.
Wastewater	The physical enabling wastewater treatment and disposal infrastructure is unlikely to be delivered at arm's length from local government. In terms of delivering direct services to "customers", similar models to that described under water are realistic, and in fact are likely to continue to be bundled up to be delivered together as a package.
Stormwater	The strong public good characteristics of stormwater network infrastructure makes it unlikely that arm's length models will evolve over the 30-year period other than through a regionalised asset management model of greater central government involvement.
Solid Waste	A significant proportion of solid waste provision are currently provided on an arm's length basis both through contractual arrangements and direct private sector involvement. In all likelihood, this will continue to be the case and, if anything, is likely to develop to an even greater extent.
Roading et al.	Over the thirty years of this study, there is significant capacity for both the provision of the network and access to it to remain and evolve to even greater arm's length delivery with an increased role played by the private sector and commercial models.
Public Transport	Technological change and innovation in operating models could well

	see the arm's length provision increase over the next 30-years – through a mix of both greater private sector and Crown involvement.

Impact on Local Government

Function and Purpose

xxv. Under the realistic arm's length scenario assessed, the functions and range of influence of local government would be significantly reduced.

xxvi. For the purposes of this study, the question that needs to be answered is will the reduction in areas of responsibility consistent with an extension of arm's length delivery structurally impact on the local government sector to the point of bringing its viability into question?

xxvii. It is our assessment that, under the end point arm's length scenario set out in this report, this is not the case.

Organisational Impact

xxviii. In this section, the impact that increased arm's length delivery will have on the residual council organisations involved is assessed.

Critical Mass

xxix. Reducing the size of an organisation by removing functions opens up a risk that the organisation will be tipped over a threshold where it is reduced to a size that is no longer viable in terms of fulfilling the remaining roles and responsibilities. The end point arm's length scenario seems unlikely to move local government organisation's over this relevance threshold.

Fitness for New Purpose

xxx. The extension of arm's length delivery of network infrastructure will result in many of the existing local government organisations being required to fulfil functions that they were not designed, structured or resourced to undertake. This has the potential to have a significant and negative impact on the organisations involved and the sector as a whole.

Community Leadership

xxxi. One of the effects of a greater proportion of services being delivered on an arm's length basis is that council organisations will become less extensively and closely linked to their communities which involves the risk of reducing their ability to lead their communities.

Planning Effectiveness

xxxii. An extension of arm's length infrastructure provision will significantly increase the risk of there being a disconnect between infrastructure planning and intentions and the philosophies and decision making involved in land use planning.

Service Delivery

xxxiii. In this section, the impact that increased arm's length delivery will have on the actual delivery of network infrastructure is considered.

Choice

xxxiv. To the extent that arm's length provision results in increased consumer choice and competition (potentially public transport, water and wastewater and an extension of the existing levels in solid waste) there will be potential price benefits to consumers or lower cost to delivery.

Scale

xxxv. A concerted incentivised public policy push to introduce a commercial arm's length model to water supply and wastewater would require a programme of system rationalisations to increase scale to levels where business cases can be justified. The result of this would be a move towards large provider entities, a greater distance and more remote from their consumers and communities than is currently the case.

Broader Objectives

xxxvi. The predominantly short-armed delivery of water supply by councils means that a number of public good and public policy focused drivers are factored into the delivery of network infrastructure. Under a full commercial arm's length approach, service provision will be driven by a functional approach based on return on investment objectives rather than broader public objectives.

Pricing

xxxvii. To the extent that competitive pressures develop in a commercial arm's length model, this is likely to exert downward pressure on prices.

Investment Decisions

xxxviii. The disconnect between infrastructure and land use development and planning decision making. Or, at the very least, decision making could result in lower quality decision making and sub-optimal levels of investment (over- or under-provision).

Cost Effectiveness of Delivery

xxxix. Increased arm's length delivery is also likely to result in increased scale. With the economies of scale and other efficiencies that could eventually be delivered by this trend, there should be consequential improvements in the cost effectiveness of delivery.

Approach to Risk

xl. The evolution of increased arm's length delivery models, and in particular commercially focused approaches, will impact to significantly alter the perspective through which risk is viewed and, therefore, the nature of the efforts applied to managing it.

Funding Impacts

xli. Where the retail, transactional functions are provided at arm's length from councils, there are two options for billings: the provider (effectively the retailer) bills the council; or, the provider directly bills the consumer/user.

xlii. Under the realistic arm's length scenario assessed in part one of the report, water and wastewater trunk infrastructure (i.e. the wholesale or distribution network) does not realistically evolve into a commercial arm's length delivery model and instead remains the responsibility of the public sector.

xliii. There is potential for a disconnect between infrastructure and land use planning and the risks that this poses in terms of sub-optimal investment decision making. Poor investment decisions increase the overall funding challenge, but also have the potential to impact on access and cost of capital.

xliv. Developments in the area of smart pricing will revolutionise travel behaviour, transport planning and investment programme requirements. They will also, however, create issues in maintaining and renewing non-growth areas of the network.

Democratic Accountability

xlv. The more that parts of the various components of the responsibilities of local government are provided on an arm's length basis, the less direct ability that councillors have to influence that service, and to represent the interests of their constituents. As a result of this impact, there will be a tipping point beyond which councils are increasingly seen as irrelevant and meaningless. This creates a risk that there will be a spirit of decline among politicians, staff and the council as a whole.

Part 1: Introduction

1. This report provides an assessment to the Society of Local Government Managers (SOLGM) of the potential impact that key network infrastructure services being delivered at an arm's length from local elected officials, their decision making and the local council organisations that support them, would have on the shape and nature of local government over the course of the next 30 years.

Background

2. The SOLGM Sector Policy Outlook Working Party (SPOWP) has commissioned a think piece to assess the impact on local government of increasing the extent to which network infrastructure is delivered at an increased arm's length from the processes, structures and decision making of local authorities. The report develops a framework for considering arm's length delivery and applies it to consider impacts on:
    - governance and operations of local authorities
    - the purpose, structure and functions of local government
    - related funding arrangements and issues.

3. It is important to note that this report was not intended, and is not designed, to advocate for any particular approach in terms of the future delivery of network infrastructure. Instead, it provides framework through which related issues can be identified and considered, in order to act as a discussion starter.

Approach

4. Work to deliver the report included desktop research to gather insights and information on the general subject. A workshop with members of the SPOWP was held to facilitate discussion on what the current situation is in terms of arm's length delivery, what the potential for the future was and what this could mean for local authorities.

5. The Participants in the workshop were:

    - Ross McNeil (Rangitikei DC)
    - Mary-Anne MacLeod (BoPRC)
    - Rex Capil (Southland DC)
    - Gillian Payne (WBoP DC)
    - Raymond Horan (SOLGM)
    - Urlwyn Trebilco (Waikato RC)
    - Cameron McIntosh (Invercargill CC)
    - Dr Brandy Griffin (Kapiti Coast DC)
    - Chris Wilson (SOLGM)

6. One-on-one interviews were also conducted on issues related to and arising from the workshop and research. The people who were interviewed were:
    - Mary-Anne Macleod (chief executive, Bay of Plenty Regional Council)
    - Ross McNeil (chief executive, Rangitikei District Council)
    - Keith Miller (Principal Policy Analyst, Department of Internal Affairs)

- Len Brown (ex-Mayor of Auckland)
- Chris Darby (Chair of the Planning Committee, Auckland Council)
- Peter Clark (Senior Advisor to the Chief Executive on Travel Demand Management, New Zealand Transport Agency).

7. In addition to the above discussions, informal conversations were held with people from across McGredy Winder and Co's network of contacts.

The Report

8. The remaining parts of the report set out:
    - An assessment and definition of what arm's length means, the extent to which it exists in status quo arrangements, and what can realistically develop over the thirty-year period. By necessity, this analysis is high level and principled in nature and, more than anything, is designed to provide a framework for thinking (as opposed to being definitive or predictive). This analysis identifies potential arm's length delivery end states for network infrastructure.
    - An assessment of what the arm's length delivery end states might mean for the operation, governance and associated functions of the residual local government organisations and functions.

Part 2 – Arm's Length and Infrastructure

9. In this part of the report we set out the definition of network infrastructure that has been applied, define what arm's length may mean and create a framework for assessing what is realistically possible in terms of future developments in arm's length delivery.

What is Network Infrastructure?

10. For the purposes of this report, we have assumed that the following activities or services make up the suite of network infrastructure for which local government is currently responsible:
    - Water

      The maintenance and operation of the physical assets and transactional systems required to facilitate the provision of water for both drinking and non-potable purposes to reticulated and catchment areas.

    - Wastewater

      The provision and operation of the infrastructure and systems necessary for the collection, treatment and disposal of wastewater, including sewerage.

    - Stormwater

      The collection, reticulation, management and disposal of stormwater in order to protect communities, property and the environment from the negative effects of

flooding, erosion, water pollution and waterway degradation. We have not included major river control systems or rural drainage systems.

- Solid Waste

  The management of unwanted materials through the collection, processing and disposal (reconstitution or reuse) of construction and demolition debris and commercial residential waste including organic material, packaging, electronic waste, hazardous material and other disposable items.

