

# InfraRead

ISSUE 10: OCTOBER 2017

WASTE-TO-WEALTH INITIATIVES:

## WASTE-TO-ENERGY PROJECTS

BY MICHAEL HARRISON, RICHARD GUIT,  
ANTHONY JOHNSON AND NICK STALBOW

### ALSO IN THIS ISSUE:

Developments around UK transport hubs:  
Infrastructure as a catalyst for growth  
BY JAMIE CHAPMAN

The French Broadband Programme:  
A network of opportunities  
BY MICHEL LEQUIEN AND JACQUES DABRETEAU

A new model for Welsh infrastructure:  
MIM's the word!  
BY PHILIP VERNON, TERENCE VAN POORTVLIET,  
DAVID CAVE AND JONATHAN TURNER

Upgrading Los Angeles' transport  
infrastructure: Taking the measure of  
Measure M

BY ANDREW FRAISER AND JAMES MAXWELL

German motorway PPPs: Full speed  
ahead for private investment

BY MAXIMILIAN UIBELEISEN, DERK OPITZ, KARSTEN  
RAUPACH AND HOLGER MLYNEK

*Mark Elsey writes...Should we nationalise  
Travel Agents?*

ashurst



# An overview of this issue

I am delighted to introduce this tenth issue of **InfraRead**, our biannual publication covering a range of legal and transactional issues relevant to the global transport and infrastructure space.



**Mark Elsey**

Global Head of Infrastructure  
T +44 (0)20 7859 1721  
[mark.elsey@ashurst.com](mailto:mark.elsey@ashurst.com)

# Contents

## In this issue we look at:

### Waste-to-wealth initiatives: Waste-to-energy projects p4

In this, the second of a four-part series of articles on the global waste sector, **Michael Harrison, Richard Guit, Anthony Johnson** and **Nick Stalbow** explain the various technologies used for Waste-to-energy projects, as well as considering the key revenue streams and the key risks which need to be addressed – either through government policy or contractual mechanisms – to make them economically viable.

### Developments around UK transport hubs: Infrastructure as a catalyst for growth p14

Development around larger train stations, particularly in London, has been a feature of the real estate development market for some time. **Jamie Chapman** examines the different factors at play in this development boom around transport infrastructure.

### The French Broadband Programme: A network of opportunities p18

France has one of Europe's least developed very-high-speed broadband networks at local level. As a result, a major broadband programme was announced in 2013 by President Hollande, to which President Macron has recently reaffirmed his commitment. Various forms of PPP have been adopted by French local authorities to procure the development of broadband networks in their areas. **Michel Lequien** and **Jacques Dabreteau** summarise recent developments and future prospects in this very active market.

### A new model for Welsh infrastructure: MIM's the word! p23

Earlier this year the Welsh Government launched its long-awaited "Mutual Investment Model" for the development on infrastructure projects using project finance, which is currently being rolled out on three pilot projects. **Philip Vernon, Terence van Poortvliet, David Cave** and **Jonathan Turner** provide an overview of the new model form Project Agreement, as well as explaining the important accounting treatment issues which underpin it.

### Upgrading Los Angeles' transport infrastructure: Taking the measure of Measure M p26

Los Angeles' transport infrastructure is literally bursting at the seams, with LA County's 10.2 million residents currently spending an average of 81 hours stuck in traffic each year. This issue has been brought into sharp focus with the recent announcement that Los Angeles is to host the Summer 2028 Olympic Games. **Andrew Fraiser** and **James Maxwell** summarise the proposals currently being put forward to enable significant private sector investment in Los Angeles' roads in the coming decades.

### German motorway PPPs: Full speed ahead for private investment p34

In recent years PPPs have become an established method for procuring and financing trunk roads in Germany, and the current pipeline of new-generation projects aims to attract yet more private investment into the roads sector. **Maximilian Uibleisen, Derk Opitz, Karsten Raupach** and **Holger Mlynec** explain how PPP projects in the German trunk road sector have evolved over the years, and highlight forthcoming opportunities for investors in both the primary and secondary markets.

### Mark Elsey writes ... Should we nationalise travel agents? back cover

**Mark Elsey**, the Global Head of Ashurst's infrastructure practice, takes issue with the UK Labour Party's recent announcement that, if it came to power, it would take PFI projects back into public ownership, and sets out a three-pronged strategy for how to win back public support for private investment in infrastructure. Not an easy task, given that a recent poll reported that 29 per cent of the UK public were in favour of nationalising travel agents!

This publication is not intended to be a comprehensive review of all developments in the law and practice, or to cover all aspects of those referred to. Readers should take legal advice before applying the information contained in this publication to specific issues or transactions. If you have any comments about this edition or suggestions for future editions, please contact us at [infread@ashurst.com](mailto:infread@ashurst.com). If you would like to contact Ashurst please visit [Ashurst.com/contactus](http://Ashurst.com/contactus) and one of our team will be happy to help you.

Ashurst Australia (ABN 75 304 286 095) is a general partnership constituted under the laws of the Australian Capital Territory and is part of the Ashurst Group.

Ashurst LLP is a limited liability partnership registered in England and Wales under number OC330252 and is part of the Ashurst Group. It is a law firm authorised and regulated by the Solicitors Regulation Authority of England and Wales under number 468653. The term "partner" is used to refer to a member of Ashurst LLP or to an employee or consultant with equivalent standing and qualifications or to an individual with equivalent status in one of Ashurst LLP's affiliates. Further details about Ashurst can be found at [www.ashurst.com](http://www.ashurst.com).

© Ashurst 2017. No part of this publication may be reproduced by any process without prior written permission from Ashurst.





WASTE-TO-WEALTH INITIATIVES:

# Waste-to-energy projects

by Michael Harrison, Richard Guit, Anthony Johnson and Nick Stalbow

**W**aste-to-energy (WtE) is a generic description for a process that takes waste, and combusts that waste to produce energy. The energy produced can take the form of electricity or steam (or both). WtE projects use a variety of types of waste and a range of combustion processes. They divert waste from landfill to generate low-emission electricity and are environmentally and economically sustainable.

This article considers the key revenue streams from WtE projects and the key risks which need to be addressed – either through government policy or contractual mechanisms – to make WtE projects economically viable.

In our first article, "Waste-to-Wealth Initiatives – Waste Projects",<sup>1</sup> we provided an overview of waste projects, including WtE. In response to the positive feedback which this article received, we have taken the decision to devote three further articles to WtE. In our next article, we will consider specific policy settings in Asia Pacific, Europe and the Americas for WtE projects and the final article of the series will consider waste processing and treatment using other methodologies, including mechanical and biological treatment, material recovery, and organics recovery and processing.

## What do we mean by waste-to-energy?

Waste-to-energy is a broad term (with the same meaning as "Energy-from-Waste"). We use the term to mean any process or treatment that takes waste and converts it into energy (for the primary purpose of producing electricity – or electricity and heat – for sale) using a thermal or biological technology. A variety of "processes" are used, each of which is likely to have its

own proprietary and intellectual property rights. Each of these processes tends to be referred to as a "technology".

Irrespective of the technology used, the same two outcomes result:

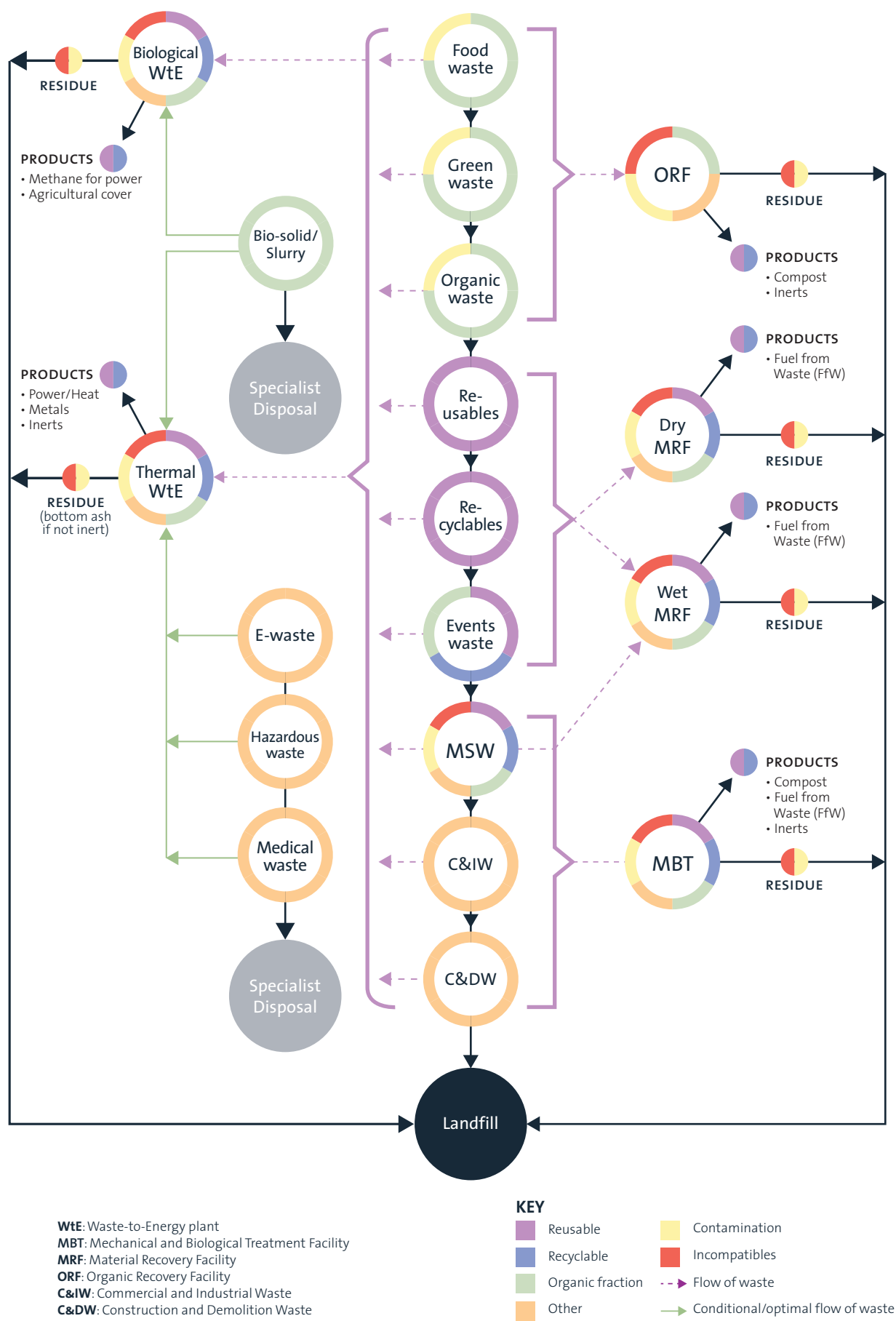
- (a) reduction in the mass and volume of waste disposed of to landfill; and
- (b) production of energy from the non-reusable and non-recyclable fractions of the waste stream.

## Key waste streams

Waste is characterised in a variety of ways, with industry and regulators using common descriptions. These are: Municipal Solid Waste (MSW),<sup>2</sup> Commercial and Industrial Waste (C&IW),<sup>3</sup> Construction and Demolition Waste (C&DW),<sup>4</sup> Events Waste,<sup>5</sup> Green Waste,<sup>6</sup> Organic Waste<sup>7</sup> (including bagasse<sup>8</sup> and biomass<sup>9</sup>), Food Waste,<sup>10</sup> Hazardous Waste,<sup>11</sup> E-Waste,<sup>12</sup> Medical Waste,<sup>13</sup> and Bio-solid and Slurry Waste.<sup>14</sup> Subcategories exist too: for example, MSW can be sorted in people's homes which enables recyclable waste to be separated out.

**Figure 1** shows the various categories of waste types and which waste processes can be used for each type: Biological WtE

Figure 1: Waste types and how they may be treated





and Thermal WtE, Organic Recovery and Treatment Facilities (ORF), Material Recovery Facilities (wet and dry MRFs) and Mechanical and Biological Treatment Facilities (MBT).

## WtE "technologies"

### Thermal or Biological technologies

In broad terms, the technologies used to generate energy from waste take two forms:<sup>15</sup> biological<sup>16</sup> and thermal.<sup>17</sup> "Biological" technologies use anaerobic digestion (AD), which requires a consistent type of organic waste and a highly controlled environment in which to produce and combust methane. The waste streams suitable for AD are limited (as noted in Figure 1 above) to Food Waste and Bio-solid and Slurry Waste. The overall energy output from AD is low in comparison to thermal technologies. Therefore, large-scale WtE projects predominantly use "thermal" technologies. These include:

- combustion of waste;
- gasification of waste<sup>18</sup> (including close-coupled gasification, slagging and plasma); and
- pyrolysis of waste.<sup>19</sup>

### Mass combustion

Combustion is the globally prevalent WtE technology. As a general statement, moving grate<sup>20</sup> and fluidised bed<sup>21</sup> technologies are the main combustion technologies used, with both having low emissions and high thermal efficiency.<sup>22</sup>

A WtE project using combustion technology, and taking large volumes of waste without any form of prior systemised sorting, separation or treatment is referred to as a "mass burn" or "mass combustion" WtE project. Some combustion WtE projects take waste after it has previously been sorted into different streams (perhaps with recyclable items removed) or shredded in some way: these are not mass burn projects. Mass burn does not: pre-sort to derive reusables or recyclables from the waste stream, blend or mix waste (other than by crane in the bunker), shred waste in preparation for processing and treatment, nor use RDF.<sup>23</sup>

### Gasification

Gasification involves deriving synthesis gas (syngas) from waste in low oxygen, high temperature chambers, and then combusting the syngas.<sup>24</sup> The use of gasification as a WtE technology continues to be developed for large-scale WtE. In Japan, for example, there are examples of WtE projects using some form of gasification.

### Pyrolysis

Pyrolysis involves deriving gas (and char or tar) from the sublimation of waste at high temperatures in the absence of oxygen, with the gas then being combusted. While pyrolysis WtE plants do exist, they are not as prevalent as mass combustion or gasification plants.

## Sorting or treating waste before it is combusted

In jurisdictions with more developed waste collection systems, MSW is collected from homes and businesses using single or multiple bins, including using dedicated "recycling" and green bins (and perhaps food bins). The use of multiple bins is often referred to as "source separation" or "source segregation". Depending on the waste collection system, separated fractions of the waste stream can then be delivered to different waste projects; for example: recyclables to a dry MRF; organics to an ORF; and non-segregated MSW to an MBT facility or a WtE facility.

In addition to source separation, and again depending on the waste collection system being used, waste may be "pre-sorted" or "pre-treated" after collection.<sup>25</sup> An MBT facility or MRF can be co-located with, or close to, a WtE facility (including being connected to it) or may be geographically separate, with a transport solution in place to deliver the pre-sorted waste to the facility.

The Waste Management Hierarchy (see **Figure 2**) promotes source separation or pre-sorting as a preferred policy outcome. While adding an MRF or MBT requires additional capital expenditure (thereby increasing the cost of a WtE project), it provides an outcome consistent with the Waste Management Hierarchy. This is particularly the case if waste is not source-separated in an effective manner or, indeed,

at all (typically, because there is no recycling bin or because the bin is not used), in which case there may be a desire for pre-sorting at the WtE facility.

Whether or not an MRF or MBT is used will be a function of the additional cost<sup>26</sup> and the revenue expectations from recovery of reusables and recyclables by pre-sorting. The revenue expected to be earned is a function of waste composition (critically, the proportion of the waste stream comprising reuseables and recyclables), and the market for them. Recycling markets around the world have fluctuated immensely over the past decade and (in some cases) market appetite has disappeared.<sup>27</sup> This can make revenue forecasting from the sale of recyclables difficult.

### Procurement methodology

#### Variety of procurement methods

As noted in our "Waste-to-Wealth Initiatives – Waste Projects" article, WtE projects can be procured using a variety of different procurement methods. The simplest method is direct procurement under a D&C<sup>28</sup> or EPC<sup>29</sup> contract, with the procuring municipality (following operational completion of the WtE project) either operating the WtE project itself or contracting with the private sector

to provide operation and maintenance services under an O&M<sup>30</sup> contract. This direct procurement model is the prevalent model in China.