- Transport (roading and associated)

  The provision, maintenance and operation of a territory's roading network, linkages with state highways and associated activities such as footpaths, road furniture, parking, signalling, and safety functions.

- Public Transport

  The provision, maintenance and operation of public transport and mobility services currently through a combination of bus, train, ferry and/or contracted mobility services.

  Currently in New Zealand, the provision of such services (at various levels of modality and reach) largely, but not exclusively, occur in metro centres and most comprehensively in Wellington and Auckland.

11. The definitions provided above are intentionally very high level. If we attempt to define the technicalities or practicalities of network infrastructure provision to an overly granular level, we will unnecessarily constrain future thinking about the extent to which arm's length is possible and the implications of that. Similarly, they provide very much a current day explanation of service level and approaches. In a later section of this report, we consider the implications of technological change and how this is factored into the thinking and analysis on which this report is based.

More Than Pipes and Tar Seal

12. The definitions of network contained in the previous section are very much output focused; what is physically delivered to the communities/residents. The reality is that in the provision of any network infrastructure service, the local government entity (either directly or indirectly) plays a number of functions and roles and is responsible for a relatively diverse range of associated inputs, outputs and outcomes. This fact further complicates an assessment of the extent to which arm's length delivery is achievable (and the overall length of the arm).

13. In broad terms, a local government fulfils, or is involved in, the following functions:

    - Ownership

      The function of physically owning the assets through which network infrastructure is provided and the organisation(s) involved in facilitating that provision.

- Funding

  Responsibility for raising the finance to both undertake the necessary capital investment and to fund the operating costs of providing network infrastructure. Whether this is through the levying of taxation, other public revenue gathering tools, or through more commercial orientated models, a specific entity will need to be financially responsible for network infrastructure.

- Asset management planning

  The function of long-term planning and programming of the construction, management and maintenance of assets in order to meet agreed levels of service for customers. In many instances, there will be a separation between those who undertake the technical work and those who make the key strategic decisions.

- Delivery/operations management

  The operations, decisions and activities required to manage and ensure the undisturbed day-to-day operation and provision of the infrastructure service. For the purposes of the analysis framework, the technical functions involved with operations have been separated from the more commercial, customer facing functions which are a key part of the provision of some infrastructure services (often this separation will not actually exist in practice).

- Customer service

  The commercial and transactional functions which involve customer service and relationship management. While these functions exist to varying degrees depending on the nature of the infrastructure in question, they are a common function with all the infrastructure we have defined for the purposes of this report (even if the function is no more than “customer” communications).

- Pricing

  The provision of all forms of network infrastructure involves decisions being made on pricing mechanisms and levels, and implementing those decisions. This is the case where full commercial principles of pricing are applied and equally when the service is deemed to be a public good and provided at no price. The primary objective of pricing can either be rationing or as a means of raising revenue to fund operating and/or capital costs. As will become clear in the analysis below, the absence of non-public forms of revenue (which pricing can provide) is a key constraint on the realistic opportunities to achieve arm’s length provision. It should be noted that under current legislation Local Government is required to retain control over the pricing of water services – Local Government Act 2002 – section 136 2 (b).

- Standards

  Given the fundamental importance of network infrastructure, and the scale and nature of the risks associated with its failure (from the perspective of either availability, or insufficient or poor quality), its provision tends to be based on a

framework of standards and minimum requirements. This component is effectively the regulatory function in terms of physical provision (as opposed to regulating price, which we include under its own function above). Such standards currently tend to be set at either a local or a national level depending on the characteristics of what is being regulated.

- Land Use Planning

  Many of the activities of local government contribute to the complex nexus between these functions and the councils leading role in statutory and planning processes. This is certainly the case with network infrastructure, where its provision is both an enabler and a consequence of development. This component deals with managing the interface between the network infrastructure and local government's responsibilities and primary role in city, district or region development, building and place making.

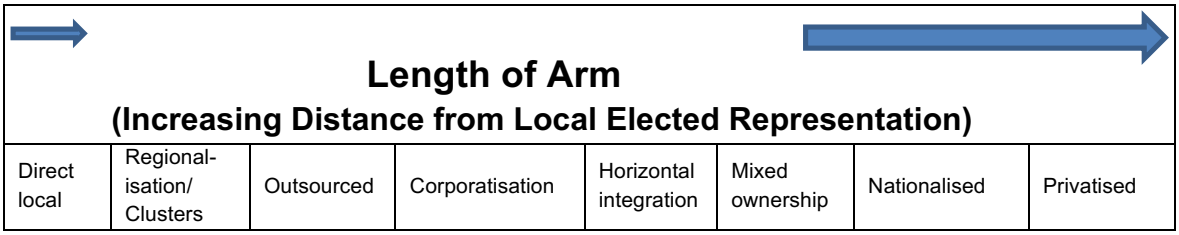
Defining Arm's Length

14. Decisions relating to the delivery of network infrastructure can be made directly by local elected representatives or at arm's length from them. There is a whole spectrum of possible distance (length of arm) between elected representatives and potential decision makers.

15. To facilitate analysis on which this report is based, a range of infrastructure network delivery models have been developed across the spectrum of arm's length distance from local and elected representatives. To enable the future thinking on which this report is based, the models have not developed in a detailed manner, with prescriptive description of the details and mechanisms they could potentially involve. In effect, a high-level principles-based approach has been taken to defining the distance of arm's length in order to provide some markers in a framework to enable meaningful analysis and consideration of future trends (as opposed to projections or predictions).

16. The following table summarises the spectrum of arm's length models. In practice, there are a range of components involved in the provision of any network infrastructure service and, for any particular example, the components are likely to be provided under a number of different models - a mix of direct and at some length from the council, for example a corporate form of arm's length physical delivery could be supported by direct council funding and pricing responsibility. This is an issue that is explored further in subsequent sections. To understand the approach that is being utilised, it is important to note that none of these models are definitive and nor are they necessarily mutually exclusive (i.e. a mix could be applied to an aspect of infrastructure provision or different models could be applied to different aspects of the service).

Figure 1: Arm's Length Spectrum



17. In the length of arm spectrum, "Nationalised" is used to mean provision of services or functions by the Crown or central government agencies. Its positioning at the long arm end of the spectrum should not be confused as meaning that delivery is removed from the public sector. The spectrum is designed to illustrate the length of delivery away from local elected representatives. The positioning of "Nationalised" next to privatisation on the spectrum simply illustrates the fact that, of the models included in the analysis, Crown provision involves the second least level of control or ability for the local government entity to directly influence decision making.

Directly Local Decision Making

18. This model effectively provides the benchmark for the analysis, insofar as it is entirely not at arm's length. Effectively, any network infrastructure covered by it is directly owned, controlled and operated by the Territorial Local Authority (TLA). The TLA directly sources the funding for the related capex and opex and is responsible and accountable for all decision making, strategy and policy. While this model is the benchmark, it is not necessarily the status quo for all councils or for all network infrastructure.

Regionalisation/Cluster

19. Often in an effort to create scale and critical mass, this approach effectively involves grouping the network infrastructure functions from a number of councils into a single entity which governs and manages the service. In many cases this will be on a regional basis (e.g. as occurred to create Wellington Water) but this does not have to be the case, with geographic location not being necessary for the public policy case on which clustering is based to hold. In achieving such clustering, issues of ownership of the new entity will come into play. For the purposes of creating the arm's length spectrum on which this report is based, it has been assumed that ultimate ownership of the clustered organisation remains directly with the legacy councils. There are a range of structural ownership mechanisms through which this could be achieved, but for the purposes of this exercise, the details of shareholding arrangements are not particularly relevant. A regional cluster could be implemented as a jointly owned asset management and operations company while local authorities continue to own the assets and make all funding, policy and development decisions on the advice of the company. This is the Wellington Water model. Alternatively, a regional cluster could be established as a corporatised model, directly owning the network assets of more than one local authority.

Outsourced

20. Under this approach a component (or more) of the infrastructure provision is contracted out to a third-party provider. Such contracting is likely to relate to aspects such as operations, planning or policy work. Under this model of ownership, funding, governance

and the setting of operational parameters remain directly under the control of the council, while day-to-day operational aspects are driven by contractual service level requirements and the commercial and profit orientated objectives and considerations of the contractor. Prime examples of this sort of delivery are operating and maintenance contracts for water and waste water networks and local road networks.

Corporatisation

21. Corporatisation is an approach where the provision of infrastructure is separated from the bulk of the council organisation to the extent necessary to achieve the objective of corporate disciplines on the operation/business unit in question. Seldomly does the introduction of commercial aspects to infrastructure delivery extend so far as to include competition. Under corporatised models, ownership and (usually) ultimate control remains with the local authority. Many of the efforts over recent decades to introduce an element of arm's length to the provision of network infrastructure has involved a version of corporatisation, with varying degrees of success. Examples of this sort of delivery are the previous Metro Water and Manukau Water (prior to Auckland amalgamation), and Watercare. There are likely to be few instances where migrating the network assets of only one council to a corporate form would be cost effective, or create an organisation of sufficient scale to be effective.

Horizontal Integration

22. An approach by which delivery and operational aspects from different parts of the network infrastructure spectrum are grouped together within a single organisation in an attempt to drive efficiencies of scale. For example, network utility providers with similar retail-end challenges and imperatives could merge their customer facing operations (for instance within a merged company or a joint venture entity). If the partnership on which such integration is based straddles the public and private sector, this could be another way on which private sector disciplines can be applied to public sector delivery models. Possible examples of this approach would be the integrations of an electricity lines company with a council's water and wastewater operations.

Mixed Ownership

23. This is a model where part of the network operation is sold or owned by a private owner with the remainder (usually the majority) staying in public sector control. This approach has been applied previously in New Zealand in relation to civic shareholdings in air and sea ports. Most recently (albeit at a central government level) it was used as a mechanism for the part privatisation of energy companies. The theory is that private sector, commercial return focused objectives and practices are introduced to the management and decision making of the enterprise, while overall control remains vested in the public sector.

24. A version of this model that is likely to become increasingly prevalent is the involvement of sovereign wealth funds (as such funds grow in size, economic importance and investment capability). Again, we are starting to see this in New Zealand as the Super Fund and ACC broaden their investment interests. The most recent example of this (again from a central Government perspective) is the partial privatisation of KiwiBank. World-wide there is an increasing interest in sovereign wealth funding identifying infrastructure related opportunities.

Nationalised

25. This model reflects, in effect, the ultimate (within a country's borders) in terms of achieving scale via clustering. Under this approach, all of the components of the network infrastructure throughout the country are brought together under the control and management of a Crown agency, with the role of local government being removed. The most obvious example of this in New Zealand is probably (in broad terms) the electricity generation and wholesale markets. Internationally, by far the best example is Scottish Water (SW). While SW is often portrayed as an exercise in privatisation, from the perspective of its impact on local government, it was a nationalisation[1]. Which is a good illustration of the important point with this model. While the infrastructure is still owned and being delivered by the public sector, its provision would be only marginally more at arm's length from local government if it was privatised.

Privatised

26. In terms of current models that deliver arm's length outcomes, privatisation sits at the longest arm end of the spectrum. Effectively this is where operation, control and ownership of the provision of network infrastructure services, or aspects of activity related to that service, rests entirely with a private sector entity. Rather than being shareholders, which is the case at the other end of the spectrum, the service provider's customers have no additional standing. As with any private sector business, there will remain aspects of the service provider's business that are directly impacted by, or entirely reliant on, public sector processes and/or activities.

An Arm's Length Framework

27. By combining the functions discussed in paragraph 13 with the arm's length spectrum set out in Figure 1, a matrix has been developed in order to show the current extent of arm's length delivery for the various components of each of the types of network infrastructure. Alongside that, the matrix will be used to provide an assessment of what is realistically achievable over the next 30 years from the perspective of arm's length delivery.

Water Supply

28. The supply of potable water has many of the characteristics of a natural monopoly. There are strong public health objectives and broad public benefits from the provision of adequate, safe drinking water. Access to water is recognised by the United Nations as "indispensable for leading a life in human dignity. It is a prerequisite for the realisation of other human rights[2]. This provides a powerful context for considering the delivery of potable water, and natural limits to the application of a full private commercial model based on the potential to exclude users from consumption. Nevertheless, the supply of water is measurable, can be charged for on the basis of volume used, can be directly attributed to specific users (connections), and consumption is rivalrous. These factors give the supply of water many of the characteristics of a public good.

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[1] Reform of Water and Sewerage Utilities: Review of Sustainable Models, Queensland Water Regional Alliance Program, April 2015

[2] United Nations Committee on Economic, Social and Cultural Rights, General Comment No. 15, November 2002. See also General Assembly Resolution 64/292, 28 July 2010.

29. The following table provides an assessment of the current situation in terms of the length of arm through which water is currently provided in New Zealand. This has been done from both a general perspective (GC) as well as for the two most obvious outliers – Watercare (WC) and Wellington Water (WW). The table also provides an indication of what delivery mechanism is realistic for each component of water supply in the future (✓).

Table 1: Arm's Length Provision Matrix - Water Supply

	Arm's Length of Provision							
Function	Local	Regional	Out-sourced	Commercialised	Horizontal integration	Mixed ownership	Nationalised	Privatised
Ownership	GC WW ✓	✓		WC (partial) ✓	✓	✓	✓	✓
Funding	GC WW WC ✓	✓		✓	✓	✓	✓	✓
AMP	GC-decisions ✓	WW-decisions ✓	GC-work WW-work WC ✓	WC (partial) ✓	✓	✓	✓	✓
Operations	GC-some ✓	WW ✓	GC–most ✓	WC ✓	✓	✓	✓	✓
Customer service	GC-some ✓	WW-multiple entry points ✓	GC – most ✓	WC-multiple entry points ✓	✓	✓	✓	✓
Pricing	GC WW WC-framework Regulation(✓) ✓	✓	✓	WC-specific ✓	✓	✓	Regulation(✓) ✓	✓
Standards	GC ✓						GC ✓	
Planning	GC WW WC ✓	✓		WC ✓				

GC – General current
WW – Wellington Water
WC – Watercare
✓ – Realistic future provision option

30. In terms of current provision, water supply is facilitated on a predominantly local basis with the exception of asset management planning, operations and customer services, where a great deal of activity has been outsourced. Generally, such outsourcing is done by each local authority separately, but there are relatively few operators that take on such contracts. In relation to Wellington Water, ownership is held locally, as are funding, pricing, standards and planning functions, while many of the operational and on the ground functions have been clustered regionally. Watercare is based on a commercialised model within locally set parameters and funding settings. It is owned by one local authority.

31. In terms of what future provision might be realistically achievable, it has been assessed that there is scope for the majority of functions to be pushed out to the privatisation end of the spectrum. The exceptions to this are the setting and enforcement of standards and the various regulatory functions that will continue to be required unless technological developments can overcome the current natural monopoly characteristics. The other exception is in the interface between the water supply network infrastructure and land use planning functions.

32. This analysis is consistent with international experience where attempts to privatise water provision have predominantly been unsuccessful and have subsequently been reversed (e.g. Italy, Australian Capital Territory and Welsh Water – a non-profit organisation set up after the failure of a private concern). The obvious exception to this is England (and to a lesser extent Wales) where private models have endured.

Wastewater

33. As with the supply of potable water, there are strong public and environmental health reasons for ensuring the comprehensive and safe treatment of wastewater. United Nations General Assembly Resolution 64/292 (July 2010) places the same weight on the provision of sanitation as it does on the provision of clean drinking water. Once again, this provides a powerful context for considering the spectrum of service delivery for wastewater.

34. Table 2 sets out both the current provision and what is realistically achievable in the future for wastewater. The assessment is basically the same as was the case for water supply. This reflects the fact that under the current approach (with some exceptions in small communities) the provision of the two services is bundled and effectively delivered under one system. We have, however, assessed wastewater separately from water supply for the purposes of this report as there is nothing to suggest that the current approach will remain the case throughout the next 30 years. Technological change, or the adaption of new commercial models, could conceivably lead to the more common separation of the supply of water from the disposal of wastewater (e.g. a competitive fully commercial model for the supply of water and a fully public good provision of wastewater).

Table 2: Arm's Length Provision Matrix - Wastewater

	Arm's Length of Provision							
Function	Local	Regional	Out-sourced	Commercialised	Horizontal integration	Mixed ownership	Nationalised	Privatised
Ownership	GC WW ✓	✓		WC (partial) ✓	✓	✓	✓	✓
Funding	GC WW WC ✓	✓		✓	✓	✓	✓	✓
AMP	GC-decisions ✓	WW-decisions ✓	GC-work WW-work WC ✓	WC (partial) ✓	✓	✓	✓	✓
Operations	GC-some ✓	WW ✓	GC–most ✓	WC ✓	✓	✓	✓	✓
Customer service	GC-some ✓	WW-multiple entry points ✓	GC – most ✓	WC-multiple entry points ✓	✓	✓	✓	✓
Pricing	GC WW WC-framework Regulation(✓) ✓	✓	✓	WC-specific ✓	✓	✓	Regulation(✓) ✓	✓
Standards	GC ✓						GC ✓	
Planning	GC WW WC ✓	✓		WC ✓				

GC – General current
WW – Wellington Water

WC – Watercare
✓ – Realistic future provision option

Stormwater

35. Table 3 shows the current case model for the delivery of the various components of the stormwater function and indicates what is realistically possible in the future.

Table 3: Arm's Length Provision Matrix - Stormwater

	Arm's Length of Provision							
Function	Local	Regional	Out-sourced	Commercialised	Horizontal integration	Mixed ownership	Nationalised	Privatised
Ownership	GC ✓	GC ✓					✓	
Funding	GC ✓	GC ✓					GC ✓	
AMP	GC-decisions ✓	✓	GC-work ✓				✓	
Operations	GC ✓	GC ✓	GC ✓				✓	
Customer service	GC ✓	GC ✓	GC ✓				✓	
Pricing	GC ✓	GC ✓					✓	
Standards	GC ✓	GC ✓					GC ✓	
Planning	GC ✓	GC ✓						

36. While it is currently fashionable for stormwater to be included as one of the "three waters", it's characteristics and the nature of its provision is markedly different to both water supply and wastewater. Stormwater has strong elements of many of the characteristics of a public good (non-excludable, non-rivalrous, non-rejectable). Unlike the provision of potable water, which can be attributed to specific, measurable locations, stormwater arises as a natural consequence of rainfall and the movement of water over and through land. Public infrastructure (especially roads) contributes greatly to the way in which stormwater moves, and land owners at the bottom of the catchments bear the cost (flooding) which arises as a consequence of actions by upstream land owners. The unpredictable nature and impact of weather events and the potential impact of climate change and associated sea-level rise provide a further rationale for socialising the costs (and benefits) of mananging stormwater. It is unsurprising, therefore, that most of the functions involved in its provision are at the short arm end of the spectrum, delivered directly or close to the (local government) public entity.