For the purposes of this article, we are assuming that the municipality is not procuring the WtE project directly under a D&C/EPC contract and operating and maintaining the facility by itself or under an O&M contract, but is instead contracting with the private sector to procure the WtE project under a BOO,<sup>31</sup> BOOT,<sup>32</sup> DBFOM<sup>33</sup> (or DBOM), or PPP<sup>34</sup> model.

### Affordability for municipalities

A WtE project provides a waste processing service to municipalities. The affordability of such services compared to other forms of waste projects (or landfill) will be an overarching consideration for such municipalities. Affordability is a function of competing calls on the municipal budget. Therefore, the ability of the municipality to charge its residents for services, or to obtain funding from other sources, is an important consideration.

In some jurisdictions, municipal budgets have been insufficient to support waste projects, so other government entities have had to implement policies to allow WtE projects to be developed. Examples of such policies include the introduction of a feed-in-tariff (FiT)

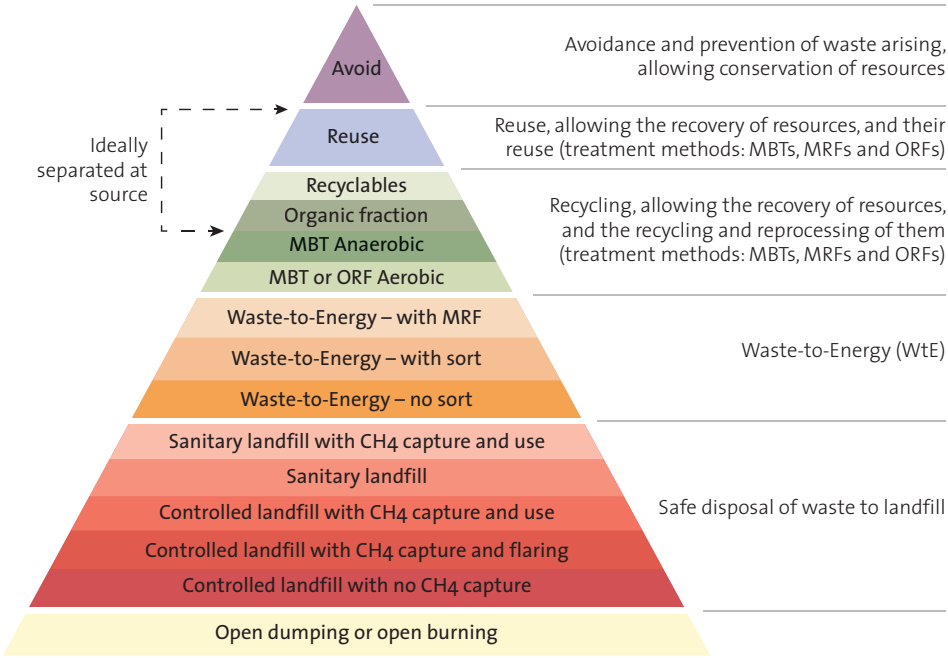
regime<sup>35</sup> or a mandatory renewable energy requirement under which participants in the electricity industry are mandated to pay a FiT for renewable energy (at a prescribed price) or to source a percentage of their electricity requirements from renewable energy sources.

### Project sponsor economics

For the sponsor of a WtE project (as well as the equity investors and, if project financed, the debt providers), understanding the source and amount of both revenue and costs (and, as such, net revenue) and the risks associated with generating that revenue and incurring those costs is critical. As we consider in detail below, the revenue stream from a WtE project is a function of the unit charge (per tonne or per MWh) and the quantity of waste delivered and electricity generated (and, as such, net revenue is a function of revenue less operating costs (including insurance), the cost of servicing shareholder loans and, if project financed,<sup>36</sup> the cost of servicing loans from debt providers and the repayment of interest).

The greater the certainty of an assured revenue stream from a creditworthy municipality or private sector counterparty (as a supplier of waste or an off-taker of power, or both), then the larger the debt sizing can be, and the higher the gearing.

Figure 2: The Waste Management Hierarchy





## Key revenue streams

### General background

As a general statement, there are two primary sources of revenue for WtE projects:

Primary sources of revenue	Approximate breakdown (%)	Relevant factors
Fee for processing waste at WtE plant ( <b>Gate Fee</b> ) (usually expressed in a unit rate per tonne)	66.6	Gate Fee must be affordable to municipalities (or private sector supplier) and lower (on a like-for-like basis) than landfill fees payable for the same waste
Payment for sale of energy (electricity or steam, or both) ( <b>Offtake Revenue</b> )	33.3	Power needs to be competitively priced or FiTs need to be certain (as to amount and term). Electricity can be sold into a "market" or to specific users

The above table is deliberately simplistic. In some jurisdictions, Offtake Revenue (typically through a FiT regime) is the only form of revenue, or it may generate a higher proportion of the revenue than the Gate Fee.

There may also be other revenue sources which fluctuate or which depend on the location and characteristics of the WtE plant. Debt financiers may discount, or even disregard, these other sources of revenue in the financial model for the purposes of sizing debt. Examples include:

Other revenue sources	Relevant factors
Metals recovered from the waste stream (both pre- and post-thermal processing)	Depends on composition of the waste delivered to the plant, the particular technology's ability to recover metals and the price for recovered metals in the local market
Use of ash from combustion (bottom ash) in road base, cement or ceramic production <sup>37</sup>	Usually the bottom ash starts as a cost liability (as it must be landfilled) unless and until it has been tested and proven as inert and safe <sup>38</sup>
Renewable or green benefits (e.g. FiTs for renewable projects, tradeable renewable certificates issued for being a renewable generator or "embedded benefits" from avoided transmission costs)	Local regulatory environment for producing low carbon energy, price adjustments under relevant green subsidy scheme (e.g. indexation, price depression, price increases for certain events) and proportion of energy eligible for support (e.g. based on biogenic vs. fossil fuel content of waste)

## Contracted and Merchant WtE Projects for supply of waste

In broad terms, WtE projects are developed as either:

- **Contracted WtE Projects:** under which the project sponsor contracts directly with a municipality or a number of municipalities, and the municipality/each municipality agrees to deliver waste for a long-term period, to pay a Gate Fee for the supply of the waste to the facility (or possibly not if the WtE project will earn sufficient revenue from energy sales), and to deliver waste on a firm basis; or
- **Merchant WtE Projects:** under which the project sponsor contracts with multiple non-municipal parties for the supply of waste to the WtE project (typically with waste supply contracts being for varying periods of time), with each supplier of waste paying a Gate Fee.

Whatever the ratio of Gate Fees to Offtake Revenue, the project sponsors will always be keen to match the time frames of a long-term obligation to supply all (or a high proportion of) the energy capacity of the WtE project and a long-term waste supply contract (or contracts), possibly contracting with the same entity as both a supplier of waste and an off-taker of energy.

Whether a WtE project is a Contracted or a Merchant WtE Project, energy (in the form of electricity generated and heat produced) is likely to be sold under a PPA (or a PPA and Steam Supply Agreement if heat as well as electricity is produced) at a price specified in the PPA, or into a market for electricity<sup>39</sup> or to energy companies under, and at a price determined by, a FiT regime.

### Location of WtE project

The geographical location of a WtE project will have an impact on its economics in two key respects. First, it will determine the sources, quantity and composition of waste supplied over time. Secondly, it will enable the stakeholders who are developing the project to consider and therefore determine (and possibly guard against) substitutability risk: i.e. the risk that another waste project will substitute the service provided by the WtE project. This is a critical risk for Merchant WtE Projects as, irrespective of the basis on which energy is sold, waste is required in order to produce energy (and hence revenue for the project).

The substitutability risk of a Contracted WtE Project is a function of: (i) the catchment area of the municipality and the power (or statutory duty) of the municipality to collect waste from within that area and deliver it to the WtE project; and (ii) the terms on which the municipality is prepared to contract, including assurances that sufficient waste will be delivered to the WtE project. The substitutability risk on a Contracted WtE Project is likely to be best characterised as low or negligible if the relevant contract addresses volume risk effectively. Of course, the composition of waste arising in the catchment area and ensuring that municipalities are prevented from substituting that waste is a different matter altogether, and is a key "composition risk" issue, which we discuss further below.

The substitutability risk of a Merchant WtE Project is not a function of the catchment area of the municipality. Instead, the risk is whether the service being provided by the Merchant WtE Project (or a substitute for that service) can be provided by another provider of waste processing, treatment or disposal services at a lower price (or possibly at no cost in some jurisdictions). Whether a



substitute entity is able to provide the service at a lower price will be a function of the cost of the service being provided by the Merchant WtE Project (compared to any substitute service, including landfill and transportation costs), the quantity and composition of waste available to be contracted (and in fact contracted) to the Merchant WtE Project, the contract term of the waste supply contracts, the Gate Fee (if any) and the Offtake Revenue.

## Policy settings

Irrespective of whether a WtE plant is Contracted or Merchant, it is unlikely to be economically feasible or sustainable without the right policy settings.

In most jurisdictions where WtE projects are developed, policy settings inform and are vital to (and, in some cases, are the primary drivers for) the sustainability and certainty/ security of revenue streams: i.e. ensuring that the Gate Fee is lower than landfill costs, and (perhaps) ensuring electricity pricing can compete with non-renewable energy sources. The policy settings "close the gap" to allow WtE projects to compete on price on a like-for-like basis with landfill and other energy sources.

The form and substance of policy settings will differ between individual jurisdictions and may include:

Environmental levers		
<b>Environmental prohibitions</b> prohibiting ocean dumping, open dumping and landfilling certain waste streams	<b>Environmental standards for landfill</b> to address contamination, leaching into the water table and methane emissions	<b>Environmental standards on emissions</b> to limit emissions, contamination and residue disposal for waste projects
<b>Co-ordinated approval and licensing processes</b> to allow timely and effective development	<b>Licensing for expansion of projects over time</b> to take advantage of increased waste arising in specific areas	<b>Classification of waste</b> to regulate how and where waste may be disposed of and to license receipt of waste
<b>Disposal of Hazardous Waste, Medical Waste and E-Waste</b> to divert from specialist disposal to provide additional feedstock	<b>Specification of residual material</b> to regulate how and where residue is disposed of	<b>Enforcement of approvals and regulation</b> to settle the economics of the project, including whether the project will take waste arising risk
<b>CONSISTENCY OF REGULATION AND ENFORCEMENT:</b> Unless regulations are consistent, and enforced across a jurisdiction, market forces will find a way to dispose of waste at the least cost and greatest profit, even in jurisdictions with developed waste collection systems.		
Municipality powers and levers, and enforcement		
<b>Duty or power to collect waste</b> , which may be an existing legislative outcome or require legislation if waste policy is less developed	<b>Power to recover payment</b> for the cost of collecting waste generally and for specific waste streams	<b>Power to contract</b> with the private sector to develop waste projects, including power to contract for longer term projects
Levelling the playing field		
<b>Waste and landfill levies</b> to incentivise more environmentally beneficial waste projects on a consistent basis across jurisdictions	<b>Gap funding</b> including government grants and subsidies to achieve environmentally beneficial outcomes using WtE projects	<b>Revenue from MSW processing and treatment</b> , including Gate Fees because municipalities chose WtE over landfill
Revenue opportunities		
<b>Revenue from renewable energy generation</b> under power purchase agreements, into market, under contracts for differences or the feed-in-tariff regime <sup>40</sup>	<b>Sale of power and heat to co-located businesses</b> within development zones to promote smaller refining and paper businesses or to provide district heating	<b>Allowing broader revenue opportunities</b> including the development of land to enable sponsors to cross-subsidise WtE projects and other revenue streams
<b>Revenue from particular waste generators</b> such as C&IW and C&DW, and particular waste streams, such as from shopping centres or malls	<b>Revenue from landfills</b> to manage available landfill capacity over time, e.g. requiring WtE project to take landfilled waste at a higher Gate Fee	<b>Revenue from government-sourced waste</b> where municipalities are able and willing to pay, which may result in higher Gate Fees
<b>Large power users pay more for WtE energy</b> to close revenue gap, but preventing material increase in power prices for all users	<b>Government pays higher price for WtE energy</b> to close revenue gap, but preventing material increase in power prices for all users	<b>Revenue from reusable and recycled products</b> where there exists a sophisticated separation at source or pre-sort regime
Change in law		
The law is needed to "level the playing field" to allow the development of and to regulate WtE projects. Therefore, the risk of change in law is important to the private sector: it informs thinking as to how change in law risks need to be addressed contractually. Project sponsors and financiers will want economics that are sustainable on a long-term basis, assuming consistent regulation and enforcement and where underlying costs and revenue remain relatively predictable. Every contract will need to address changes in law affecting the relative costs and revenue of the WtE project.		

## Key risks

### All WtE projects are different, but key risks remain the same

As will be clear from the above, there is no universal blueprint for WtE projects. The "size and shape" of each WtE project will be influenced by a number of factors including:

- the identity of the municipality (or private sector supplier) procuring the services from the WtE project and, critically, the affordability of those services to the municipality;
- the terms (including the price) on which the counterparty for services wants to contract and its preparedness to provide security (e.g. parent company guarantees, letters of credit) if required by sponsors or financiers to support the counterparty's contractual obligations;
- current and projected waste arisings and the historic and projected composition of such waste;
- the location of the project (including sources of additional waste within a transportation net revenue accretive catchment area);
- the opportunities (if any) for "embedded" power offtake;
- the shareholder structure for the project and the proposed approach to financing; and
- the policy and legal settings directly or indirectly relevant to the project and its forecast costs and revenues.

While the context of each WtE project is unique, there are certain key risks that need to be assessed on all WtE projects. Depending on the contractual arrangements (and risk allocation between the contractual counterparties including municipalities and private sector waste suppliers), these risks may have an impact on gross and net revenue (including as a result of revenue shortfall, increased costs, and liability for not accepting waste or for not supplying electricity). Two key risks relate to the quantity and quality of the waste material being supplied to the WtE facility, which we will now consider in detail.

### Quantity of waste: volume risk

Broadly speaking, waste supply contracts require the municipality (or private sector supplier) either to deliver a stated quantity of waste or to deliver all waste arising within its area (or from stated activities within a stated area). Under both a "stated quantity" and a "waste arising" contract, sufficient waste might not be delivered because the municipality (or private sector supplier) has the required quantity or sufficient waste arisings, but does not deliver in accordance with the contract (so-called "Non-delivery Risk"). Under a waste arising contract, volume risk also arises if the quantity of waste arising within the stated area is less than anticipated for reasons that are not attributed to the action/inaction of the relevant supplier (so-called "Waste Arising Risk").

### Volume risk: risk allocation:

- Non-delivery Risk:** Under both stated quantity contracts and waste arising contracts, municipalities (and private sector suppliers) will assume the obligation to deliver the stated quantity of waste (whether by reference to minimum quantity or all waste that arises), and agree to compensate the sponsors if this is not delivered.
- Volume risk on stated quantity contract:** Under a stated quantity contract, the municipality (or private sector supplier)

will take volume risk on the basis of being required to pay for the minimum quantity of waste it has agreed to deliver (whether or not it delivers that quantity), typically using a "deliver-or-pay" regime.

- Volume risk on waste arising contract:** Under a waste arising contract, the municipality (or private sector supplier) will want the WtE project to take and to process all waste arising within the stated area (or from the stated activities) for the term of the contract, but is likely not to want to have to pay to reserve capacity in the WtE plant to allow for a growth in waste arisings. For the project sponsor, volume risk on a waste arising contract has two elements: (i) certainty of a minimum quantity of waste to be delivered (and compensation if that quantity is not delivered or the relevant supplier delivers the minimum quantity but directs excess quantities to other facilities/ landfill); and (ii) if the municipality (or private sector supplier) is not paying to reserve capacity, certainty of a maximum quantity of waste that may be delivered. These risks are dealt with in different ways across and within jurisdictions.

### How to address volume risk?

We describe (at a high level) in the table below how volume risk may be addressed.