37. Given the strong public good features of the provision of stormwater and the associated lack of any alternative mechanisms for generating funding, it is difficult to imagine realistic complete arm's length delivery models developing over the next 30-years, with the exception of an (improbable) nationalisation. This conclusion is material when the impact of extended arm's length provision in general on residual local government entities is considered in part three of this report.

Solid Waste

38. While local government is responsible for the overall management of solid waste, the reality is less straight forward than this, with the majority of the waste stream being outside the control of councils. Table 4 provides a very general description of the current situation

and possible future scenarios for the provision of solid waste services. While in the interests of consistency, the same framework has been applied as used for other network infrastructure, it does not really capture the actual structuring of the solid waste sector, which is characterised by a very high level of private sector involvement.

Table 4: Arm's Length Provision Matrix - Solid Waste

	Arm's Length of Provision							
Function	Local	Regional	Out-sourced	Commercialised	Horizontal integration	Mixed ownership	Nationalised	Privatised
Ownership	GC ✓	GC ✓	GC ✓		✓	✓		GC ✓
Funding	GC ✓	GC ✓					GC – minor	GC ✓
AMP	GC ✓	GC ✓	GC - work ✓		✓	✓		GC ✓
Operations	✓	✓	GC ✓	✓	✓	✓		GC ✓
Customer services	✓	✓	GC ✓	✓	✓	✓		GC ✓
Pricing	GC ✓	GC ✓						GC ✓
Standards	GC ✓	GC ✓					GC ✓	
Planning	GC ✓	GC ✓						

39. The development of the waste sector has seen an increasing level of private sector involvement occurring, both through the outsourcing (contracting) and commercialisation of functions. As this has occurred, the council's function has increasingly become focused on planning, standards and minimisation efforts. In light of this, solid waste is currently delivered on a relatively long armed basis. This is a trend that is likely to continue over the course of the study (to a greater extent than is illustrated by the analysis in the above table).

Transport (Roading and Associated)

40. Table 5 sets out the arm's length assessment (current and future potential) for transport, roading and associated services. As well as the general current case, we have separately assessed Auckland Transport (AT). This is because the Auckland Council establishment legislation involved some specific and distinctive provisions related to regional transport provision.

41. While the provision and operation of roads is rather self-evident, the range of "associated services" is diverse and not particularly homogeneous. In creating the arm's length framework, therefore, a trade-off needed to be made between separate and distinct assessments for each of the associated services and creating a reference point general enough for meaningful conclusions to be reached in assessing impacts on local government. The assessment that has been undertaken tends towards the latter.

Table 5: Arm's Length Provision Matrix

	Arm's Length of Provision							
Function	Local	Regional	Out-sourced	Commercialised	Horizontal integration	Mixed ownership	Nationalised	Privatised
Ownership	GC AT ✓	✓		AT ✓	✓(minor)	✓(minor)	GC ✓(minor)	✓(minor)
Funding	GC AT ✓	✓			✓	✓	GC AT ✓	✓
AMP	GC- decisions ✓	✓	GC-work ✓	AT ✓	✓	✓	GC-decisions ✓	✓
Operations	✓	✓	GC AT ✓	✓	✓	✓	GC ✓	✓
Customer services	GC ✓	✓	✓	AT ✓	✓	✓	GC ✓	✓
Pricing	GC AT ✓	✓		AT ✓ (regulated)	✓ (regulated)	✓ (regulated)	GC ✓ (regulated)	✓ (regulated)
Standards	GC (local differences) ✓	✓		AT (local differences) ✓			GC ✓	
Planning	GC AT ✓			AT ✓			✓	

42. Under current models, in terms of ownership, funding and control, the proximity to local government is through a deceptively long arm. The importance of government funding and planning processes means that local government is somewhat removed from effective influence and actual/effective decision making over much of the transport network. As a direct result of government requirements, there is currently a significant amount of outsourcing in this area and, in Auckland, a version of weak-commercialisation.

43. The extent to which non-public long arm options are realistic over the next thirty years will significantly depend on the extent to which private funding sources become available. With the probable impact of technological change, it is assessed that over time private sector, long arm models will become more realistic and utilised. Such a development will change the nature of the arm's length from local authorities rather than materially increasing it (due to the current central role played by the Crown). A critical element of more private sector funding will be the ability to charge users' for their actual use of the road network, and to exclude non-paying users.

Public Transport

44. In relation to Public Transport (PT), across the various modes that currently make up comprehensive networks, there is a wide diversity and complexity in relation to the delivery models, ownership and contractual arrangements. As with roading, however, for the purpose of this analysis, we have constructed what is very much a general case framework for PT as a whole. Again, the thinking behind this is if we had over granulised the analysis, the ability to make meaningful assumptions about factors such as technology would have been reduced as would the capacity to draw conclusions on which to base assessments of future impacts.

45. Importantly, with only a couple of exceptions, public transport services are planned and funded by regional councils, not by territorial authorities. This automatically provides a

distance between the local elected representatives that are responsible for local roads, and the regional representatives that make public transport service decisions. To make life even more interesting, regional councils have not been able to own public transport infrastructure, meaning territorial authorities have had to provide supporting infrastructure such as bus stops and bus shelters, etc.

Table 6: Arm's Length Provision Matrix - Public Transport

	Arm's Length of Provision							
Function	Local	Regional	Out-sourced	Commercialised	Horizontal integration	Mixed ownership	Nationalised	Privatised
Ownership	GC AT ✓	GC ✓		AT ✓	✓	✓	GC/AT (tracks, roads) ✓	✓ **(parts)**
Funding	AT ✓	GC ✓		GC AT ✓	✓	✓	GC AT ✓	✓
AMP	✓	GC ✓	GC – work AT – work ✓	GC AT ✓	✓	✓	✓	✓
Operations	✓	✓	GC AT ✓	GC AT ✓	✓	✓	✓	✓
Customer service	AT ✓	GC ✓	AT GC ✓	GC AT ✓	✓	✓	✓	✓
Pricing	✓	GC ✓	✓	AT ✓	✓	✓	✓	✓
Standards	AT ✓	GC ✓		AT ✓			GC AT ✓	
Planning	GC AT	GC		AT			✓	

46. An important factor to note is that in the current situation there are material elements of arm's length influence involved. In part, this relates to the considerable influence exercised at a central government level. This includes direct government control over capital investment in rail, indirect control over public transport services, and the Crown's central role in terms of funding which provides an effective right of veto in relation to levels and investment. Current models also draw heavily on various levels of involvement by commercial entities, for instance all urban scheduled bus services are operated under contract to regional councils.

47. Based on the assessment set out above, over the time period of this study there would appear to be significant capacity for increased arm's length delivery to evolve. This will particularly be the case if technological advances and operational/commercial models are able to be developed that overcome the arm length constraints detailed in the following section.

Constraints

48. While what is realistically possible (as assessed in the previous section) will play a significant role in determining the future nature of delivery of network infrastructure, so too will the extent to which a number of constraints can be overcome. In this section, we provide brief descriptions of these constraints.

Planning Nexus

49. It is highly likely that, with the possible exception of Auckland and other high growth areas (where the scale of investment required in growth infrastructure is resulting in increased central government involvement in planning decision making), overall planning control in terms of land use will remain firmly within the domain of local democratic decision making. Similarly, development and decision making relating to network infrastructure will remain a central enabler (or inhibitor) of land use planning and development. Obviously, therefore, the greater the extent of arm's length infrastructure delivery that evolves, the less control (or at least discretion) there will be over land use planning and development at a local level. This will provide an ongoing constraint and tension in terms of the extent to which arm's length models develop.

Funding

50. For as long as the funding of network infrastructure continues to be heavily reliant on public sources of funding, the extent to which arm's length models can take hold in terms of pricing, ownership and asset management are limited. In large part, this is because of the sensitivities related to public money providing the basis and taking the risk related to private gain. The extent to which local government remains at the centre of the funding model for infrastructure will be a material determinant of the level of control and influence that is retained within the sector.

Regulatory Models

51. Regulatory frameworks and models are by their very nature risk adverse and, associated with this, tend to place a restraint on change. Existing regulatory models are geared to the existing delivery frameworks as well as such things as existing technology. Future developments are, therefore, potentially hindered by the ability of regulatory models to adapt and/or facilitate such things as technological or commercial change.

52. The absence of price controls over the provision of network infrastructure reflects the public good, non-commercial approach to funding it. Any move toward fully commercial, privatised arm's length models will require consideration of new regulatory models that apply to natural monopolies, as was the case with the privatisation of electricity supply.

Ownership

53. There is currently a strong sense of community or public ownership of network infrastructure. While a big part of this is related to the source of the associated funding, it goes deeper than that, culturally and historically. For there to be significant extension in arm's length delivery this would need to change. Effectively, the benefits from changes to delivery model would need to outweigh, and more than compensate for, what will be seen as a dilution in public ownership. This goes hand in hand with the regulation of pricing discussed above and the impact of a full commercial return on investment.

Political

54. Related to the above issue, the privatisation of state or civic assets in New Zealand tends to be highly controversial, meaning politics tends to have a built-in aversion and restriction mechanism when it comes to the privatisation of state, or civic assets. In large part, this is

due to history, which saw New Zealand attempt to adopt privatisation early, in advance of other countries, and with extreme pace. Little effective effort was made to take New Zealanders with the Government in pushing these agendas. The resulting and enduring political resistance has the potential to play an ongoing role in limiting the extent to which commercial long-armed models can be applied successfully.

Risk

55. Network infrastructure tends to be associated with significant consequence and/or cost in relation to systems failure. As discussed below, in relation to trade-offs, public control and influence tends to be associated with a (real or perceived) very low risk tolerance, whereas private sector models of arm's length are (at least perceived to be) associated with more active risk-taking behaviours. These perceptions will need to be changed if models of a commercial arm's length nature are to develop to a material extent.

56. Given the environmental health issues and risks inherent in the provision of water and wastewater, risk management and accountability are very important. This is clearly demonstrated in the response to contamination in the Havelock North water supply. Heightened sensitivity to risk may limit the potential for change.

Investment Horizon

57. The provision of network infrastructure necessitates a long-term view of investment horizons. It comprises long-life assets that have a material effect on towns, cities, people and businesses. Commercial investment, on the other hand, tends to be more focused on short- to medium-term financial and decision-making models. This apparent mismatch creates a constraint in terms of what is possible in relation to the evolution of commercial arm's length options going forward.

Choice

58. One of the characteristics of current delivery models in terms of network infrastructure is a lack of meaningful choice. They are by and large natural monopolies. Choice is a strong tool through which "consumers" are able to exercise a level of influence or control of delivery entities. To the extent which this lack of competitive tension through choice remains apparent, strong incentives will remain in place for local public delivery models so that direct control mechanisms continue to compensate for a lack of choice induced influence.

Drivers

59. Just as there are factors that will act as constraints on the development of more arm's length delivery models, there are a number of quite significant drivers for change. These are discussed below.

Cost Pressures and Scale

60. An important driver of arm's length models is the related objectives of containing costs and realising the benefits of scale. The more directly local that control and delivery is, the smaller the scale of the undertaking is likely to be. This creates issues in terms of lack of critical mass – which can impact in terms of lack of scale economies, inability to access

specialised expertise, a lack of innovation and/or insufficient access to funding. Much of the effort made to create arm's length delivery in recent times has been driven by the perceived benefits that can be provided by increased scale (e.g. Wellington Water and Watercare in New Zealand and Scottish Water). Given the significant costs pressures that local authorities face, such objectives will remain a strong incentive in the future.

Regulatory Pressure

61. In response to increasing understanding of risk and impact, greater concern over environmental impacts and externalities, and some notable failures (Havelock North), there will be continuing pressure to raise expected regulatory standards. The application of the New Zealand Drinking Water Standards forced a significant number of local authorities to upgrade and secure drinking water systems. Rising water quality standards and increased competition for the assimilative capacity of receiving waters are forcing local authorities to improve the quality of effluent discharge from wastewater treatment plants. This pressure will continue and it will increasingly drive the need for investment.

62. The consequence is both the need for considerable investment and a significant lift in the complexity of treatment systems. This increased business complexity will, in turn, drive pressure for increased specialisation, and competition for scarce skills.

Skills Shortages and Specialisation

63. Throughout the local government sector there is significant competition for scarce skills across all forms of network infrastructure. Specialist engineering and other expertise in roads, public transport, water, wastewater and solid waste can be difficult to attract and retain. This presents considerable risk to local authorities, and in particular for the direct delivery of network infrastructure. This pressure is a direct driver of the pursuit of scale. The ability to offer meaningful and attractive work and career development opportunities is a key driver of possible regional solutions or larger, multi-local authority, more arm's length delivery.

Access to Capital

64. Some local authorities (representing a significant proportion of the population) are at, or are approaching, their prudential limits for borrowing. Alongside this, a large number face significant future investments to either replace aging network infrastructure, or to build new infrastructure to support growth, or both. This balance sheet pressure results in a drive to find and secure access to other sources of capital. At the same time, there is a strong demand from sovereign wealth and superannuation funds to find safe, long-term places to invest. The combination of these two factors is a strong pressure to consider more arm's length delivery models. This is well illustrated by the Housing Infrastructure Fund and the Crown Investment Partnership models developed by the previous government.

Managing Demand

65. For water, wastewater and transport there is real resource pressure in many parts of the country that raises the need to manage demand and increasingly there is consideration of pricing to achieve this. Within Auckland there has been explicit consideration of new pricing mechanisms to manage transport demand. The use of volumetric charges for water and wastewater also offer the potential for demand management in relation to water. The

advent of new, more user pays charging mechanisms will support pressure to shift toward more commercial delivery frameworks. To date, however, this consideration has largely failed to recognise that pricing to manage demand for a natural monopoly would, without regulation, result in super profit.

Impact of Technology

66. The greatest unknown in terms of future scenarios, but also potentially the most powerful driver of what becomes realistic, are developments and innovations in technology and how they impact on the constraints identified above.

67. Broadly, technology has the potential to impact in two ways. First, on the delivery mechanisms by which the physical services associated with the network infrastructure are provided. And, second, on the transactional systems and commercial relationships between the consumers and the providers, or their agents.

68. One approach to factoring the impact of technological change into an analysis such as this would be to attempt to predict, with some precision, the exact nature of how technology will develop and the detail of what it will mean for the various aspects of infrastructure delivery and the length of arm through which it can be provided.

69. One of the obvious characteristics, however, of technological change and innovation is that if it was predictable (to the extent required by the above approach) then either it will already have occurred, or it is not going to. Such an approach, therefore, is significantly weakened by the fact that it relies on predictions that are highly unlikely, at best, to be accurate or eventuate.

70. The approach adopted for this analysis, instead, looks at each of the network infrastructures and makes some general, direction of travel, judgements in terms of the effect that technological innovation could have on the capacity for arm's length delivery to extend further than the, all other things being equal, assessments set out earlier in the report. At its simplest: are general movements in technology likely to reduce or overcome constraints and, therefore, make the development of viable arm's length models more realistic or achievable?

Water and Wastewater

71. While technology could conceivably reduce the costs associated with maintaining, renewing and extending the physical infrastructure on which water supply and wastewater treatment and disposal is based, it seems unlikely that this will occur to the extent necessary to make commercial arm's length models any more realistic than they were assessed to be in previous sections. In part, this relates to the extremely long-term nature of the physical infrastructure and investments, and the significant sunk costs.

72. What is much more likely, though, is that improved technology will enable increased commercial arm's length models to develop for the transactional, distribution, connection and service aspects of the delivery function. This will further reinforce the probability of greater arm's length provision being applied in these areas.

Stormwater

73. It is extremely difficult to conceive of technological solutions developing that can effectively overcome the very strong public good characteristics of stormwater infrastructure. The probability of technological change, therefore, does not change the previous assessment that stormwater will continue to be delivered by the public sector (short armed delivery) throughout the course of the 30-year assessment timeframe.

Solid Waste

74. To a significant extent, solid waste is delivered through relatively arm's length models currently and the assessment made previously in this report is that this will continue to be the case, in all likelihood increasingly. Technological change is unlikely to impact in any way that alters this trend. In fact, if anything, it will strengthen it. Counter-veiling pressure to this trend may emerge if private sector providers are unable to secure sufficient consented landfill capacity, or where industry rationalisation and effective supplier capture prompts councils to re-enter the market through direct provision.

Transport

75. The impact that technology will have on the broader area of transport is multi-variant and potentially quite far-reaching. A great deal of focus, resource and greenfields investment is currently being directed into areas such as mobility as a service (MaaS), driverless cars and other technologies which many of those involved claim will revolutionise transportation. Similarly, there are (admittedly embryonic) technologies that could open up air corridors as a delivery mode for PT – resulting in a three-dimensional network.

76. In addition, technology is making pricing of transport demand increasingly realistic at a targeted, behavioural specific way. Alongside the demand influence of such mechanisms, this will create viable alternative revenue streams (alternate to the current reliance on public funds). Any significant shift to account based, real time, user pays for the use of the transport system will further increase the reality of arm's length models in relation to ownership, investment, funding and asset management.

77. Earlier, arm's length delivery from the perspective of both PT and roading related transport services was assessed as realistic and probable. The general direction of technological change would appear to add weight to this assessment. The specifics of what will evolve are, of course, unclear but there certainly seems to be a momentum which suggests that reasonably fundamental changes to delivery mechanisms and the associated investments are possible.