Non-delivery Risk	Waste Arising Risk
<b>A deliver-or-pay (or "put-or-pay") obligation is used:</b> if the municipality does not deliver a stated quantity of waste (whether or not it has such waste), it must pay as if it had	<b>Increasing per tonne charge:</b> if the quantity of waste arising is less than anticipated the unit cost per tonne is adjusted and the Gate Fee revenue is thereby maintained
<b>An exclusive and sole obligation to deliver:</b> if the municipality does not deliver all waste arisings, it must pay the Gate Fee (plus, potentially, other compensation, in each case as pre-agreed damages) as if it had	<b>Assumed waste arisings:</b> if an assumed percentage (typically 90 per cent) of historical waste arisings or project usage capacity is not delivered (floor), the Gate Fee is payable by reference to the floor
<b>An exclusive and sole obligation to deliver with right to claim general damages:</b> if the municipality does not deliver all waste arisings, it is in breach of contract, not as pre-agreed damages	<b>WtE project to source waste from other sources:</b> project sponsor entitled (and possibly some level of obligation) to make up shortfall in waste arisings, with increased costs reimbursed

Offtake Revenue is affected by non-delivery of waste and waste arising shortfalls. While the project sponsor may seek to impose a liability on the municipality (or private sector supplier) for loss of Offtake Revenue in different scenarios (e.g. non-delivery of a stated

minimum quantity of waste), it is possible that the municipality (or private sector supplier) will resist such liability.

Depending on the proportion of gross revenue derived from Offtake Revenue, the impact on a project sponsor of loss of Offtake Revenue will differ, and therefore it is critical that, both contractually and through practical mitigation strategies, the project sponsor is able to source additional waste and to recover the cost of doing so from the relevant municipality/private sector supplier to the extent that such municipality/private sector supplier has failed to comply with its supply obligations. Developing these mitigation strategies is something that the project sponsor will be doing in any event because it will need to understand how rejection of incompatible waste<sup>41</sup> and the delivery of an insufficient volume of waste can be mitigated either by delivery of compatible waste from another source at the cost of the municipality (or the private sector supplier) or by itself sourcing compatible waste from another source at its own cost to ensure that sufficient waste is delivered to the WtE project.

**Quality of waste: waste composition risk**

**(a) Incompatibility risk**

The composition of waste needs to be understood and addressed in the contractual relationship between the municipality (or the private sector supplier) and the project sponsor. The project sponsor will want to be able to reject any waste that it is not licensed to take (so that it complies with the law) or that is not compatible with the technology used, i.e. so-called incompatible waste.

For these purposes, the contract between the municipality (or private sector supplier) and the project sponsor will need to clearly define compatible and incompatible waste or so-called "on-spec" and "off-spec" waste (Compatible Waste and Incompatible Waste). Incompatibility risk becomes a revenue risk if the WtE project is not provided with sufficient volumes of Compatible Waste from the municipality (or the private sector supplier), or if it is not able to source sufficient volumes of Compatible Waste from another source on a timely basis (Other Source Waste).

**(b) CV risk**

Even where waste is consistent with the WtE project's licence and is compatible with the technology used at the WtE project, the composition of the waste delivered will be variable and, critically, the net calorific value (NCV) of such waste will vary. As noted in



the "Waste-to-Wealth Initiatives – Waste Projects" article, there can be a considerable range in the CV of MSW across, and within, jurisdictions. Each WtE project and its financial model is designed to reflect an assumed CV of waste delivered, processed and treated (CV bandwidth).

If the NCV of waste is above or below the CV bandwidth, the capacity of the WtE project to process and treat waste is affected, as is its thermal efficiency. CV risk is therefore a revenue risk to the extent that thermal capacity is reduced by the delivery of waste with an NCV outside the CV bandwidth, both in terms of the quantity of waste capable of being processed (affecting the number of tonnes in respect of which the WtE project receives the Gate Fee), and the number of MWh of electricity generated and the quantity of heat produced (which is the basis on which the WtE project is paid under the PPA, contract for differences or FIT). Furthermore, if NCV impacts thermal capacity of the WtE plant this may result in the project sponsor being liable under a PPA or contract for differences if the WtE project does not deliver the quantity of contracted energy to the off-taker.

Contractual options for addressing risk of change in CV		
<b>General CV fluctuation:</b> if CV is outside the bandwidth, variable Gate Fee payable (if the relevant supplier accepts CV risk) or project sponsor required to source waste of required CV at its own cost to bring average within bandwidth	<b>CV change caused by municipality, e.g. by changing collection arrangements, including bin structure:</b> adjustment to Gate Fee to reflect reduction in thermal capacity	<b>CV change caused by change in law:</b> adjustment in Gate Fee, but municipality may seek to place this risk with project sponsor if not a change in law which is specific to the facility/type of facility/type of services
<b>CV change caused by change in composition over time:</b> WtE project likely to be expected to take this risk and therefore source waste of required CV at its own cost to bring average within bandwidth	<b>CV risk in Other Source Waste delivered by municipality:</b> WtE project likely to be expected to take risk, other than to source required quantity	<b>CV risk in Other Source Waste sourced by WtE project:</b> WtE project likely to be expected to take risk, unless such risk can be transferred to the supplier of the Other Source Waste



As with volume risk, there are a number of ways in which CV risk may be addressed contractually. The way in which a change in CV risk is addressed will tend to depend on the cause of the change in composition, the effect of that change on NCV and whether or not the municipality (or the private sector supplier) accepts CV risk.

## Conclusion

WtE projects provide a compelling alternative to landfill: as Figure 1 illustrates, WtE projects are able to process the broadest range of waste types of any waste project. The economic viability of WtE projects is, however, dependent on policy settings that allow WtE projects to compete on a like-for-like basis with landfill, and effective contractual mechanisms that address key risks, critically those relating to waste volume and waste composition. Although each WtE project is unique, across the globe we have seen policy settings emerge, and applied as best suits each jurisdiction, and a range of contractual mechanisms develop to address key risks. The range of contractual mechanisms is responsive to each jurisdiction, and its policy settings, and specific features of each WtE project and the needs of its sponsors, financiers and waste suppliers.

In our next article, we will consider the policy settings in countries across Asia, Europe and the Americas. In so doing, we will outline how policies can be used effectively to underpin the sustainable viability of WtE projects.

## Footnotes

- 1 See the March 2017 issue (Issue 9) of InfraRead and the April 2017 issue (Issue 18) of EnergySource.
- 2 Municipal Solid Waste is waste arising from human activities in urban environments (other than sewage and waste water).
- 3 Commercial and Industrial Waste is waste arising from commercial and industrial premises.
- 4 Construction and Demolition Waste is waste arising from construction and demolition work.
- 5 Events Waste is waste arising from entertainment and public events within municipalities, including music concerts and festivals, parades and sports events.
- 6 Green Waste is organic material from domestic "green" bins and the activities of municipalities (typically, parks and gardens, and lopping and topping of trees).
- 7 Organic Waste is a generic term for any waste that arises from the human management of flora, including agricultural, forestry and husbandry.
- 8 Bagasse is organic material arising from sugar cane or sorghum production.
- 9 Biomass is organic material arising from agricultural, forestry and husbandry activities.
- 10 Food Waste is organic material arising from commercial or domestic food preparation, which is increasingly being separated at source by households and commercial food outlets.
- 11 Hazardous Waste is waste that is potentially harmful to human health, animals, plants or the environment. Characteristics may include that the waste is explosive, flammable, poisonous, toxic, exotoxic or infectious, including hydrocarbon/water mixtures and wastes containing certain compounds such as zinc, lead and asbestos.
- 12 E-Waste is electronic waste including mobile phones, computers and other electronic appliances. Given the high rate of technological advancement and consumption of electronic goods, E-Waste is an ever-growing fraction of the waste stream.
- 13 Medical Waste is a generic term for waste arising from medical and pharmaceutical activities.
- 14 Bio-solid and Slurry Waste is human and animal waste matter derived from waste water processing or agricultural collection. This may be used in Biological WtE projects or in Thermal WtE projects to balance Net Calorific Value (NCV) and to maintain thermal capacity.
- 15 Arguably there is a third form of WtE Thermal technology, namely methane collection from existing landfill, and its subsequent combustion of methane to derive energy. Our view is that methane collection and combustion is better considered as part of a landfill strategy, rather than as a WtE project.
- 16 Biological processing and treatment involves anaerobic digestion (AD) and requires waste streams that are wet and of reasonably consistent composition (for example, Food Waste; Bio-solid and Slurry Waste). AD is not suitable for the processing and treatment of MSW, C&IW, C&DW or Events Waste.



17 Combustion, gasification and pyrolysis are technologies which process and treat waste at high temperatures. The temperatures and oxygen levels differ for each technology.

18 Gasification of MSW occurs within a temperature range of 300 to 760 degrees Celsius.

19 Pyrolysis involves subjecting MSW to a temperature range of between 2,700 and 11,000 degrees Celsius to sublimate organic matter in the absence of oxygen. Pyrolysis differs from gasification in that gasification (including plasma) reduces the oxygen content of the feedstock while pyrolysis sublimes organic matter in the absence of oxygen.

20 There are four main types of moving grate technology: forward reciprocating, reverse reciprocating, roller and horizontal. A detailed consideration of each type is beyond the scope of this article.

21 There are three main types of fluidised bed reactor technologies: bubbling, circulating, and revolving. Again, a detailed consideration of each type is beyond the scope of this article.

22 Leading companies using combustion technology include Hitachi Zosen Inova, Martin GmbH, Keppel Seghers, Wheelabrator Technologies, China Everbright International, Babcock and Wilcox/B&W Vølund, and CNIM.

23 As noted in the "Waste-to-Wealth Initiatives – Waste Projects" article, RDF is refuse-derived fuel, sometimes referred to as process-engineered fuel (PEF) or solid or specified recovered fuel (SRF). Each of these fuels has limited/negligible organic content and is sometimes used to fire industrial facilities, including cement kilns.

24 Leading companies using gasification technology include Covanta, Hyundai, Viridor, Fortum, Mitsubishi Heavy Industries Environmental and Chemical Engineering Co. Ltd., Sembcorp, Suez Environment (SITA) and CISC.

25 Pre-sorting/pre-treatment can include use of a wet MRF to allow recovery of reusables and recyclables (and possibly the food/organic fraction) before processing the balance of the waste stream in an MBT, or use of a wet MRF or MBT facility before treatment of the residual fraction in a WtE facility.

26 The inclusion of pre-sorting at a WtE project will increase the capital and operating cost of the WtE project (possibly by up to a third) and as such may affect the affordability of the WtE project.

27 For example, the market for brown plastics in China has ceased, leaving some waste projects "short" of projected revenue from recycling of plastics.

28 Design and Construction (D&C).

29 Engineering, Procurement and Construction (EPC).

30 Operation and Maintenance (O&M).

31 Build Own Operate (BOO) means that the project sponsor builds, owns and operates the WtE project, and the municipality (or government agency, authority or corporation) contracts with the WtE project for the provision of services using the WtE project (i.e. the provision of waste acceptance, treatment and processing and, if the municipality is the off-taker of electricity, for the supply of electricity).

32 Build Own Operate Transfer (BOOT) means that the project sponsor builds, owns and operates the WtE project for the term of the BOOT contract, providing services to the municipality (or government agency, authority or corporation) and then transfers the WtE to the municipality (or government agency, authority or corporation) at the end of the term of the BOOT contract, usually at the option of the municipality, and typically for a nominal purchase price on the basis that the municipality has effectively paid for the WtE project through the payment of service charges.

33 Design Build Finance Operate Maintain (DBFOM) means that the project sponsor designs, finances, builds, operates and maintains the WtE project, and "hands over" the project at the

end of the DBFOM term. Again, under the DBFOM contract, the municipality (or government agency, authority or corporation) may be the off-taker of the electricity produced, but this model may also be used to allow for delivery of waste to the WtE project (at no charge to the municipality) to enable the WtE project to generate electricity which it then supplies under a Power Purchase Agreement (PPA) or under the FiT regime.

34 Public Private Partnership (PPP, or P3) means that the private sector contracts with the municipality (or government agency, authority or corporation) to provide services to the municipality, or to the public as users of the infrastructure developed by the project sponsor, with the project sponsor responsible for all associated DBFOM activities. In the context of WtE projects, the municipality (or government agency, authority or corporation) will have services provided to it in the form of waste acceptance, processing and treatment.

35 In our next article, we will consider which jurisdictions have FiT regimes, and their terms.

36 If a WtE project is project financed, for the project financiers the WtE project must be able to earn sufficient revenue to service debt and repay interest. It is important to note, however, that not all WtE projects are project financed.

37 To be distinguished from fly ash captured through the "air pollution control system" (a by-product of controlling emissions) which is hazardous and which must be disposed of to an appropriately licensed hazardous waste facility/landfill.

38 In many jurisdictions, the assumption for the purpose of the financial model will be that bottom ash is a residual material that needs to be disposed of to landfill. If the ash does not have to be disposed of to landfill, this will remove the disposal cost and improve the net revenue position of the WtE project.

39 If electricity is sold into an electricity market, the price paid for electricity will be determined by the price at which supply matches demand (for uncontracted capacity) or by a contract for differences (for contracted capacity).

40 Other revenue opportunities include bottom ash use, APCR use, char use (from pyrolysis) and sale of ferrous/non-ferrous metals and possible CO<sub>2</sub> use in the context of greenhouse agriculture.

41 Incompatible waste is waste that the WtE project is not able to process or treat because it is not designed to process or treat that waste, or because it is not licensed to do so, and as such cannot do so lawfully.



### Michael Harrison

Partner, Sydney and Perth  
T +61 2 9258 6837  
michael.harrison@ashurst.com



### Richard Guit

Partner, Perth  
T +61 8 9366 8052  
richard.guit@ashurst.com



### Anthony Johnson

Partner, London  
T +44 (0)20 7859 1780  
anthony.johnson@ashurst.com



### Nick Stalbow

Partner, London  
T +44 (0)20 7859 1802  
nick.stalbow@ashurst.com

DEVELOPMENTS AROUND  
UK TRANSPORT HUBS:

# Infrastructure as a catalyst for growth

by Jamie Chapman

**T**he current number of new development opportunities being created around transport projects, and the release of land adjoining and airspace above rail infrastructure for development purposes, is unprecedented in its scale.

Transport-orientated development, particularly in London, has been a feature of the real estate development market for some time. The current number of new development opportunities being created around transport projects, and the release of land adjoining and airspace above rail infrastructure for development purposes, is unprecedented in scale. In central London the regeneration of the King's Cross/St Pancras transport hub (started by the construction of HS1) continues to roll out exciting new projects such as the Google European HQ building and will soon be closely linked to the HS2-driven Euston station campus redevelopment and possibly also Crossrail 2, the route of which is to bisect Euston and St Pancras stations.

The Elizabeth Line (Crossrail 1) is nearing completion with multiple over-station developments at stations such as Tottenham Court Road, Bond Street and Farringdon becoming active or close to handover prior to the commencement of operations next year. Transport for London (TfL) is in the second year of its Property Partnerships programme, which is intended to involve the release of up to 50 development sites alongside and over their infrastructure in the next ten years.

At the same time, transport operators are looking for new ways to capture a larger slice of the value that they bring to areas with new infrastructure, and the Mayor of London has recently signed a

Memorandum of Understanding with the UK Government to pilot a new Development Rights Auction Model in London.

This article will examine the different factors at play in this development boom around transport infrastructure. These factors include the changing approach of transport authorities seeking to release value from their real estate interests to help address funding costs for new infrastructure requirements, a shift in attitude towards development risk by such authorities and developers, the need to address the lack of housing supply and the advances in engineering and construction design.

## Funding

The UK continues to require significantly increased investment in its transport infrastructure against a backdrop of multiple competing demands on the shrinking public purse. A growing part of the funding solution is to unlock value from the development opportunities created by the construction of new infrastructure, and in particular over-station or over-site developments (OSDs).

The Crossrail project has a target to raise more than £0.5 billion of capital receipts from its OSDs and a significant element of the funding model proposed for Crossrail 2 harnesses development opportunities and growth in value of adjoining real estate.

While HS1 did generate good returns from development on land acquired for that project for the Department for Transport, a far larger return is expected from the regeneration proposals that are being brought forward for the HS2 project. The Euston station estate has the capacity for six million square feet of mixed-use development that will reshape the Camden area of central London. At the northern end of the first phase of HS2 in Birmingham there is already 600,000m<sup>2</sup> of new commercial, leisure and retail development under way or in the pipeline, focused around the new HS2 station at Birmingham Curzon. This could be replicated around the other main station sites at Manchester, East Midlands (Derby/Nottingham) and Leeds.

More recently, the Government has been considering ways in which it may be able to fund future infrastructure through the capture of increased value in land created by new transport hubs. It is well understood that proximity to public transport influences property prices. For example, the Jubilee Line Extension led to land value increases of more than 50 per cent. This land value capture would allow authorities to "pull forward" the land value benefits of public transport to fund current development. At present, much of this increased land value is won directly by savvy developers who snap up nearby properties and then build accordingly. However, the Spring 2017 Budget confirmed the Government's support for a pilot land value capture scheme in London that would assist TfL in funding the infrastructure schemes, such as Crossrail 2, that the city desperately needs. This scheme, known as the Development Rights Auction Model, involves the integrated planning and consent to land use and density in a defined zone around a new transport hub, with land that benefits from this zoning being assembled (with the agreement of landowners) and auctioned to developers. The proceeds of sale are then split between the landowners and

the transport authority. Landowners who do not wish to participate in the auction can still benefit from the zoning, but with a high planning levy payable. TfL estimates that this model could double receipts for public authorities compared with the existing planning levy regime.

### Attitude to development risk

In order to take greater advantage of the returns that can be made through OSDs, the relevant transport bodies are showing a much greater willingness to partner with property developers and to share development risk and financing requirements.

For transport authorities, their role as operators of a safe and efficient transport network remains their primary duty but this is being supplemented by a secondary, yet still important, purpose of using their assets to create funding for new projects and reinvestment in improving existing infrastructure. OSDs are a very good example of this change in approach as the transport authority is accepting a long-term responsibility for supporting the new commercial developments being constructed on station boxes, and are designing their new station structures with additional load-bearing capacity to facilitate larger scale developments than have been seen in the past. Many of the Crossrail OSDs are following this model which has been factored into the station design arrangements from the outset.

This is a model that has been used successfully in other parts of the world such as the mass transit railway (MTR) in Hong Kong, which was constructed and is operated by the MTR Corporation Limited. The MTR is one of the most profitable metro systems in the world. One of the principles behind its development was the recognition that it is very difficult to provide rail services on a self-supporting basis and that in order to fund both the construction and operations it is necessary to exploit fully the property development opportunities created by the new railway. The MTR stations on the Hong Kong metro network are integrated into multi-million square feet developments of retail, hotel and residential complexes.

MTR will be involved in Crossrail as the concessionaire operating the rail service and is also part of the consortium involved in the operation of part of Sydney's expanding metro network where it is seeking to employ its value-capture approach of maximising property development opportunities with network growth.

### Housing shortages

Another increasingly important factor in development around transport hubs is the shortage of land available for housing supply. The Housing White Paper states that the Government needs to address the limited scope for high-density housing development in urban areas as part of the solution to the housing supply shortage. One of the ways identified for doing so is to facilitate this higher density development in areas well served by public transport. It is therefore anticipated that residential schemes will form a larger component of developments around rail stations. A good example of this is the 67 acre King's Cross station area, where 2,000 new residential units are being created.

The Mayor of London, Sadiq Khan, has made addressing the shortfall in new stock to meet London's housing demand one of his key priorities and has enlisted TfL's help in bringing forward land for new housing from its portfolio of more than 5,000 acres of potential







development sites. Network Rail has announced that it is targeting the release of a significant number of sites throughout the UK to accommodate 12,000 new homes by 2020. HS2 has already spawned masterplan arrangements for Birmingham, which include the creation of more than 50,000 new homes by 2031. There is also an expectation that the local planning authorities will not only support higher density residential development around stations but will require a material component of any future large-scale development to provide a significant number of new housing units.

The rise in the popularity of Build-to-Rent housing (BTR) is expected to attract further investment into large schemes around rail hubs. BTR developments are an ideal fit for those schemes: they are often designed on a large scale, to ensure management efficiency, and work best in sites which are well connected. Equally, BTR schemes can be built much faster than conventional for-sale schemes (as flats can be let faster than they can be sold), and the institutional investors active in the BTR market are natural partners for transport undertakings given their long-term approach and strong covenants.

### Regeneration and placemaking

The regeneration of the King's Cross and St Pancras station hub is a particularly fine example of how a once neglected urban environment that was dominated by rail infrastructure can be given a new lease of life. The restoration of the frontages of both stations, including the iconic station hotel now known as the St Pancras Grand and the modern expansion of the transport facilities, has been done very sympathetically and has been a

catalyst for creating retail destinations for both passengers and local residents within the stations and externally.

The whole area has benefitted from the placemaking approach that has been adopted with the broad public realm facilitating a large offering of restaurants and bars that are complementary to the office and residential use. This has given the area the ability to attract such prestigious corporate occupiers as Google, Louis Vuitton and AstraZeneca. It is a successful model that the team at HS2, who are looking to bring forward Euston's future redevelopment plans, will wish to learn from and emulate.

London & Continental Railways' redevelopment proposals for the Leake Street arches at Waterloo station are operating on a similar basis, creating a strong sense of identity with the redevelopment of the railway arches to create a much improved retail and leisure offering in close proximity to Almacantar's redevelopment of One and Two Southbank Place, and HB Reavis's development of 1 Waterloo, leading to the Thames.

Rail operators no longer view stations as just transport hubs as they are now evolving to meet the needs of urban life. When launching the hunt for architects, developers and designers of the three new railway stations for HS2, Transport Minister, Andrew Jones, emphasised that "the winning bidders will need to ensure the stations provide the best possible customer experience". Stations are destinations in their own right for passengers and visitors alike as demonstrated by the bars and restaurants in St Pancras station, which includes the longest champagne bar in the UK.



## Planning issues

There are significant planning benefits to encouraging development around new and existing commuter hubs – reducing travel distances by private transport, making effective use of private and public sector land in sustainable locations and helping to secure the wider regeneration and growth of the local area.

The Government is keen to ensure that this is recognised at local authority level. In 2015 it consulted on possible changes to National Planning Policy to include an expectation on local planning authorities to "... require higher density development around commuter hubs wherever feasible", with the aim of boosting new development and regeneration in "sustainable locations" and so reduce travel by private transport. The Housing White Paper again emphasises increased density around transport hubs.

Furthermore, in 2016, as part of its commitment to increase housing supply, the Government called for 20 councils to set out ambitious proposals for taking forward development opportunities around stations and offered assistance from Network Rail and the Homes and Communities Agency. Pilots have already been launched in York, Taunton and Swindon. The Neighbourhood Planning Act 2017 has recently recognised the need for wider compulsory purchase powers to facilitate regeneration around transport hubs. As a result, both the Greater London Authority and TfL now have the powers to compulsorily assemble the land needed for both transport infrastructure and the wider resulting development opportunity through a single compulsory purchase order.

Of course, building development over rail infrastructure comes with its own drawbacks for the planning authority. The standard design response of servicing a building through a basement car park will not normally be possible. Innovative solutions are needed to ensure that development essentials such as cycle spaces, plant and service access do not compromise the need for active ground floor frontages and high quality building design.

## Construction/engineering advances

The safety of the existing rail operations will remain the paramount concern of the transport authority around whose station or infrastructure any development is taking place. Anyone connected with such developments will be familiar with the asset protection arrangements used by transport authorities to mitigate risk and safeguard the rail operations. Allied with this, the provision of adequate security (collateral warranties, insurances (including non-damage and non-negligence), bonds and guarantees) helps further reduce risks and exposure for all concerned. The market position on these requirements is fairly settled and accepted by those who regularly work with transport authorities, although the precise nature and extent of the development will be a relevant factor in determining what is required.

A settled landscape for contractual risk mitigation, while of course helpful, only goes so far. Advances in building design, engineering capabilities and construction management have also meant issues that have perhaps caused concern for developers in the past when developing in and around a rail environment do not create insurmountable problems.

Railways by their very nature have issues with noise, vibration, ventilation and heat extraction as well as other concerns. Where stations include Victorian infrastructure, there may not even be



comprehensive registers of the infrastructure on a site. The benefit of creating new infrastructure or upgrading old infrastructure and integrating the design of such works with the design of new commercial developments (whether OSDs or alongside the rail works) is that issues can be anticipated and worked around using integrated design solutions.

Early and continued communication between design and engineering teams is an effective tool to deal with most issues. Careful planning of phases of works between infrastructure operators and development management teams can also allow complicated development works to progress while busy stations are kept open and operating to almost full capacity. The development of the Shard was achieved on the site of London Bridge, one of London's busiest stations. The continued use of Euston during the HS2 works and the proposed major redevelopment will have to address similar challenges, but they are no longer seen as being impediments to successful redevelopment.

## Conclusion

It is clear that the proliferation of developments around new and existing rail infrastructure will continue for many years. Transport authorities will need to capture value from development projects to help fund the increasing burden of new infrastructure requirements. Planning authorities will encourage such sustainable growth to make efficient use of the infrastructure and to help address the increasing demand for new residential projects. New transport links, improved urban realm and stations evolving as retail and leisure destinations will encourage more developers to seek new development opportunities around transport hubs and provide a welcome regeneration of these formerly tired urban sites.



**Jamie Chapman**

Partner

T +44 20 7859 1952

[jamiechapman@ashurst.com](mailto:jamiechapman@ashurst.com)



## THE FRENCH BROADBAND PROGRAMME:

# A network of opportunities

by Michel Lequien and Jacques Dabreteau

France has one of Europe's least developed very-high-speed broadband networks at local level. With 30 million standard (copper wire) telephone lines in place, high-speed ADSL is available across France, but only 16 million homes have access to very-high-speed internet (i.e. 30 Megabits per second (Mbps) and above) and just 12 million have access to broadband speeds of 100 Mbps and above<sup>1</sup>. In addition, France does not have an even distribution of broadband coverage, with high-speed broadband networks existing primarily in densely populated areas (so-called *zones noires* or "black areas") while less populated semi-urban and rural areas (*zones blanches* – "white areas") remain, for the most part, without such coverage.

### Background to French broadband infrastructure upgrade

In black areas, there is a vibrant market for the provision of broadband connections and services both to domestic consumers (FttH – "Fibre to the home") and businesses (FttP – "Fibre to the Premises") and, as a result, competition between telecoms operators is fierce. This, however, is not the case in sparsely populated "white areas", where no high-speed broadband infrastructure exists and where returns on the high level of investment required to develop such infrastructure cannot be guaranteed.

In 2013, in order to remedy this situation, the Government launched the "*Plan France Très Haut Débit*" (the "Broadband Programme"). The purpose of the Broadband Programme has been to encourage the roll-out of high/very-high-speed broadband networks, particularly in white areas, by co-ordinating new network development projects to be initiated by the public sector (primarily local authorities) and the private sector, and by providing public funding (essentially in the form of subsidies) for the financing of broadband infrastructure in non-economically viable white areas. At the time, the Government's stated objective had been to achieve 100 per cent coverage across France by 2022, generally using fibre optic cable, at a total cost of €20 billion, of which €13.3 billion was to be funded by the state. The Broadband Programme stipulated the use

of the more expensive, but much faster, fibre optic cable technology rather than using the (open access) copper wire telephone lines developed at the time France Telecom was a monopoly.<sup>2</sup>

### French broadband – a brief history

Local authorities have been actively involved in promoting the development of broadband networks since the late 1990s. The first national programme for the development of broadband was launched in 2010, with the Digital Society Fund (*Fonds National pour la société numérique*, or "FSN") – a fund for the financing of the development of broadband networks managed by public sector financial institution *Caisse des Dépôts et Consignations* ("CDC") – being established at the same time.

The Broadband Programme launched by President Hollande in February 2013 replaced the 2010 programme. In 2015, the Government established a new department within the Economics

1 Compare this to the UK where at least 24 Megabits per second is available to 91 per cent of homes and businesses. The UK government expects that very-high-speed broadband access will be available to 95 per cent of UK homes and businesses by the end of 2017. Source: Department for Culture, Media & Sport, "Extending Local Full Fibre Networks Call for Evidence", December 2016.

2 Orange is the new name of France Telecom S.A. (2013), the former telecoms monopoly privatised in 2004.

Commercial terminology*	Broadband Technology	Capacity (Mbps)
High-speed internet	DSL (Digital Subscriber Line) copper wire lines, including: <ul style="list-style-type: none"> <li>ADSL (Asymmetrical Digital Subscriber Line): used by domestic customers who download a lot of data but do not upload much data</li> <li>SDSL (Symmetrical Digital Subscriber Line): used by businesses needing symmetrical bandwidth upstream and downstream</li> <li>HDSL (High data rate Digital Subscriber Line): a faster form of SDSL used by businesses</li> </ul>	Below 30 Mbps
	4G (i.e. wireless broadband used by domestic customers and businesses)	
	Satellite (i.e. alternative form of wireless broadband)	
Very-high-speed internet	VDSL (Very High data rate Digital Subscriber Line) based on upgraded copper-wire lines: a faster form of SDSL used by businesses	Between 30 and 100 Mbps
	Fibre optic + coaxial cable	100 Mbps or above
	"All fibre optic" FttH (Fibre to the Home)/FtTP (Fibre to the Premises) networks	

\*The expressions "high-speed" and "very-high-speed" internet are not legal or technical definitions, but commercial terminology used by operators.

Ministry entitled *l'Agence du numérique*<sup>3</sup> (the "Digital Agency"), which is responsible for co-ordinating public and private initiatives and reviewing and assessing new broadband network projects initiated by local authorities to ensure that they are eligible for public funding under the Broadband Programme.

In order to co-ordinate publicly and privately owned projects and to ensure consistency between regional networks, local authorities must implement digital planning schemes (*schémas directeurs territoriaux d'aménagement numérique* or "SDTAN").<sup>4</sup> The purpose of an SDTAN is to draw up a list of existing broadband infrastructure in order to identify those white areas where local authorities may take forward broadband infrastructure projects to compensate for the lack of private investment.

Various forms of Public Private Partnerships (PPPs)<sup>5</sup> have been the procurement methods most frequently adopted by French local authorities to procure the development of high-speed broadband networks in their areas. In fact, there had been intense PPP activity in the French broadband market for a number of years, even before the Broadband Programme was launched. In recent years, new players have emerged who have built up significant broadband PPP portfolios. At the same time, the "traditional" telecoms operators – Orange, Bouygues, SFR and Free – have, for the most part, focused their efforts on developing proprietary networks and marketing their high-speed internet offering to users in black areas, leaving space for new entrants in the less profitable white areas.

3 Decree No. 2015-113 dated 3 February 2015 creating a national department entitled the Digital Agency (*l'Agence du numérique*).

4 Article L. 1425-2 of the General Local Authorities Code (*Code général des collectivités territoriales*).

5 Essentially in the form of: (a) an availability-based *marché de partenariat*; and (b) a demand-based concession, both of which include the financing and construction of the infrastructure, or an *affermage*, which excludes financing and construction.

The subdivision of territories into so-called "black", "grey" and "white" areas has been developed by the European Commission to help determine whether public funding for the development of broadband networks in a given area is justified or not.

- Black areas are those densely populated metropolitan areas with developed business activities where at least two broadband networks run by different operators already exist and where broadband services are provided under competitive conditions; in other words, black areas are geographical zones where the development and operation of broadband networks is profitable. The provision of public funding for the construction of broadband infrastructure in such areas cannot be justified and will, in principle, be deemed to distort competition.
- Grey areas are geographical areas where only one broadband network operator is present (and where a competing broadband network is unlikely to be developed in the future) and in which it is uncertain whether the existing operator is providing all domestic or business users with an optimal combination of services, service quality and prices. In these areas, the market may not operate properly and public funding may be justified.
- White areas are geographical areas where there is no broadband infrastructure and it is unlikely that such infrastructure will be developed in the near future. In these areas, the development of broadband networks and services is uneconomic without public funding.



In a recent announcement,<sup>6</sup> President Macron reaffirmed France's commitment to the Broadband Programme but also made substantial changes to its original objectives. The target date for achieving full high-speed coverage across the country has been brought forward to 2020 (from 2022). At the same time, however, coverage is to be achieved not only by developing fibre optic cable in order to guarantee very-high-speed broadband access (i.e. 30 Mbps and above), but also by using alternative 4G and satellite communication technologies and permitting slower connections (in the 5-20 Mbps range).