78. Within this area, however, there is a lurking issue regarding freedom of mobility (Bill of Rights) and common law rights of access to public rights of way that could yet emerge to become a major limiting factor on the ability to shift to more arm's lengths models.

Arm's Length Conclusions – Likely End States

79. Pulling the analysis and assumptions contained in this part of the report together, Table 7 summarises the associated assessment of what is realistically achievable in terms of the maximum extent of arm's length delivery of network infrastructure and related service over the next 30-years.

Table 7: Possible Maximum Extent of Future Arm's Length Delivery

Water	Given the nature of the investment involved in the enabling physical infrastructure, it is unlikely that greater arm's length provision will evolve in relation to water supply, unless it is through a greater role being played by central government. What is entirely realistic are two quite different models of more arm's length delivery. One is an increased private sector involvement in the direct commercial relationships with the "customers", where private organisations contract access agreements to the enabling infrastructure and have retail agreements with water users. Under such a model, local government would effectively become (to use terminology from the electricity sector), generators and wholesalers. The other is the broader adoption of the Wellington Waters model which regionalises expertise in asset management, operation and development in response to rising regulatory pressure, skills shortages and cost pressures. With this approach, it is unlikely that asset ownership would be regionalised without government intervention.
Wastewater	As with water, the physical enabling wastewater treatment and disposal infrastructure is unlikely to be delivered at arm's length from local government unless developments require central government to play a much more active and central role. Such an outcome could emerge if the government were to provide material financial assistance to deal with major asset renewals. In terms of delivering direct services to "customers", similar models to that described under water are realistic, and in fact are likely to continue to be bundled up to be delivered together as a package. Equally, any broader adoption of the Wellington Waters model would include both water and wastewater.
Stormwater	The strong public good characteristics of stormwater network infrastructure makes it unlikely that arm's length models will evolve over the 30-year period other than in conjunction with the Wellington Waters style asset management model. The other exception to this could be if the scale of investment necessary to maintain a nationwide operable network increased to a level that necessitated a material movement towards central government involvement. This is the sort of scenario that could arise from rapid sea level rise. Under this scenario delivery could become long arm through the level of influence exercised by the Crown (effectively as is currently the case for roading).
Solid Waste	A significant proportion of solid waste provision are currently provided on an arm's length basis both through contractual arrangements and direct private sector involvement. In all likelihood, this will continue to be the case and, if anything, is likely to develop to an even greater extent. The role of councils will increasingly, therefore, become focused on minimisation interventions, programmes and policies, regulation and standard setting.

Roading et al.	Aspects of roading are currently developed at a relatively long arm's length from local government due to the active and influential role played by central government. Over the thirty years of this study, there is significant capacity for both the provision of the network and access to it to remain and evolve to even greater arm's length delivery with an increased role played by the private sector and commercial models.
Public Transport	Aspects of the provision of public transport are currently delivered at moderate arm's length through contracting (outsourcing). While past efforts to introduce private sector involvement to the provision of enabling infrastructure (especially rail) have failed and been reversed, technological change and innovation in operating models could well see the arm's length provision increase over the next 30-years – through a mix of both greater private sector and Crown involvement.

80. In the next part of this report, this arm's length assessment is used as a framework to work through the potential impact that such developments will have on various aspects of local government structures, practice and democracy.

Part 3 - Impact on Local Government

81. In determining the impact of the arm's length scenario assessed in the previous sections, impacts in the following areas are considered:
    - Function and purpose of local government
    - Organisational consequences
    - Delivery of infrastructure services
    - Funding
    - Democratic accountability.

Function and Purpose

82. From the perspective of first principles, local government exists to provide public good services and regulate the commons (water, air, access etc.), at a sub-nation state level. Alongside this, local government reflects and gives effect to the principle of subsidiarity – services that are not national services, and do not need to be funded at a national level, should be subject to decision making as close to the communities involved as possible.

83. At various stages of New Zealand local government history, the above definition has been applied to mean quite different things. Under the Local Government Act 1974, for instance, it was interpreted by way of a relatively wide-ranging set of activities dictated to by a highly prescriptive set of functions and powers. The current statutory definition of the purpose of local government is:

10 Purpose of local government

(1) The purpose of local government is—

(a) to enable democratic local decision-making and action by, and on behalf of, communities; and

(b) to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.

84. Prior to 2012 a more enabling statutory purpose applied, specifically:

10 Purpose of local government

(1) The purpose of local government is—

(a) to enable democratic local decision-making and action by, and on behalf of, communities; and

(b) to promote the social, economic, environmental, and cultural well-being of communities, in the present and in the future.

85. In effect, the overall practical definition of the purpose of local government has varied widely over the past 30 years. Over the 30-year forward-focus of this study there will, in all likelihood, be a range of statutory versions of the purpose for local government. There will, again, be periods where local government is encouraged to be more active and contribute more significantly in the lives of their communities. There will also be times where much tighter, seemingly more prohibitive, statutory purposes will be in place. Potentially each stage/state could come and go more than once.

86. An important point relating to purpose definitions is that as well as being a creature of statute, local government is a creation of local democracy, and as such will always find ways to give effect to what it sees as the ambitions and expectations of their communities. Different definitions of purpose will almost inevitably be variations on the first principles definition above. For the purposes of this study we have applied this broader understanding of purpose, as opposed to any potential interpretation that may be in place at any given time.

87. The end point of what is realistically possible over the next 30 years in terms of arm's length delivery would leave local government with a mixture of limited and incomplete roles in the provision of network infrastructure (with the exception of stormwater), leaving it with a predominant focus on activities such as regulation, planning, parks and recreation, libraries, community facilities and whatever role they see for themselves in economic, social and community development.

88. Without question, under the realistic arm's length scenario assessed in the previous section, the functions and range of influence of local government would be significantly reduced. This will impact both directly and indirectly on the purpose of local government.

Directly, the diluted reason for being will have a reduced impact on the lives of the communities they serve. Indirectly, a lower level of involvement in the delivery of network infrastructure will also reduce the levers that local government entities have at their disposal to shape their towns and/or cities and advance their communities needs (and, therefore, ability to do these things).

89. For the purposes of this study, the question that needs to be answered is: will the reduction in areas of responsibility, consistent with an extension of arm's length delivery (prior to reaching the realistic end point set out in the previous sections), structurally impact on the local government sector (as currently constituted) to the point of bringing its viability into question? At what stage (if at all) will arm's length evolution reach a tipping point meaning the collection of residual responsibilities no longer makes sense or serves a useful or justifiable purpose? To put that another way, will a point be reached where a fundamental change in the purpose of local government (or its ability to fulfil that purpose) occurs, meaning that local government structures are no longer required to fulfil the role that they were designed to achieve.

90. It is our assessment that, under the end point arm's length scenario set out in this report, this is not the case. Local government remains actively involved in stormwater as a whole, as well as water and wastewater as the network provider (a significant and influential role even if it has adapted the Wellington Waters model to regionalise expertise in asset management). In terms of transport, while their role is reduced further, it needs to be remembered that there is already a significant arm's length component in this area. Similarly, with local government remaining the principle decision maker in terms of land use planning, it will continue to play a central role in the decision making that gives rise to the demand (either increasing or decreasing) for these services. Whether or not the residual local government organisations remain as effective in playing this planning role is an issue discussed further in the following section.

91. The one caveat to this assessment is if the network provider role of councils in terms of water and wastewater, were to evolve into arm's length delivery by way of nationalisation. That is, the core distribution system became predominantly funded and/or controlled by central government. In our assessment, with another sizable chunk of activity being removed, this would almost certainly take local government very close to the tipping point described above, and probably over it. Under this scenario, it is highly likely that at some stage over the 30-year period there would need to be a fundamental review and major reorganisation of the local government sector as a whole.

92. In the following section, we discuss the impact of extended arm's length delivery at an organisation-specific level, highlighting some real, and potentially material risks. The aggregate of these entity level risks and potential negative impacts have the potential to damage the sector as a whole as well.

Organisational Impact

93. The reduction in roles and responsibilities that would result from greater movement to arm's length delivery over time, will obviously have a material impact on the residual council organisations involved. In this section, what that impact is likely to involve is assessed.

94. At an organisational level, potential impacts fall into four categories, specifically:

- Organisational critical mass
- Fit for new purpose
- Community/territorial leadership
- Functional effectiveness.

Critical Mass

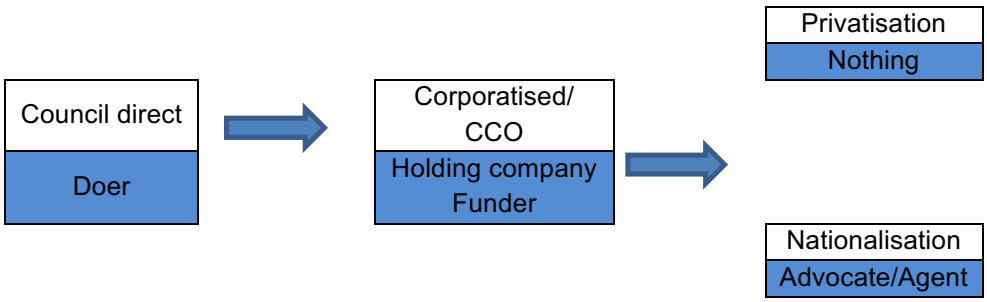
95. Local government organisations, regardless of the size of the territories they administer, are complex, multi-functional organisations. As with any organisation of this nature, if significant portions of it are removed, this will impact on the residual organisation in both intended and unintended ways. Risks of negative impact are exacerbated when the thinking and rationale behind organisational restructuring is driven by a focus on what is optimal or most effective from the perspective of one specific function of the organisation, as opposed to how this will impact on the organisation as a whole.