This shift in Government policy represents an acknowledgement that the original Broadband Programme was behind schedule and significantly over budget.<sup>7</sup> It is still unclear whether these new objectives will have a substantial impact on the broadband PPP market, in particular on the cost of future projects, but the new objectives certainly mean that the market will be very active in the coming years. President Macron also announced that the revised Broadband Programme will contain a series of measures aimed not only at incentivising operators, but also at imposing sanctions on operators who are unwilling to participate in the development of broadband networks in the less profitable white areas.

### Procurement of broadband infrastructure by local authorities

Under French law, local authorities<sup>8</sup> may create and/or operate publicly-owned broadband network infrastructure (*réseaux d'initiative publique* or "RIP") only in those white areas where there has been a lack of private investment (*insuffisance d'initiatives privées propres à satisfaire les besoins des utilisateurs finals*).<sup>9</sup>

As mentioned in footnote 5, local authorities may procure the construction and operation of RIPs using several different procurement methods. Most of the projects are structured as concessions (concession) in which the concessionaire bears capacity demand risk. The public service delegation (*délégations de service public* or "DSP") is one form of concession commonly used by local authorities: it often involves the design, construction, financing, operation (including the marketing of network capacity to retail operators on the wholesale market) and maintenance of the RIP, typically with a duration of between 25 and 30 years. Construction is project financed by the concessionaire, but also involves a substantial element of public funding provided by the state under the Broadband Programme and from local authorities. Another form of DSP used by local authorities to procure broadband networks is the *affermage*, in which the private



operator operates and maintains (at its own risk) broadband infrastructure which has been built and financed by the local authority.

A local authority, or group of local authorities, wishing to establish a RIP in its/their area and to benefit from state subsidies under the Broadband Programme must apply to the CDC to seek approval for public funding. The approval is granted in two stages, in order to give the procuring authority visibility in terms of the availability of state funding for the project right from the outset (i.e. at the time it initiates the procurement of the broadband PPP project).

State funding under the Broadband Programme is treated as State aid under European Law and is therefore subject to the EU rules on the public financing of broadband networks set out by the

6 Statement made by President Emmanuel Macron on 17 July 2017 to representatives of local authorities during a conference (*Conférence nationale des territoires*) held at the French Senate.

7 The total cost of the Broadband Programme was estimated at €20bn by the Government of which €13.3bn was to be funded by the public sector. In its January 2017 report entitled "*Les réseaux fixes de haut et très haut débit – un premier bilan*", France's audit office – the *Cour des comptes* – estimated that the cost would be closer to €35bn.

8 This refers to any level of local government, i.e., *commune* (municipalities), *départements* (counties) or *régions* (regions). Up until now, most broadband PPPs have been procured at *département* level, by individual *départements* or by groups of *départements* (grouped together in a *syndicat mixte ouvert* or "SMO").

9 Article L. 1425-1 of the General Local Authorities Code (*Code général des collectivités territoriales*).





European Commission.<sup>10</sup> The Broadband Programme was notified by France to the European Commission in October 2014, and the State aid regime contained in the Programme was authorised by the Commission in November 2016.<sup>11</sup> This means that France is not required to notify the Commission each time it awards a subsidy to an individual broadband infrastructure project, to the extent that the project complies with the terms of the State aid regime authorised by the Commission.

Under the authorised regime, subsidies may only be granted in connection with the financing of the construction of broadband

infrastructure in white areas. Subsidies cannot be applied to the financing of the acquisition of existing infrastructure or networks (or of the right to use such infrastructure or networks). Similarly, subsidies under the Broadband Programme may not be used to subsidise the operation of the broadband network during the operational phase. When seeking State funding for the construction of a broadband network, the procuring authority must provide a robust business plan demonstrating that, other than the initial public funding required for the construction of the network, the network will generate sufficient revenues for it to be economically and financially viable without the need for any further subsidisation.

Prior to launching the procurement process, the procuring authority must submit a detailed description of the technical, commercial and financial structure of the project to the CDC for review by the Digital Agency. If the project is deemed eligible for funding by the State, the procuring authority receives a "preliminary agreement in principle" (*accord préalable de principe*) from the Prime Minister's office.

Once the procuring authority has completed the tendering process for the selection of the private partner and has selected a preferred bidder, it submits a final, complete application to the CDC for review by the Digital Agency which, if successful, results in the making of a "final financing decision" by the Prime Minister, setting out the amount of the funding granted by the State and the terms on which it is granted. In general, the final financing decision will confirm the initial "clearing" decision unless the project as awarded by the local authority is substantially different from the one submitted at the initial stage of the approval process and/or if it does not satisfy the conditions precedent set out by the State in the preliminary agreement in principle.<sup>12</sup>

### An active broadband PPP market

The French broadband PPP market is currently extremely active. For example, since the end of last year several local authorities (and groupings of local authorities) have launched tenders for procuring the construction of significant RIPs<sup>13</sup>, the preferred bidder has been confirmed for the €1bn Grand Est FttH broadband PPP and BAFOs have been submitted for the €400m Charente Maritime FttH broadband concession. In 2016, both the €500m Alsace broadband PPP and the €600m Nord Pas de Calais FttH broadband concession reached financial close.

As mentioned above, traditional national telecoms operators have focused on developing high-speed fibre optic broadband networks in black areas and still hold a significant market share.<sup>14</sup> This has left space for new entrants willing to invest in concessions and other DSPs for the development and operation of RIPs.

A number of smaller operators have built a significant portfolio of broadband PPP projects in recent years. For example, Covage operates 40 networks across the country, including 29 RIPs. Axione Infrastructures (in which Bouygues Energies & Services holds a 15 per

10 Communication from the Commission – EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks (2013/C25/01) as amended in June 2014 by the Communication from the Commission No. 2014/C 198/02.

11 Authorisation No. SA. 37183 of 7 November 2016. Available on the European Commission competition website, in the State Aid Register: [http://ec.europa.eu/competition/elojade/isef/case\\_details.cfm?proc\\_code=3\\_SA\\_37183](http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=3_SA_37183).

12 For more details on the procedure see *Cahier des Charges FTTH, Réseaux d'initiative publique, version mars 2017*: <http://www.francethd.fr/ressources/documents-de-reference.html>.

13 *Région Grand Est* (FttH concession), *Département de l'Hérault* (FttH concession) and *Département de Haute Garonne* (concession), *Pyrénées Atlantique* (FttH concession), *Angers* (FttH concession), *Aix-en-Provence* (FttH concession).

14 Orange currently operates 70 per cent of current FttH/FttO connections, SFR 11 per cent and Free 4 per cent.



cent stake) operates 24 RIPs, primarily in rural areas in the northern and central regions of France. Altitude Infrastructure operates 16 networks, including RIPs in the north-west of France (Normandie), the south (Occitanie) and the east (Provence-Alpes-Côtes d'Azur, Meuse and Alsace).

Unlike the vertically integrated national telecoms operators, which operate both as broadband infrastructure operators offering network capacity to other operators on the wholesale market and as internet service providers to end users (homes and businesses) on the retail market, the new RIP operators are essentially offering network capacity on the wholesale market to internet service providers such as Adista, Videofutur, Nordnet (a subsidiary of Orange) and Coriolis.

On several projects a number of specialist infrastructure funds have bid and invested alongside the new RIP operators. These include, in particular, FIDEPPP, Marguerite Fund, InfraVia, as well as CDC. In addition, other infrastructure funds such as DIF have already invested in operational RIPs.

## Lessons learned and future prospects

The new course set by President Macron for the Broadband Programme closely echoes the conclusions and recommendations delivered in January 2017 by the French Audit Office (*Cour des comptes*) in a special public report on "high and very-high-speed broadband networks".<sup>15</sup>

<sup>15</sup> "Les réseaux fixes de haut et très haut débit – un premier bilan", *Rapport public thématique, Cour des comptes/Chambres régionales et territoriales des comptes, Janvier 2017* – <https://www.comptes.fr/fr/publications/les-reseaux-fixes-de-haut-et-tres-haut-debit-un-premier-bilan>.

For example, the report points out that several RIPs were awarded to private operators on the basis of overly optimistic business plans and are not sustainable in the long term. Several RIP concessions need to be restructured, or will require restructuring in the near future. They were entered into without proper consideration having been given to the actual needs of personal and business users in the relevant area: e.g. private users are unlikely, for the most part, to require high-speed connections in excess of 10 Mbps, while the offering to businesses in earlier concessions has often proven technically unsatisfactory and unreliable. In practice, a number of RIPs have not been able to overcome competition from existing upgraded copper wire networks providing sufficiently high-speed ADSL internet connections at a lower price, in particular for private users and SMEs.

Another issue adversely affecting local RIPs has been the insufficient size of several local projects which were initiated at municipal or *département* level. These RIPs have insufficient critical mass to enable them to undertake appropriate marketing of their capacity. Another issue has been that awarding local authorities have often proved unable to properly monitor the DSP during the operational phase.

For these reasons, the Broadband Programme, as redesigned by the Government generally in accordance with the recommendations of the *Cour des comptes*, is no longer intended to be an "all fibre optic" programme. Alternative technologies such as upgraded copper wire ADSL networks, satellite and 4G – which guarantee high-speed broadband access, if not very-high-speed broadband access – are now also being considered as alternatives to the construction of expensive fibre optic networks.

The redesigned Broadband Programme is currently the subject of intense discussions between the Government and telecoms operators. The likely outcome of these discussions is, as yet, unknown. There is little doubt, however, that the market will remain active, with further RIPs being tendered, possibly with greater competition resulting from increased participation by the "traditional" telecoms operators. The combination of increased competition and the structural weaknesses in a number of operating RIPs means that certain RIPs will need to be restructured to avoid facing termination. In addition, certain infrastructure investors and operators will wish to divest their participation in individual RIPs or portfolios, presenting opportunities for secondary market investors too. All of these considerations point to a busy few years to come in the French broadband PPP market.



### Michel Lequien

Partner, Paris  
T +33 1 53 53 55 77  
[michel.lequien@ashurst.com](mailto:michel.lequien@ashurst.com)



### Jacques Dabreteau

Counsel, Paris  
T +33 1 53 53 53 69  
[jacques.dabreteau@ashurst.com](mailto:jacques.dabreteau@ashurst.com)

## A NEW MODEL FOR WELSH INFRASTRUCTURE:

# MIM's the word!

by Philip Vernon, Terence van Poortvliet,  
David Cave and Jonathan Turner



**O**n 24 March 2017, the Welsh Government launched its new model form Project Agreement for use on privately financed infrastructure projects, known as the "Mutual Investment Model" (MIM). Two versions of the standard form were issued: one for roads projects and the other for accommodation schemes. A User Guide was also published. As is made clear in the User Guide, the drafting of the two versions of the standard forms have been aligned "to the extent possible" in order to "facilitate joined-up contract management across sectors in the future". Since then the Welsh Government has also issued a number of procurement-related standard form documents and guidance notes for use by contracting authorities when rolling out MIM projects. The Welsh Government is also planning to issue a standard form Shareholders' Agreement to enable it to take an equity stake in MIM projects, but this is not due to be published until later in the year.

In a statement to the Welsh Parliament prior to the launch of the new model form, Mark Drakeford, the Cabinet Secretary for Finance and Local Government, made a commitment to invest approximately £1 billion in capital infrastructure investment through MIM, in the transport, health and education sectors. Plaid Cymru's Shadow Cabinet Secretary for the Economy, Adam Price, welcomed the announcement but pointed out that, whereas the Scottish Government had invested the equivalent of 4.5 per cent of its overall budget in its own private infrastructure investment model, the Welsh Government was only committing to investing 1 per cent of its budget in the MIM. He therefore urged the Finance Secretary to "go further and faster" in terms of investment in the model.

### Background to the MIM standard form

The MIM standard form project agreements are, according to the User Guide, based on "various UK precedent and standard project

agreements", updated to accommodate the specifics of the Welsh Government's infrastructure programme and Welsh Government policy. In fact, a summary review of the MIM standard forms indicates that the principal document on which they are based is the Scottish "Non-Profit Distributing" (NPD) Model Form Project Agreement. The NPD Model Form contract was itself influenced by the drafting contained in the Department of Health's Standard Form Project Agreement (Version 3), which dates from June 2007.

### Accounting treatment issues

The MIM model is to be used on three pilot projects: the dualling of the A465 from Dowlais Top to Hirwaun, the new Velindre Cancer Centre in Cardiff and a significant tranche of the next phase of the 21st Century Schools Programme. In terms of launch dates, at a MIM Industry Day hosted by the Welsh Government on 11 October 2017 indications were that an OJEU Contract Notice for the Velindre





Cancer Centre and A465 were planned for Q2 2018, with the Contract Notice for the first batch of schools projects following some time in Q3/Q4 2018.

These pilot projects had originally been earmarked for delivery through amended versions of the NPD model form, but this approach had to be halted when the Office for National Statistics (ONS) ruled in 2015 that NPD projects needed to be accounted for on the Government's balance sheet. This ruling stopped the Welsh plans in their tracks, as an essential component of the procurement model is to avoid the relevant project from appearing on the government's balance sheet. The Welsh Government therefore worked with the ONS and the European Investment Bank (EIB) to develop an alternative model – the MIM – with the aim of keeping MIM schemes "off balance sheet", i.e. ensuring that no debt liability is recorded on the government's balance sheet, thereby making sure that the project has no impact on the public sector finances.

As a result, the MIM model forms have been developed with the aim of meeting the requirements of the *"Guide to the Statistical Treatment of PPPs"* issued in September 2016 by the EIB and Eurostat (Eurostat Guidance). This guidance sets out detailed statistical requirements, compliance with which will ensure that a project is not inadvertently defined as a government asset, which would require it to be listed on balance sheet. For example, any form of profit-capping, a right for the public sector to receive 50 per cent or more of the profits generated by the project, or any important veto/approval rights on the part of the public sector would each automatically mean that the project was deemed to be on the government's balance sheet.

The User Guide states that the MIM Standard Form Project Agreement does not envisage any third party revenue generation activities forming part of MIM projects. However, it does concede that some MIM projects may charge for services or activities which are ancillary to the primary use of the asset, but warns that, under Chapter 2 of the Eurostat Guidance, Eurostat will not classify a project as being off balance sheet if the revenues which the procuring authority is forecast to receive from users exceed 50 per cent of the total value of payments that the authority is forecast to make to the project company over the life of the contract.

## Equity participation in the project

Although the MIM standard form Shareholders' Agreement has not yet been issued, the Welsh Government has advised that a particular feature of the MIM model will be an option for the public sector to share in profits through the investment by the Welsh Government of a minority equity stake in the holding company set up for the project (of which the project company is a wholly-owned subsidiary). The User Guide is light in detail on the terms of such an equity participation facility, but it refers to a maximum government equity stake of 20 per cent of issued share capital. At the Industry Day on 11 October it was announced that the Welsh Government would be investing a minimum 15 per cent equity stake in MIM projects, potentially rising to 20 per cent on individual projects. This approach reflects recent projects procured under HM Treasury's Standardisation of PF2 Contracts (the PF2 Model) such as the Priority School Building Programme (PSBP) where the UK Government was a minority public equity co-investor.

The User Guide also states that *"the Welsh Government may elect that an equity [funding] competition is held in respect of a portion of "Third Party Equity"*. This is something that drew much criticism from market participants in relation to the PF2 Model although (while not forming part of the PSBP programme) an equity funding competition was carried out on the Midland Metropolitan Hospital PF2 project. According to the User Guide: *"This approach is intended to encourage long-term investors to invest at the outset of a project, thereby limiting the potential for excessive profits and, consequently, the potential for windfall gains on secondary market sales."* It appears that the Welsh Government is listening to industry concerns on this issue, as it was announced at the Industry Day that there would be no third party equity competition for the Velindre Cancer Centre or for the batched schools project, and that a decision had not yet been reached in relation to the A465 project.

In terms of the detailed provisions of MIM, one novel element is the introduction of a right for the Welsh Government to appoint a director to the boards of Project Co and Hold Co on deals where it invests in projects, and the option to appoint an observer to the boards of Project Co and Hold Co where MIM projects are procured by an authority other than the Welsh Government. This is, according



to Mark Drakeford, to enable the Government to "exert influence to ensure that the public interest is protected".

## Key MIM provisions

Other features of the MIM project agreements which will be of interest to potential sponsors and funders include the following:

- **Control and risk share:** there are to be no controls or vetoes for the procuring authority on the operations of Project Co, and no sharing of rewards for the procuring authority, in order to avoid falling foul of the Eurostat Guidance;
- **Completion of works:** the agreements include detailed provisions on the treatment of equipment, snagging, completion requirements and certification of works. Of particular interest is the provision for withholding a percentage of the payment stream pending satisfactory completion of the snagging items, which must be signed off by the independent tester. As a result, building contractors will have to factor in the risk of liquidated damages to cover this withholding while the works are all but complete save for minor snagging matters;
- **Termination and compensation** on termination: new Project Co Events of Default have been introduced to cover:
  - procurement breaches (if the project company has ever been in one of the situations referred to in regulation 57(1) of the Public Contracts Regulations 2015 (S.I.2015/102) and should therefore have been excluded from the procurement proceedings);
  - tax non-compliance (in accordance with the Cabinet Office procurement policy information note on promoting tax compliance, an occasion of tax non-compliance by the project company or a shareholder (unless that shareholder transfers its shares, can result in termination); and
  - Corrupt Gifts (including additional non-PF2 "Prohibited Acts" in relation to blacklisting).

While the market is familiar with the concept of Corrupt Gifts termination and, more recently (e.g. on PSBP) termination for tax non-compliance, it has not previously been the case that such matters are treated as Project Co Events of Default with the associated retendering/no retendering compensation on termination calculation methodology rather than the force majeure-style compensation on termination (with a senior debt payout) that the market is used to. It will be interesting to see how funders react to this proposed shift as well as to the new procurement breach default.

- **Malicious damage:** the project agreement for MIM accommodation schemes (but not for road projects) includes some useful protections for the project company in respect of malicious damage at the facility during the operational term, the risk of which will sit primarily with the procuring authority;
- **Hard FM only:** in common with the vast majority of recent projects, accommodation projects procured under the MIM Model will not include any soft services;
- **BIM:** the project company is required to use BIM and to comply with a BIM protocol;
- **Community benefits:** the project company must comply with the authority's community benefits requirements in accordance with community benefits method statements. If

the project company does not meet specified targets both during the construction phase and operational term then it will be required to pay specified amounts to the authority; and

- **Wales-specific provisions:** the agreements include provisions to reflect legal jurisdiction and to ensure Welsh language standards are complied with.

In addition, the project agreements provide for the pass-through of both insurance costs and utility costs.

## Road sector specifics

The template project agreement for road schemes contains sector-specific drafting which differentiates it from the template project agreement for accommodation schemes. Some of these drafting differences simply relate to terminology (e.g. referring to a "Permit to Use" which is typical terminology in road schemes) and others cover responsibilities which are road scheme specific, such as the inclusion of drafting which prescribes when relevant roads must be kept open for public use. In general terms the templates are relatively similar, although there are some differences in risk allocation in the detailed drafting. In addition, it was mentioned at the Industry Day that the issue of whether the operation and maintenance role on the A465 project would cover just those sections of the road built under the MIM contract or would also encompass the capital-funded sections was yet to be decided.

## The future

On 5 September 2017, the Welsh Government issued a Prior Information Notice in respect of the redevelopment of Sections 5 and 6 of the A465, to be procured under the MIM. As mentioned above, it is planning to publish a contract notice for the scheme in Q2 2018. In the meantime, it will be conducting a market engagement exercise, in order to inform the scoping, approach to, and content of the procurement of this project. So, after a few false starts, it now looks like Wales' ambitious plans to develop infrastructure projects using the MIM model are finally coming to fruition.



### Philip Vernon

Partner, London  
T +44 (0)20 7859 1705  
philip.vernon@ashurst.com



### Terence van Poortvliet

Partner, London  
T +44 (0)20 7859 2424  
terence.vanpoortvliet@ashurst.com



### David Cave

Counsel, London  
T +44 (0)20 7859 2165  
david.cave@ashurst.com



### Jonathan Turner

Senior Associate, London  
T +44 (0)20 7859 2217  
jonathan.turner@ashurst.com

UPGRADING LOS ANGELES'  
TRANSPORT INFRASTRUCTURE:

# Taking the measure of Measure M

by Andrew Fraiser and James Maxwell

In October 2016, the Los Angeles County Metropolitan Transportation Authority ("LA Metro") published its Proposed Ordinance #16-01: "Los Angeles County Traffic Improvement Plan"<sup>1</sup> (known as "Measure M"). Measure M proposed to residents of Los Angeles County ("LA County") a comprehensive approach to transportation within LA County by upgrading existing infrastructure (and allocating more funding for its maintenance) and developing a range of new transit options, including subway lines, bus rapid transit, light rail and highways. If implemented, Measure M would require an increase in LA County sales tax of half a cent, which would provide an expected \$120 billion in project funding for transportation infrastructure over a 40-year period. In November 2016, LA County voters approved Measure M by a supermajority of 71.15 per cent.

## Introduction

Measure M, and LA Metro's associated Program Management Plan<sup>2</sup> ("Program"), is an unprecedented opportunity for the private sector to participate in the development of a transportation system which will revitalize transport, relieve traffic congestion, reduce pollution and spur economic development in the most populous county within the US.

For infrastructure projects, certain factors often stand out as good indicators of success. Large-scale infrastructure projects attract attention from a range of stakeholders, including the affected community, local, state and federal political forces, and private sector entities, each of which will have different criteria by which to

measure whether a project "works" for them. The most successful programs address concerns from all these different perspectives.

Critical considerations include:

- community support, political support, and private sector interest;
- sufficient long-term funding;
- well-defined program-wide goals and procurement strategies;
- projects which legitimately serve the public, align with the goals of the program and are marketable;
- the ability of the procuring authority to evaluate options and progress (often through the appointment of specialized advisors); and
- alignment with other local, state or federal government goals.

This article will examine how LA Metro's Measure M embodies each of the above, and why this creates a genuinely unprecedented opportunity for potential business partners.

1 [http://theplan.metro.net/wp-content/uploads/2016/09/measuram\\_ordinance\\_16-01.pdf](http://theplan.metro.net/wp-content/uploads/2016/09/measuram_ordinance_16-01.pdf).

2 [http://theplan.metro.net/wp-content/uploads/2016/11/report\\_prgm\\_mgmt\\_2016\\_11.pdf](http://theplan.metro.net/wp-content/uploads/2016/11/report_prgm_mgmt_2016_11.pdf).

## Measure M's Development – Reflecting Public Interest

The genesis of Measure M exemplifies the public and political support in LA County for improved transportation. Los Angeles traffic is no myth: LA County currently has 10.2 million residents, and they spend an average of 81 hours per year stuck in traffic. LA County's population had been expected to grow by 2.3 million over the next 40 years, and traffic congestion and air pollution had been expected to become increasingly worse in line with that growth.<sup>3</sup> Measure M is designed to raise the funds necessary to address LA County's serious transportation, congestion and pollution issues and simultaneously to stimulate the local economy (including creating an estimated 465,000 jobs over that 40-year period).

Measure M is not LA County's first ballot measure to propose an increase in sales tax to fund transportation infrastructure. In 2008, LA County residents voted to approve "Measure R", which passed with 67.22 per cent support. Measure R is also a half-cent sales tax which uses the ring-fenced revenue generated to fund transportation projects. Measure R is expected to generate \$40 billion over its 30-year lifespan.<sup>4</sup> It is set to expire in 2038, at which point Measure M will increase from a half-cent to a full cent sales tax, effectively extending Measure R to run concurrently with Measure M until it expires in 2057.

Procuring authorities can struggle to accurately evaluate public perception of an infrastructure project or program. Public outreach requires time and resource, and its ability to predict or forestall troublesome public opposition is limited. Ballot measures, which are permitted in approximately half of US states, are one way for governments to clearly evaluate the public perception (and fate) of a proposed project. Bolstered by success at the polls, LA Metro can comfortably consider Measure M to enjoy support from most of LA County's voting public, with even broader support for transportation improvement generally. In less than ten years, residents of LA County have twice elected to pay higher sales taxes in exchange for proposed transportation infrastructure development.

The success of Measure R and Measure M is even more significant as a window into public perception when one considers the volume of information about Measure M which was made available to voters before election day. A ballot measure's success is more indicative of shared public goals if there is substantial and clear available information, especially on long-term goals and effects. Before LA County voters decided on Measure M, they were able to review the proposed ordinance and the Program, including its administrative structure and a list of projects, future transit maps, groundbreaking and expected opening dates, cost estimates and expenditure allocations. After Measure M passed, Los Angeles Mayor Eric Garcetti (who recently began his second term as Chairman of LA Metro's Board of Directors ("LA Metro's Board")) described voters' response as "a mandate to build a better transportation system and a more connected regions."<sup>5</sup>

3 [http://theplan.metro.net/wp-content/uploads/2016/10/factsheet\\_measurem.pdf](http://theplan.metro.net/wp-content/uploads/2016/10/factsheet_measurem.pdf).

4 <https://www.metro.net/projects/measurer/>.

5 [https://www.metro.net/news/simple\\_pr/mayor-eric-garcetti-becomes-chair/](https://www.metro.net/news/simple_pr/mayor-eric-garcetti-becomes-chair/).

## Oversight and Accountability

LA County's support for Measure M was not, however, a blank check to deliver projects. Measure M's success was based on LA Metro's explanation of how Measure M and all aspects of project delivery would be administered, including procedures for ensuring that projects followed a timeline and budget and were subject to independent review. LA Metro's Board recently selected the first members of Measure M's Independent Taxpayer Oversight Committee ("ITOC"). Mayor Garcetti embraced LA Metro's "responsibility to realize [Measure M's] vision", and praised ITOC members as "an outstanding group of experts, and I am confident that their guidance and oversight will help us fulfill Measure M's promise."<sup>6</sup>

The ITOC is a key part of Measure M's administration, explicitly required under the Measure M ordinance. The ITOC must have seven independent committee members who reside in LA County and must meet at least four times per year. Measure M also prescribes minimum requirements for each of the seven members, requiring LA Metro's Board to select: (1) a retired federal or state judge, as well as industry professionals with at least ten years' experience in their specialist fields, namely: (2) municipal/public finance, (3) transit, (4) financial management, (5) construction management, (6) transportation architecture or engineering and (7) senior level private sector management. The ITOC provides enhanced accountability for sales tax revenue expenditures, both made and planned, through the Program. It must approve the Program's scope of work, review any proposed debt financing, direct audits and report on those audit results to LA Metro's Board and to the public.

6 [https://www.metro.net/news/simple\\_pr/measure-m-project-delivery-well-underway-tax-initi/](https://www.metro.net/news/simple_pr/measure-m-project-delivery-well-underway-tax-initi/).





The fact that the oversight role undertaken by the ITOC was part of Measure M's founding principles (i.e. not implemented as a reactionary measure) provides reassurance to LA County residents that their tax dollars are being spent judiciously from the Program's outset. In addition, interested private sector parties can be confident that a project's status will be clear and regularly updated, as the ITOC is required to provide annual audit reports and periodic comprehensive reviews of LA Metro's Program, both of which cover allocation of project funding. Among other benefits, regular audits and reporting allow interested parties to assess the viability of individual projects: without this transparency, projects can appear to lose funding or support overnight, which can chill private sector confidence and interest in future projects. And while the ITOC has not yet begun directing audits or releasing reports, LA Metro regularly releases updates on its website and communicates with industry publications.

### Unsolicited Proposal Policy

Another prominent feature of Measure M is its policy of embracing unsolicited proposals from the private sector. While LA Metro is not the first procuring authority to accept unsolicited proposals, it has made receiving and effectively evaluating unsolicited proposals a fundamental part of its innovative project delivery strategy under Measure M, particularly through its publication of a well-developed, comprehensive guide to unsolicited proposals and public/private sector engagement ("Proposal Policy")<sup>7</sup> and by setting up an Office of Extraordinary Innovation ("OEI").

LA Metro released its Proposal Policy in February 2016. This describes the two-phase process through which the OEI<sup>8</sup> will receive, evaluate and (potentially) approve unsolicited proposals. Interested parties must first submit a conceptual proposal, and if the conceptual proposal satisfies the Proposal Policy's evaluation factors, the interested party must then submit a detailed proposal in accordance with the Proposal Policy's technical and financial requirements. The Proposal Policy also includes a "Conceptual Proposal Form" and a "Contractor Pre-Qualification Application" (for both construction and non-construction projects), both of which are procurement forms generally only issued with a request for qualifications ("RFQ") or request for proposals ("RFP") for projects which are already defined.

Unsolicited proposals have a mixed history in US infrastructure projects. There are clear benefits to both the public and private sectors in inviting unsolicited proposals, but certain challenges persist, to which authority-solicited projects are usually immune. Procuring authorities benefit most directly from unsolicited proposals through private sector parties identifying projects (or types of projects) likely to attract private investment. Unsolicited proposals also introduce far more potential projects than a procuring authority could develop on its own. Private parties often suggest technical and financial innovations, and a proposal with a private sector perspective may spur commercial interest more than government-issued solicitations. Projects that start as unsolicited



proposals can also benefit from less political opposition than authority-solicited projects, as politicians can sometimes oppose projects solely on the basis that the project was developed by (or is associated with) the opposing political party, whereas unsolicited proposals have no such party affiliation.

Conversely, unsolicited proposals can fall foul of regulatory requirements, including environmental review and permitting processes, whereas projects developed by an authority are not, as a general rule, developed in any great detail if they are unlikely to comply with these requirements. In addition, authorities receiving unsolicited proposals may not have the legal authority to procure the proposed project. Unsolicited proposals may also be stifled if the authority lacks the funding, staff or internal support (or any combination of these) necessary to procure, or even review, the proposed project. Authority staff may also be more equipped and better motivated to support a project which they themselves developed, in contrast to a project proposed by an outside, private party, about which authority staff will be less knowledgeable and have less of an investment in.

Just as clear evaluation criteria and submittal requirements benefit both bidder and grantor in a procurement at the RFQ or RFP stage, LA Metro's development and release of the Proposal Policy helps make unsolicited proposals more valuable, and helps private parties to evaluate whether to submit an unsolicited proposal or not. Clear expectations on both sides also mean that the OEI is also better prepared to review and compare such proposals. By reviewing the Proposal Policy and the Program (and in light of the support from LA County residents), interested parties

<sup>7</sup> [https://dlakjheuo6qpr.cloudfront.net/uploads/unsolicited\\_proposal\\_policy.pdf](https://dlakjheuo6qpr.cloudfront.net/uploads/unsolicited_proposal_policy.pdf).

<sup>8</sup> Unsolicited proposals are officially submitted first to LA Metro's Vendor/Contract Management Office, which logs the proposal and then transfers it to the OEI for evaluation.



can prepare proposals which satisfy Measure M's requirements and align with community goals, reducing the potential for cancelled projects, such as Florida's SR 54/SR 56 Corridor. SR 54/56 advanced as an unsolicited proposal through an RFP process, resulting in the submission of a final bid. The project was cancelled soon afterwards, however, because the final bid, like the initial unsolicited proposal, faced substantial opposition from the community and because the proposer was unable to agree terms with the authority.