96. Associated with this, reducing the size of an organisation by removing functions opens up a risk that the organisation will be tipped over a threshold where it is reduced to a size that is no longer viable in terms of fulfilling the remaining roles and responsibilities. In terms of specific organisations, the extent of this risk will depend on the existing structure of that entity and how close they were to that tipping point prior to the arm's length led down-sizing occurring. Having said that, based on the analysis set out in the function and purpose section, the end point arm's length scenario seems unlikely to move local government organisations over this relevance threshold. Again, this is because stormwater and the trunk infrastructure provision relating to water and wastewater is expected to remain within councils. If, as a result of nationalisation in this area, delivery of these services was also removed from the sector, this would almost certainly threaten organisational viability.

Fitness for Purpose

97. For any individual local government organisation, a move from direct local to arm's length control (whether it be to either a privatisation or nationalisation end point) involves a version of the transition in function illustrated in Figure 2. This transition will materially change the focus, required skills and capacities of the organisations and their governors along the way. In each stage shown in Figure 2 the lower (shaded) box shows the role of the local authority.

Figure 2: Role Transition with Arm's Length Delivery



98. At the direct council end of this spectrum, council organisations are involved in operational management and governance, they are responsible for physically carrying out functions and therefore have direct (or near direct control) over them.

99. Moving along the transition to a corporatised or commercialised model, the ability to control is less direct, involves using governance and commercial structures, and the creation of incentives (financial and non-financial) as opposed to direct management. At the long arm length end of the spectrum (privatisation/nationalisation), the ability to influence is reduced further to that of advocate and/or stakeholder, or in some cases as a regulator.

100. These different roles involve markedly different challenges and approaches and require vastly different mixes of skill sets and levels of corporate sophistication. It is questionable how effectively or quickly council organisations will be able to adapt to the changing roles and modes of operation. While a number of councils have experience operating highly effectively in these more "hands off" ways, others do not and will struggle to adapt. Those councils that are unable to adapt, or that are too slow to transform (resulting in issues of reputational and credibility damage), will be weakened as organisations both structurally and in terms of their ongoing effectiveness.

101. Similarly, along this transition, local government organisations will need to change the lens through which they view processes and issues from a public-sector cost management approach to a commercial framework driven by imperatives such as profit maximisation and return on capital. Even the nimblest of organisations struggle to make fundamental transformations of this nature seamlessly and painlessly. Again, a number of local authorities will struggle to successfully adapt and even more will take longer to do so than can be afforded without organisational damage being suffered.

102. To summarise this impact, the extension of arm's length delivery of network infrastructure will result in many of the existing local government organisations being required to fulfil functions that they were not designed, structured or resourced to undertake. This has the potential to have a significant and negative impact on the organisations involved and the sector as a whole. To the extent to which this occurs, the negative effects will be both transitional and structural in nature.

Community Leadership

103. An important role of local government is to provide leadership for, and on behalf of, the communities they serve and the territories or regions they represent. While this is not explicitly stated anywhere, it is undoubtedly true. The most effective councils are those which are seen and respected as leaders, while the least effective are those which (for whatever reason, and there are potentially many) have come to be seen as irrelevant or, worse, at odds with their communities.

104. Leadership is a complex and somewhat intangible phenomenon, and it is inherently tenuous. One of the effects of a greater proportion of services being delivered on an arm's length basis is that council organisations will become less extensively and closely linked to their communities, less woven into the societal fabric.

105. Where councils do become less closely linked with the everyday lives of their communities, their ability to lead runs the risk of being diminished in a number of ways, including:

- to the extent to which they are seen as having less of a mandate to speak for or represent the interests of their communities, the capacity of those councils to act as effective advocates will be devalued
- the council organisation will have less levers into their communities to act as agents for positive economic or social change
- as a vehicle for delivering central government policy with a local flavour or sensitivity, councils will become less effective
- developing meaningful strategies for their communities will become more difficult, while achieving buy-in and implementing related plans will become next to impossible.

Planning Effectiveness

106. One of the impacts of arm's length delivery is that councils will have less access to real-time, real-world data and information on what is actually happening in these areas. Lower quality data will make planning and long-term strategy and decision making more difficult and potentially much less effective. The most obvious example of this is in the area of land use planning. There is a complex, two-way cause and effect relationship between infrastructure investment and provision and land use planning. An extension of arm's length infrastructure provision will significantly increase the risk of there being a disconnect between infrastructure planning and intentions and the philosophies and decision making involved in land use planning. Some councils, however, have proven to be quite capable of delivering such a disconnect even when all their delivery is under their direct control.

Service Delivery

107. In this section, what an extension of arm's length provision might mean for the actual delivery of network infrastructure services is considered. The section does not look at the consequential impact on the delivery of other services for which local government is responsible, as this was covered in the previous section.

108. In relation to the impact on service delivery the following factors have been assessed:
    - Impact of choice
    - Scale of provision
    - Broader delivery objectives
    - Pricing
    - Quality of investment decisions
    - Funding models
    - Cost effectiveness of delivery
    - Approach to risk.

Choice

109. To the extent that arm's length provision results in increased consumer choice and competition (potentially public transport, water and waste water and an extension of the existing levels in solid waste), there will be potential price benefits to consumers or lower cost to delivery. In addition, competitive models are highly likely to result in greater

customer focus and more responsive services and delivery. This is particularly likely to be the case in relation to high value and high-volume customers. The extent of this response, however, will vary depending on the regulatory and contractual regime that applies.

110. It is important to note that the natural monopoly nature of large parts of network infrastructure will limit the extent to which choice is achievable, unless there is significant technological change that fundamentally alters the functional and transactional delivery of services. In relation to water and wastewater, this is possible in terms of the transactional side of the provision, but highly unlikely in terms of the functional components and the physical assets on which it relies. In relation to transport, significant technological advancement seems a more likely trend across both the functions and transactional delivery component making the potential for choice-related benefits to be secured much higher.

Scale

111. If water is taken as an example, the size of many of the single local authority existing reticulated areas would make them too small to be viable standalone commercial organisational requirements. Their scale would simply not make a commercial arm's length model a viable proposition. In light of this, a concerted incentivised public policy push to introduce a commercial arm's length model to water supply and wastewater would require a programme of system rationalisations to increase scale to levels where business cases can be justified. As the arm's length model develops, there will almost inevitably be additional voluntary rationalisations. The result of this would be a move towards large provider entities, a greater distance and more remote from their consumers and communities than is currently the case. The hybrid regionalisation of water and wastewater skills and capability (like Wellington Water) would create scale, but would retain ownership and significant decision making with the local authority.

Broader Objectives

112. Currently, the predominantly short-armed delivery of water supply by councils means that a number of non-price or service quality objectives are factored into the provision of network infrastructure. These public good and public policy focused drivers include, but are not limited to:
    - public health objectives, both precautionary and proactive
    - externalities
    - community and social development objectives
    - regional economic development
    - urban form and land use planning related factors
    - future focused decision making
    - equity outcomes based on ability to pay and/or need.

113. It is expected that over the next period, national regulatory requirements will be given greater emphasis. This is, in part, a response to the Havelock North inquiry and, in part, due to rising regulatory requirements.

114. Under a full commercial arm's length approach, service provision will be driven by a functional approach based on return on investment objectives with regulatory

requirements. Non-commercial objectives will be able to be incentivised into the system or regulated for, but the cost to the public sector is likely to be much higher than is the case now. Similarly, many of these objectives will be possible under a nationalised arm's length model, but they will be delivered further away from the target communities, without the same appreciation of local peculiarities and imperatives. Again, the regionalisation of skills and expertise provides a way of having scale, as well as local decision making and local objectives.

Pricing

115. As noted above, to the extent that competitive pressures develop in a commercial arm's length model, this is likely to exert downward pressure on prices. This, however, will not be the only variable at play. Under a short-armed local model, pricing will be based on cost recovery with no return on capital required, low interest costs and zero taxation. There will of course be corporate and administrative costs, but there will not be marketing or other competition related expenses (or, at least there shouldn't be). This approach will be similar under a nationalised function, although there could be additional distance to market related costs.

116. Under a fully commercial model, pricing will be impacted by the need for a return on investment, higher interest rates than the Crown or public entities can access and business taxation. In addition, these entities will face the costs of competition. The net effect of these conflicting influences on costs is not possible to calculate or even estimate in this sort of future focused exercise, but the key point is that it is simplistic to assume that the introduction of choice through commercial models will inevitably lead to reduced costs and prices.

117. Again, as discussed in paragraph 110, the introduction of choice will depend on technology (or possibly new commercial models) changing the way that network infrastructure is delivered, either from a transactional perspective or (in relation to transport) in terms of physical, functional delivery.