### Public-Private Partnerships

For LA Metro, unsolicited proposals are especially important in determining projects with the potential to be delivered as public-private partnerships ("P3s"). Before Measure M was introduced, LA Metro and its consultants had identified six projects as initial candidates for P3 (Crenshaw/LAX Transit Corridor; Purple Line Extension; Regional Connector Transit Corridor; SR-710 North Gap Closure; High Desert Corridor and I-710 Corridor). LA Metro's Chief Innovations Officer, Joshua Schank, has described LA Metro's evolved approach to identifying P3 projects under Measure M as "unique", explaining:

*"[t]he traditional project delivery approach is to define a project and invite the private sector to bid on it. The public agency tells the industry what it needs and lays out the parameters, and then proposers design a project scheme to fit it. This approach can be very effective in ensuring that we end up with the project requested, but it does not leave much room for the industry to bring ideas and innovations forward. Instead of starting with the*

*project end in mind, at LA Metro we are starting with the outcomes and performance objectives, and leaving the development of the solutions to the private sector."*<sup>9</sup>

LA Metro's Program stresses that projects should be delivered using the most appropriate delivery method. So far, LA Metro has only used design-bid-build ("DBB") or design-build ("DB") methods, although the Program also describes the benefits of both design-build-operate-maintain ("DBOM") and design-build-finance-operate-maintain ("DBFOM") approaches. In these delivery methods, the procuring authority runs a competitive bid process, usually including discussions regarding bidders' technical, legal and financial competence. The procuring authority finally selects a successful bidder, and that bidder's integrated team (operating as a single legal entity and contractual counterparty to the authority) is responsible for designing and constructing the project, and subsequently operating and maintaining the completed project (with a DBFOM structure, the private entity also provides project financing). LA Metro's Program notes that DBFOM offers "further risk sharing and financial support that may enable projects to be started sooner". The official guidelines for Measure M ("Guidelines"),<sup>10</sup> adopted by LA Metro's Board in July 2017, also cite the benefits offered by P3 projects, specifically listing P3 as a potential solution when projects have been delayed by funding deficiencies, environmental issues, litigation or other issues.

LA Metro has advanced four unsolicited P3 proposals to Phase II evaluation: (i) proposals from each of Skanska USA Civil West and Kiewit Infrastructure West Co in respect of the West Santa Ana LRT and (ii) proposals from each of Cintra US Services and Parsons Transportation Group in respect of the Sepulveda Pass Transit Corridor. Following review, LA Metro may decide to issue wider RFPs in respect of one or more of these unsolicited proposals.

LA Metro declined to advance a proposal submitted by Dragados for the West Santa Ana LRT, explaining that the financing proposed would affect other LA Metro projects, which is unacceptable under the terms of the Proposal Policy.<sup>11</sup> While there may initially have been some negative reaction to LA Metro's decision not to take the HDR proposal further, the long-term implications of this decision are positive, in that LA Metro followed its own Proposal Policy and required all unsolicited proposals to demonstrate sufficient innovation, project acceleration or cost savings (or a combination of these) at Phase I, thereby affirming its commitment to preserving the Measure M budget over its 40-year term and prioritizing the viability of its currently defined projects.

In late September 2017, LA Metro announced that (based on unsolicited proposals received) it intends to issue RFPs for three projects which will advance as P3s<sup>12</sup>: the Sepulveda Transit Corridor, the West Santa Ana Branch Transit Corridor and an expansion of LA Metro's ExpressLanes network. Given the sheer number of projects remaining to be procured under Measure M, and LA Metro's openness to private sector proposals on P3 development, LA Metro could quickly become the single largest source for viable P3 projects in the US.

<sup>9</sup> [https://www.fhwa.dot.gov/ipd/pdfs/p3/early\\_involvement\\_private\\_sector\\_p3s.pdf](https://www.fhwa.dot.gov/ipd/pdfs/p3/early_involvement_private_sector_p3s.pdf).

<sup>10</sup> [http://theplan.metro.net/wp-content/uploads/2017/07/guidelines\\_measurem\\_2017-0714.pdf](http://theplan.metro.net/wp-content/uploads/2017/07/guidelines_measurem_2017-0714.pdf).

<sup>11</sup> LA Metro also declined to advance HDR's proposal for the Sepulveda Pass Transit Corridor.

<sup>12</sup> "LA Metro to issue P3 RFPs", P3 Bulletin, September 29 2017.



## Projects and Funding

Measure M is expected to generate \$120 billion over 40 years (measured from FY 2018 – FY 2057). Over that period, the major expenditure categories and levels of funding will be: (i) \$32.29 billion for transit operations and maintenance; (ii) \$44.25 billion for transit construction (including airport connections and countywide bus rapid transit); (iii) \$22.72 billion for highway construction, and (iv) \$20.33 billion for local projects and transit services.

### Los Angeles County Transportation Expenditure Plan (2015 \$ in thousands)

Project	Expected Ground-breaking Start Date	Expected Opening Date (3-year range)	Projected Local, State, Federal, Other Funding	Projected Measure M Funding	Most Recent Cost Estimate
Expenditure Plan Major Projects		Range yr. 1			
Airport Metro Connect 96th St. Station/ Green Line Ext LAX	FY 2018	CY 2021	\$233,984	\$347,016	\$581,000
Westside Purple Line Extension Section 3	FY 2018	FY 2024	\$986,139	\$994,251	\$1,980,390
High Desert Multi-Purpose Corridor (HDMC)	FY 2019	FY 2021	\$100,000	\$170,000	\$270,000
I-5 N Cap. Enhancements (SR-14 to Lake Hughes Rd)	FY 2019	FY 2023	\$544,080	\$240,000	\$784,080
Gold Line Foothill Extension to Claremont	FY 2019	FY 2025	\$78,000	\$1,019,000	\$1,097,000
Orange Line BRT Improvements	FY 2019	FY 2025	\$0	\$286,000	\$286,000
BRT Connector Orange/Red Line to Gold Line	FY 2020	FY 2022	\$0	\$240,300	\$240,300
BRT Connector Orange/Red Line to Gold Line	FY 2020	FY 2022	\$0	\$26,700	\$26,700
East SF Valley Transit Corridor Project	FY 2021	FY 2027	\$520,500	\$810,500	\$1,331,000
West Santa Ana Transit Corridor LRT	FY 2022	FY 2028	\$500,000	\$535,000	\$1,035,000



Crenshaw/LAX Track Enhancement Project	FY 2022	FY 2026	\$0	\$49,599	\$49,599
SR-71 Gap from I-10 to Rio Rancho Rd.	FY 2022	FY 2026	\$26,443	\$248,557	\$275,000
LA River Waterway & System Bikepath	FY 2023	FY 2025	\$0	\$365,000	\$365,000
Complete LA River Bikepath	FY 2023	FY 2025	\$0	\$60,000	\$60,000
Sepulveda Pass Transit Corridor (Ph 1)	FY 2024	FY 2026	\$0	\$130,000	\$130,000
Sepulveda Pass Transit Corridor (Ph 1)	FY 2024	FY 2026	\$0	\$130,000	\$130,000
Vermont Transit Corridor	FY 2024	FY 2028	\$400,000	\$25,000	\$425,000
SR-57/SR-60 Interchange Improvements	FY 2025	FY 2031	\$565,000	\$205,000	\$770,000
Green Line Extension to Crenshaw Blvd in Torrance	FY 2026	FY 2030	\$272,000	\$619,000	\$891,000
I-710 South Corridor Project (Ph 1)	FY 2026	FY 2032	\$150,000	\$250,000	\$400,000
I-105 Express Lane from I-405 to I-605	FY 2027	FY 2029	\$0	\$175,000	\$175,000
Sepulveda Pass Transit Corridor (Ph 2)	FY 2024	FY 2033	\$1,567,000	\$1,270,000	\$2,837,000
Sepulveda Pass Transit Corridor (Ph 2)	FY 2024	FY 2033	\$1,567,000	\$1,270,000	\$2,837,000
Gold Line Eastside Extension (One Alignment)	FY 2029	FY 2035	\$957,000	\$543,000	\$1,500,000
Gold Line Eastside Extension (One Alignment)	FY 2029	FY 2035	\$957,000	\$543,000	\$1,500,000
West Santa Ana Transit Corridor LRT	FY 2022	FY 2041	\$1,082,500	\$400,000	\$1,482,500
West Santa Ana Transit Corridor LRT	FY 2022	FY 2041	\$982,500	\$500,000	\$1,482,500
I-710 South Corridor Project (Ph 2)	FY 2032	FY 2041	\$658,500	\$250,000	\$908,500
I-5 Corridor Improvements (I-605 to I-710)	FY 2036	FY 2042	\$46,060	\$1,059,000	\$1,105,060
Crenshaw Northern Extension	FY 2041	FY 2047	\$495,000	\$1,185,000	\$1,680,000
Crenshaw Northern Extension	FY 2041	FY 2047	\$0	\$560,000	\$560,000
I-405/I-110 Int. HOV Connect Ramps & Intrching Imprvmnts	FY 2042	FY 2044	\$0	\$250,000	\$250,000
I-605/I-10 Interchange	FY 2043	FY 2047	\$472,400	\$126,000	\$598,400
SR 60/I-605 Interchange HOV Direct Connectors	FY 2043	FY 2047	\$360,600	\$130,000	\$490,600
Lincoln Blvd BRT	FY 2043	FY 2047	\$0	\$102,000	\$102,000
I-110 Express Lane Ext South to I-405/I-110 Interchange	FY 2044	FY 2046	\$228,500	\$51,500	\$280,000
I-405 South Bay Curve Improvements	FY 2045	FY 2047	\$250,840	\$150,000	\$400,840
Green Line Eastern Extension (Norwalk)	FY 2046	FY 2052	\$570,000	\$200,000	\$770,000
SF Valley Transportation Improvements	FY 2048	FY 2050	\$0	\$106,800	\$106,800
Sepulveda Pass Westwood to LAX (Ph 3)	FY 2048	FY 2057	\$3,800,000	\$65,000	\$3,865,000
Orange Line Conversion to Light Rail	FY 2051	FY 2057	\$1,067,000	\$362,000	\$1,429,000
City of San Fernando Bike Master Plan	FY 2052	FY 2054	\$0	\$5,000	\$5,000
Historic Downtown Streetcar	FY 2053	FY 2057	\$0	\$200,000	\$200,000
Gold Line Eastside Ext. Second Alignment	FY 2053	FY 2057	\$110,000	\$2,890,000	\$3,000,000
High Desert Multi-Purpose Corridor – LA County Segment	FY 2063	FY 2067	\$32,980	\$1,845,718	\$1,878,700

## Certain Key Projects

In February 2017, the office of California Governor Jerry Brown published a list of 51 "priority" infrastructure projects, three of which are part of Measure M (i.e. Westside Purple Line Extension; Orange Line BRT and the Airport Metro Connector). The lists below highlight certain priority projects for: (1) LA Metro; (2) the private sector; and (3) both LA Metro and the private sector.

### LA Metro priority projects

- Airport Metro Connector Terminal on Green Line<sup>13</sup>
  - To provide a connection to Los Angeles Airport and the developing Automated People Mover Project
  - Target completion date 2024
  - Key project for Los Angeles's hosting of the 2028 Summer Olympics
- Gold Line Foothill Extension to Claremont<sup>14</sup>
  - Part of Phase 2 of the Gold Line Foothill Extension (Phase 1 opened March 2016)
  - Preliminary engineering began Summer 2014
  - The construction authority is preparing the project for design-build procurement and anticipates breaking ground in October 2017
- Bus Rapid Transit Connection from North Hollywood Red Line Station to Gold Line in Pasadena<sup>15</sup>
  - LA Metro reviewed a technical study of two possible alignments in February 2017
- I-710 South Corridor (Phase 1)/(Phase 2)<sup>16</sup>
  - LA Metro plans to identify its Preferred Alternative in mid-2017 and complete final Environmental Impact Report ("EIR")/Environmental Impact Study ("EIS") in late 2017
- High Desert Corridor<sup>17</sup>
  - EIR released late 2014. Preferred Alternative identified in July 2015
- SR 710 Gap Closure<sup>18</sup>
  - Study funded by Measure R. Draft EIR/EIS has been released
  - As of August 2014, project had been under study for several years, and LA Metro has cited "significant local concerns" about this project and wants to select a locally preferred alternative

### Private Sector priority projects

- Managed lanes (unsolicited proposal from Goldman Sachs)<sup>19</sup>
  - Proposal for a regional network approach to develop and manage LA Metro's High Occupancy Toll (HOT) lanes
- Financing Mechanism (unsolicited proposal from Parker Infrastructure Partners)<sup>20</sup>
  - This proposal would provide LA Metro with flexibility to fund projects in different stages of development; contents remain confidential

13 <http://thesource.metro.net/2016/04/08/potential-ballot-measure-what-you-need-to-know-about-the-airport-metro-connector/>.

14 <http://www.foothillgoldline.org/cities-stations/claremont/>.

15 <https://urbanize.la/post/new-details-proposed-north-hollywood-pasadena-brt-line>.

16 <https://www.metro.net/projects/i-710-corridor-project/>.

17 <https://www.metro.net/projects/high-desert-corridor/>.

18 <https://www.metro.net/projects/sr-710-conversations/>.

19 "LA Metro advances four unsolicited proposals", *InfraNews*, February 1 2017.

20 *Id.*



### LA Metro and Private Sector's aligned priority projects

- Sepulveda Pass Corridor<sup>21</sup>
  - LA Metro has moved two unsolicited proposals to Phase II review and will determine whether to issue an RFP for the projects following its review
  - In April 2017, LA Metro sought a consultant to conduct a 14-month study of transit modes. The deadline for the feasibility study has since been extended
- West Santa Ana Branch Transit Corridor<sup>22</sup>
  - LA Metro has moved two unsolicited proposals to Phase II review and will determine whether to issue an RFP following its review
- West Side Purple Line to Westwood/Veteran's Administration Medical Center<sup>23</sup>
  - An unsolicited proposal submitted by Skanska did not advance

21 <https://www.metro.net/projects/sfv-405/>.

22 "LA Metro advances four unsolicited proposals", *InfraNews*, February 1 2017.

23 *Id.*





- LA Metro still intends to begin construction in 2018<sup>24</sup>
- Orange Line Conversion to Light Rail<sup>25</sup>
  - LA Metro received an unsolicited proposal for the project from Fluor Enterprises in March 2017 and will now assemble a Phase 1 review team to evaluate the financial and technical merits of the proposal

## A General Upward Spiral

Given how Measure M has progressed to date, there is strong evidence that LA Metro has proactively addressed (or has prepared as best it can for) several areas of potential challenge which have delayed other projects, or stopped them in their tracks. Few projects or programs have established such significant long-term funding, favorable public perception, early private sector involvement, clear program-wide goals, well-defined administrative roles, fiscal restraint and independent oversight

<sup>24</sup> <http://dailybruin.com/2017/05/22/metros-purple-line-extension-to-begin-construction-ahead-of-schedule/>.

<sup>25</sup> "LA Metro advances four unsolicited proposals", InfraNews, February 1 2017.

mechanisms, especially from the start. Measure M is also well positioned to succeed for a number of additional noteworthy reasons, as described below.

LA Metro is committed to investing in specialized, highly-qualified advisors, a commitment that many procuring authorities do not make until much later in the process. The Program includes "utilization of outside consultants" in its strategic initiatives for program staffing, with outside consultants set to comprise approximately 50 per cent of staffing levels (and up to 70 per cent for the crucial early stages of projects). The OEI will play a significant role in managing consultant advisory services, which is appropriate given the OEI's role in relation to "innovation, unsolicited proposals and public-private partnerships." LA Metro's clear commitment to staffing Measure M with additional and more specialist advisors (recognizing that it cannot simply rely more heavily on its existing advisors) sends an encouraging message to potential private investors.

LA Metro is likely to benefit from federal funding for infrastructure projects. While President Trump has yet to release his administration's national infrastructure plan, the details currently available bode well for LA Metro. His administration have stressed that federal infrastructure funding will be focused on promoting development at a local level, achieving the president's \$1 trillion figure for infrastructure investment by using \$200 billion in federal money to attract \$800 billion from local governments and private investors.<sup>26</sup> Federal grant programs have also been revised in conjunction with the new INFRA Grant program, all to incentivize investment in infrastructure from private investors, local governments or a combination of the two.<sup>27</sup> One well-placed source has specifically cited LA Metro and Measure M as an example of how this could work, explaining that LA Metro could combine federal money with funding from both Measure M and the private sector.<sup>28</sup>

For LA County residents, most Measure M news has been good news. The recent news that Los Angeles will host the 2028 Summer Olympics has only increased focus on the need for improved transportation infrastructure.<sup>29</sup> Given public demand for a comprehensive transportation system, LA Metro will be closely scrutinized for its ability to stay the proposed course for Measure M, an achievable goal with an interested community and a twelve-digit budget.