Investment Decisions

118. As discussed earlier in this report, one of the potential consequences of arm's length delivery models is a disconnect between infrastructure and land use development and planning decision making. Or, at the very least, decision making being based on a lower quality of information due to the removal of direct access to such information by decision makers. A consequence of this could be lower quality decision making and sub-optimal levels of investment (over- or under-provision). Lower quality decision making comes at a cost, and that cost can be considerable and material. Again, this is a potential impact of an arm's length model that cannot be discounted. Neither is it credible to argue that direct local decision making always results in sound decisions. Variable skills and capability, and the politics of weighing competing constituencies, can equally drive poor decisions. The politics of debt minimisation and avoiding rates increases can also drive short-term avoidance behaviours and sub-optimal long-term investment.

Cost Effectiveness of Delivery

119. As discussed in paragraph 111, increased arm's length delivery is also likely to result in increased scale. With the economies of scale and other efficiencies that could eventually

be delivered by this trend, there should be consequential improvements in the cost effectiveness of delivery. As noted in the discussion on pricing, however, there are a range of forces that will impact on cost of delivery, and they impact in both directions.

Approach to Risk

120. The evolution of increased arm's length delivery models and, in particular, commercially focused approaches, will impact to significantly alter the perspective through which risk is viewed and, therefore, the nature of the efforts applied to mananging it. This will occur at a number of different levels. Commercial organisations and their governance are exposed to regulatory risk (and the financial consequences of it) in a way that public sector organisations are not. Similarly, financial risk is perceived differently, with the private sector focusing on profit maximisation (and, therefore, revenue is a key focus), with the private sector predominantly more focused on cost management and compliance. In the public sector, a primary motivation among decision makers is balancing the often-conflicting needs of different constituencies to minimise political risk. This is not a primary, or even secondary, focus within a commercial arm's length model.

Funding Models

121. A number of the factors that will be at play under an arm's length approach to delivery from a funding perspective have been traversed in the previous sections and, to the greatest extent possible, those discussions will not be repeated here.

122. Under the scenario where the retail, transactional functions are provided at arm's length from councils, there are two options for billings: the provider (effectively the retailer) bills the council; or, the provider directly bills the consumer/user. The former structure, is effectively a version of an availability approach. While such an approach does provide a greater level of control to the council, a weakness of it is that it does not provide access to the benefits that arise from the creation of price signals to consumers.

123. Availability models are an approach that were used in relation to transport Public-Private Partnerships (PPPs) in Australia after some major and high-profile market model PPPs failed due to over estimates of demand by the private sector. The availability model provided a mechanism through which private sector entities could be attracted back into the market. What it effectively did, however, was remove demand risk from the commercial provider and load it back onto the public sector, effectively removing a key area of benefit from using a PPP model.

124. Another example of this approach which disconnects the provider from their consumers is solid waste, where there has been a privatisation of aspects of the network with no direct relationship between the provider and the end user. While the approach does have benefits from a solely service provision perspective, it has tended to result in contractual and relationship difficulties. It is an approach that is a very weak form of commercialisation, with diluted benefits and potentially increased risks for the local government entity. The key risk to local authorities is the rationalisation of supply (landfills) resulting in provider capture and the loss of competitive tension in the supplier market.

125. An example of the approach where a (partial) arm's length provider is directly paid by the users is the volumetric combined water and wastewater regime currently utilised by

Watercare. There is also some direct provider/consumer relationship in a component of most of the contractual and operating models on which Public Transport (PT) provision is based. In terms of PT, an ability to move past a partial direct relationship will be hindered for as long as a significant subsidy is required to make the PT operating model viable. The model where there is a direct relationship between providers and consumers does deliver the advantages of price signals, but also tends to be associated by less control for local government, which retains (at least perceived) ultimate accountability for the service, over the nature and quality of delivery by the provider. This has certainly been the case in terms of the experiences with PT in both Auckland and Wellington.

126. Under the realistic arm's length scenario assessed in part one of the report, water and wastewater trunk infrastructure (i.e. the wholesale or distribution network) does not realistically evolve into a commercial arm's length delivery model and instead remains the responsibility of the public sector. For this reason, it is likely that there will be no real change in terms of the capex and renewals requirements facing councils in terms of this network infrastructure over the course of the study period. The exception to this is the scenario where arm's length provision occurs through nationalisation. In this context, nationalisation would be of significant benefit to many local government organisations, in particular those struggling to deal with strong growth and therefore confronting extreme balance sheet challenges (an almost inevitable consequence for cash flow timing reasons among others).

127. The section on organisational effectiveness looked at the disconnect between infrastructure and land use planning and the risks that this poses in terms of sub-optimal investment decision making. This is a factor that can impact in terms of funding as well. Poor investment decisions (in relation to issues such as timing and/or location) and project failures are extremely expensive and therefore increase the overall funding challenge, but also have the potential to impact on access and cost of capital.

128. Finally, in the area of transport (all modes, but particularly roading) developments in the area of smart pricing are a probable prerequisite in terms of commercial arm's length evolution in the transactional aspects of delivery. Associated with such developments in pricing is the fact that a tipping point will inevitably be reached whereby what is effectively availability pricing is replaced by demand sensitive pricing. This will revolutionise travel behaviour, transport planning and investment programme requirements. It will also, however, create issues in maintaining and renewing non-growth areas of the network, which in turn has the potential to make the decline of the areas associated with those parts of the network almost self-fulfilling. At the very least, the funding consequences of smarter demand driven pricing will weaken a social and economic development tool that transport currently provides.

Democratic Accountability

129. Again, a number of the impacts that will come into play, in terms of the effect of arm's length delivery on democracy, have been canvassed earlier in the report. This comes as no surprise as none of these entirely inter-related issues exists in a vacuum and each of the five areas of impact we have defined for the purposes of this analysis are characterised by significant overlap.

130. Local government (and participatory democracy as a whole) is, in part, designed to provide for accountability and transparency through the ultimate power which communities (electors) have over their elected representatives' prospects. Their elected representatives are the most immediate and direct check that local communities have on how their resources are applied on their behalf. The more that parts of the various components of the responsibilities of local government are provided on an arm's length basis, the less direct ability that councillors have to influence that service, and to represent the interests of their constituents. The further along the arm's length spectrum delivery moves, this effect will impact in a number of areas through decreasing:

- roles in setting service levels
- control over price/return on investment other than through regulation (which could, actually, also evolve to an arm's length approach)
- influence over operational procedures and decision making.

131. These effects will occur within the service provision area that the council has traditionally been responsible for, but will be amplified by the almost inevitable rationalisations that arm's length provision will result in (as discussed in the Delivery of Services section of this report).

132. As a result of this impact, there will be a tipping point beyond which councils are increasingly seen as irrelevant and meaningless. This will, in all likelihood, have the flow on effect of quality candidates not standing for election and decreased voter turnout, characteristics of a potential failure in local democracy. In addition, the affected local government organisations will lose and struggle to attract quality management and staff. In effect, there will be a spirit of decline among politicians, staff and the council as a whole.

133. In cases where councils have previously fulfilled a central and important part of the fabric of their communities (which certainly is not the case for all councils), such a decline will weaken the affected communities as a whole. This discussion suggests a rather dire scenario, and it should certainly not be taken as an inevitable consequence of extensive move down the arm's length provision spectrum. It is, however, a realistic risk should the tipping point referred to above be reached.

134. Importantly, the same tipping point can be approached by the imposition of national standards or regulatory requirements that remove local discretion but retain local delivery and ownership. This approach has the effect of reducing the meaningfulness of local democracy but retaining its institutions. At the extreme, where no local discretion exists, no effective local democracy effects either.

Part 4 – Conclusion

135. The analysis contained in this report does not attempt to make detailed predictions of how delivery of network infrastructure will develop over the next 30 years and the impact that would have on local government structures and practice. Instead, it creates a framework through which general movements can be assessed and associated issues can be identified and raised.

136. Through application of this analytical framework, possible end points in terms of the extension of arm's length delivery were assessed, effectively showing the maximum extent to which arm length delivery could evolve. Through this, it was concluded that arm's length extensions in stormwater are very unlikely, other than through a greater involvement by central government (nationalisation). Similarly, any material arm's length extension in terms of the trunk infrastructure for water and wastewater would seem unlikely. There is considerable scope, though for a greater extent of arm's length delivery in these two areas in relation to transactional and customer service related functions.

137. In the areas of solid waste, roading and public transport it was assessed that there was considerable likelihood of greater levels of arm's length delivery, and that this could occur through either greater private sector or central government involvement.

138. Based on this assessed end point scenario, issues were identified from the perspective of the impact that this would have on various aspects of local government. The end points identified in the assessment would leave local government with a mixture of limited and incomplete roles in terms of the provision of network infrastructure. We do not believe, however, that this would remove the viability of local government.

139. Similarly, the end point assessment would in all likelihood weaken existing local government organisations, however, we do not think that this would necessarily be terminal for those organisations. We do, however, believe that greater arm's length provision would involve the risk of leading to a decline in the democratic health of local communities and their organisations. Again, though, these conclusions are intended as discussion starters and thought provokers rather than being predictive – the report was prepared to identify issues for consideration rather than make recommendations