<sup>26</sup> <https://www.nytimes.com/2017/07/23/us/trump-infrastructure-program.html>.

<sup>27</sup> "Trump administration revamps federal grant program", InfraNews, June 29 2017.

<sup>28</sup> *Id.*

<sup>29</sup> <http://www.latimes.com/local/california/la-me-olympics-transportation-20170805-htmlstory.html>.



### Andrew Fraiser

Partner, New York  
T +1 212 205 7023  
[andrew.fraiser@ashurst.com](mailto:andrew.fraiser@ashurst.com)



### James Maxwell

Associate, New York  
T +1 212 205 7090  
[james.maxwell@ashurst.com](mailto:james.maxwell@ashurst.com)



## GERMAN MOTORWAY PPPs:

# Full speed ahead for private investment

by Maximilian Uibleisen, Derk Opitz, Karsten Raupach and Holger Mlynek

Public private partnerships (PPPs) in the German trunk road sector have undergone a fundamental change in recent years. Since the first batch of pilot projects reached financial close between 2007 and 2009, PPPs have become an established way of procuring and financing trunk roads in Germany. Further PPP projects are currently being tendered or are at the planning stage. This pipeline of new generation projects aims to attract even more private investment into the road sector. This article provides an overview of PPP projects in the German federal trunk road sector and opportunities for private investors.

### Evolution of PPP projects in the German trunk road sector

In many countries, PPPs have contributed significantly to the provision of public infrastructure in recent decades. In comparison, PPPs in Germany have gained in importance only in recent years, due in part to the fact that the fundamental concept of PPPs has been (and still is) the subject of ongoing social and political debate.

PPP projects in Germany are encountered in various fields of activity at local, federal state and federal government levels. Compared to the total quantity of PPPs in Germany, the number of projects in the trunk road sector has so

far been relatively low<sup>1</sup> and primarily focused on sections of federal motorways (Bundesautobahnen).

In line with general PPP principles, PPP projects in the German trunk road sector seek to provide, amongst other objectives, "whole life" solutions which aim to increase the efficiency and quality of the relevant service, ensure an appropriate allocation of risk between the private sector partner and the public sector and promote innovation. In practice, the design of PPP projects has

undergone an evolutionary development process in recent years. Projects in the German trunk road sector which have already been implemented or which are currently being tendered cover design, construction (road upgrading), routine and heavy maintenance as well as operational elements, and usually run for a period of 30 years. Compared to conventional construction projects, the "whole life" approach of PPP projects results in an increased focus on long-term operational and maintenance aspects during in the design phase of the construction works. PPP projects also impose certain financing obligations on the private sector partner. However, structural differences exist

<sup>1</sup> Scientific advisory board of the German Ministry of Finance, expert opinion on opportunities and risks of PPP projects ("Chancen und Risiken Öffentlich-Privater Partnerschaften"), [www.bundesfinanzministerium.de](http://www.bundesfinanzministerium.de) (2/2016).

between individual projects in the payment mechanisms and, on a related point, in the allocation of traffic volume risk.

#### F-model

The first PPP-type projects in the trunk road sector were the under-crossings of the Warnow river and the Trave river which were completed in 2003 and 2005 respectively. These are classic toll models which allow the concessionaire to charge a toll to users of the respective crossings (the "F-model"). The toll rate is subject to the approval of the relevant public authority. Hence, the concessionaire bears the traffic risk.

#### The first batch of federal motorway PPP projects

The next generation of PPP projects (the so-called "first batch") comprised four pilot projects. These pilot projects were structured on the basis of a road upgrading model with traffic volume risk (the *Ausbaumodell* or "A-model").

The payment mechanism for the A-model provided for the concessionaire to receive remuneration from the public authority based on traffic volumes calculated using the actual heavy goods vehicle (HGV) toll revenue attributable to the relevant section of motorway. A distance-based HGV toll was introduced by the German legislator in 2005. Unlike the F-model, the concessionaire under the A-model received its remuneration from the public authority and did not directly charge a toll itself. However, due to its dependence on the actual toll revenues received, the concessionaire's remuneration was still subject to volatile traffic volumes,

changing toll rates and the composition of toll classes. In addition, where maintenance measures exceeded certain defined limits, the concessionaire's remuneration was reduced by so-called "traffic impairment costs" (*Verkehrsbeeinträchtigungskosten*) calculated in accordance with the underlying project agreement.

#### The second batch of projects

The so-called "second batch" of projects consists of nine federal motorway PPP projects, of which six projects are currently at the implementation phase. Other than for the first project in this batch (the A8 (Ulm – Augsburg)), these projects have been based on a new availability model concept (the *Verfügbarkeitsmodell* or "V-model"). The V-model approach is based on a modified and quality-focused approach and no longer exposes the contractor to traffic volume risks. Instead, the contractor's remuneration is based on the availability of the relevant section of road and the quality of the contractual services provided.

The funding and remuneration scheme for the current V-model includes the following core elements:

- the financing by the contractor of part of the construction costs;
- progress-based milestone payments by the public authority during the construction phase;
- the long-term financing by the contractor of the project funding requirement which is not covered by the milestone payments;
- remuneration paid at regular intervals by the public authority

during the contract period consisting of two components:

- following completion of the construction works, for the duration of the remaining contract period a remuneration component to be paid monthly for the long-term financing, and
- for the duration of the contract period, a remuneration component to be paid monthly for operational services, maintenance and other services;
- a deduction mechanism for restricted availability (e.g. fewer lanes or speed restrictions) of the relevant section of road, as well as breaches of other obligations.<sup>2</sup> Within certain limits, scheduled maintenance works may be exempt from deductions.

Since the launch of the first V-model project (the A9 (Lederhose – Thuringia/Bavaria state border)), the V-model has been continuously refined, not only to reflect experience gained from the implementation of previous projects, but also with a view to addressing market requirements. This has also been the case in relation to the contractor's financing arrangements. In the course of the second batch of projects, the V-model has thus been adjusted to introduce project bond financing structures.

### The way forward

In 2015, the German Federal Ministry of Transport and Digital Infrastructure announced, in conjunction with the German Federal Ministry of Finance, a "new generation" of eleven PPP projects in the federal trunk road sector.<sup>3</sup> Two of these projects (the A10/A24 (Neuruppin – Pankow) and the A3 (Biebelried – Fürth/Erlangen)) are currently being tendered and it is envisaged that there will be a continuous deal flow of two to three projects per year. The new generation projects have been included in the German Plan for Federal Traffic Routes 2030



<sup>2</sup> Scientific advisory board of the German Ministry of Finance, expert opinion on opportunities and risks of PPP projects (*Chancen und Risiken Öffentlich-Privater Partnerschaften*), [www.bundesfinanzministerium.de](http://www.bundesfinanzministerium.de) (2/2016).

<sup>3</sup> German Federal Ministry of Transport and Digital Infrastructure, information brochure "Public-Private Partnerships in the Federal Trunk Road Sector – the New Generation", [www.bmvi.de](http://www.bmvi.de) (July 2015).

(Bundesverkehrswegeplan 2030)<sup>4</sup> which was approved by the German Federal Government and accompanied by three legislative acts in December 2016.<sup>5</sup>

The new generation projects aim to, among other objectives, further promote a framework for investment opportunities for private sector investors.

- 4 German Plan for Federal Traffic Routes 2030 (*Bundesverkehrswegeplan 2030*), [www.bmvi.de](http://www.bmvi.de) (3 August 2016).
- 5 Sixth Act Amending the Act on Trunk Road Expansion (*Sechstes Gesetz zur Änderung des Fernstraßenausbaugesetzes*); Third Act Amending the Act on Federal Railways Expansion (*Drittes Gesetz zur Änderung des Bundesschienenwegeausbaugesetzes*); Act on the Expansion of the Federal Waterways and Amendment of the Federal Waterways Acts (*Gesetz über den Ausbau der Bundeswasserstraßen und zur Änderung des Bundeswasserstraßengesetzes*).

## Opportunities for private investors in the primary market

One option for private investors is to invest equity in the contractor. Customary funding structures often allow sponsors to defer their equity contributions until completion of the construction works. For example, in the recent A7 I (Hamburg – Bordsesholm) and A6 (Wiesloch/Rauenberg – Weinsberg) motorway PPP projects, the Dutch institutional investor DIF was part of the successful bidding consortium alongside Hochtief, and was a shareholder in the contractor. However, against the background of a typical leverage of between 90 and 92.5 per cent for these types of project, the equity ticket tends to be fairly limited compared to the overall size of the project.

A second option for private investors is to participate in the financing of the contractor (i.e. private debt). Even though the involvement of private investors in the financing of a PPP project is not mandatory, the PPP concept opens this up as a possibility and also allows – alongside the traditional credit financing by institutional investors – the issuance of project bonds.

The specific structure of the private financing arrangements need to reflect the structure of the remuneration for the construction and maintenance works as set out in the project agreement between the public authority and the contractor. Accordingly, the package of private debt regularly includes certain short-term and long-term instruments (credit facilities and/or project bonds) to bridge the funding

### Overview of existing and planned PPP projects in the German federal trunk road sector

First batch of projects	Second batch of projects	New generation of projects*
<b>Headline figures:</b> <ul style="list-style-type: none"> <li>• 4 projects</li> <li>• approx. 230 km total length of sections</li> <li>• approx. EUR 1.1 billion construction cost</li> </ul>	<b>Headline figures:</b> <ul style="list-style-type: none"> <li>• 9 projects</li> <li>• approx. 540 km total length of sections</li> <li>• approx. EUR 3 billion construction cost</li> </ul>	<b>Headline figures:</b> <ul style="list-style-type: none"> <li>• 11 projects</li> <li>• approx. 670 km total length of sections</li> <li>• approx. EUR 7.5 billion construction cost plus approx. EUR 7.5 billion investment volume for further service components</li> </ul>
<b>Projects:</b> <ul style="list-style-type: none"> <li>• A8 (Augsburg – Munich): A-model, start of concession in 2007, 30-year concession period</li> <li>• A4 (Hörsel Hills bypass): A-model, start of concession in 2007, 30-year concession period</li> <li>• A1 (Bremen – Hamburg): A-model, start of concession in 2008, 30-year concession period</li> <li>• A5 (Malsch – Offenburg): A-model, start of concession in 2009, 30-year concession period</li> </ul>	<b>Projects:</b> <ul style="list-style-type: none"> <li>• A8 (Ulm – Augsburg): A-model (uniform toll model), start of concession in 2011, 30-year concession period</li> <li>• A9 (Lederhose – Thuringia/Bavaria state border): V-model, start of contract in 2011, 20-year contract period</li> <li>• A7 I (Hamburg – Bordsesholm): V-model, start of contract in 2014, 30-year contract period</li> <li>• A94 (Forstinning – Marktl): V-model, start of contract in 2016, 30-year contract period</li> <li>• A6 (Wiesloch/Rauenberg – Weinsberg): V-model, start of contract in 2017, 30-year contract period</li> <li>• A7 II (Bockenem – Göttingen): V-model, start of contract in 2017, 30-year contract period</li> <li>• A1/A30 (Lotte/Osnabrück – Münster): planned</li> <li>• A61 (Worms – Speyer): planned</li> <li>• A44 (Kassel/Süd – Diemelstadt): planned</li> </ul>	<b>Projects:</b> <ul style="list-style-type: none"> <li>• A10/A24 (Neuruppin – Pankow): V-model, 30-year contract period, pending tender procedure</li> <li>• A3 (Biebelried – Fürth/Erlangen): V-model, 30-year contract period, pending tender procedure</li> <li>• A6 (Weinsberg – Feuchtwangen/Craillsheim): planned</li> <li>• A8 (Rosenheim – German/Austrian border): planned</li> <li>• A49 (Kassel/West – A5)</li> <li>• Federal highway E233 (Meppen (A31) – Cloppenburg (A1)): planned</li> <li>• A26 (Hamburg (A1) – Rübke): planned (F-model)</li> <li>• A57 (Köln/Nord – Moers): planned</li> <li>• A20 (Elbe crossing): planned (F-model)</li> <li>• A4 (Gotha – Thuringia/Saxony state border): planned</li> <li>• Federal highway B247 (Bad Langensalza – A38): planned</li> </ul>

\*Subject to possible changes.



gap created by the need for the contractor to finance the project costs (construction; maintenance; services; debt-service; taxes; etc.) before it receives payment from the public authority and/or before the sponsors make their equity contributions, and to provide the required financial headroom.

The PPP projects in the second batch which have, to date, reached financial close were financed by way of the following packages:<sup>6</sup>

6 Sources: VIFG, "Traffic infrastructure financing and the requirements for tomorrow's road construction" (*Verkehrsinfrastrukturfinanzierung – Anforderungen an den Straßenbau von morgen*), [www.bast.de](http://www.bast.de) (January 2017); InfraDeals (<https://www.infra-deals.com>).

In addition, financing of the A6 (Wiesloch/Rauenberg – Weinsberg) project (which reached financial close in December 2016) included a project bond as well as debt instruments. The debt instruments were provided by the European Investment Bank (EIB) and other banks (DZ BANK, L-Bank and MUFG), and the project bond was purchased by KfW IPEX. Ashurst LLP advised KfW IPEX and the syndicate of lenders (other than EIB) on this transaction.<sup>7</sup> The overall project cost

7 Ashurst LLP, "Ashurst advises bank consortium on project planning and financing of new section of A6 motorway", [www.ashurst.com](http://www.ashurst.com) (13 December 2016).

totalled approximately EUR 1.3 billion, of which approximately EUR 600 million was purely construction costs.<sup>8</sup>

## Project bonds

So far, only the financing of the A7 I (Hamburg – Bordsesholm) and the A6 (Wiesloch/Rauenberg – Weinsberg) projects have included project bonds in the financing structure. The fact that their use has not been more widespread may be because the documentation and

8 KfW IPEX-Bank, "KfW IPEX-Bank and EIB finance new section of A6 motorway in Baden-Württemberg", [www.kfw-ipex-bank.de](http://www.kfw-ipex-bank.de) (13 December 2016).

A8 (Ulm – Augsburg) (initial financing)		Financiers
Debt (total)	EUR 290 m	
• European Investment Bank (EIB)	EUR 149 m	EIB
• UniCredit, BBVA, LBBW	EUR 225 m	UniCredit, BBVA, LBBW
Equity	EUR 80 m	
Margin	270-320 bps.	

A9 (Lederhose – Thuringia/Bavaria state border)		Financiers
Debt (total)	EUR 120 m	KfW IPEX, BBVA
• Long term facility	EUR 104 m	
• Equity bridge facility	EUR 16 m	
Equity	EUR 12m	
Margin	ca. 250 bps.	

A7 I (Hamburg – Bordsesholm)		Financiers
Debt (total)	EUR 600m	
• Short term facility	EUR 81m	EIB
• Project bond	EUR 429m	Axa, Aegon, KfW IPEX, MassMutual, ING, Sun Life, EIB
• Project bond credit enhancement	EUR 90m	EIB
Equity	EUR 60m	
Coupon	2.975%	

A94 (Forstinning – Markt)		Financiers
Debt (total)	EUR 410m	
• Long term facility	EUR 250m	BayLaBa, DZ Bank, Deka, KfW IPEX
• EIB facility	EUR 160m	EIB

A7 II (Bockenem – Göttingen)		Financiers
Debt (total)	EUR 416.27m	
• Long term facility	EUR 80.14m	Caixabank, KfW IPEX
• Short term facility	EUR 126m	Caixabank, DZ Bank, DBJ, KfW IPEX
• Short term facility	EUR 25.23m	Caixabank, KfW IPEX
• EIB facility	EUR 184.9m	EIB



administration for a bond is more complex and expensive than that required for a loan. However, the appetite for such structures tends to increase as market experience increases. In addition, the implementation of Solvency II, with the introduction of the concept of "Qualified Infrastructure", has further encouraged institutional investors to invest in German PPP projects.

The inclusion of project bonds in a financing package generally increases the numbers of potential private investors, mainly on account of the following:

- from a German regulatory perspective, investing in a project bond does not require a German or EU banking licence, which is an important difference compared to providing a loan. As a result, issuing a project bond opens up investment opportunities for non-banks (such as insurance companies, pension funds and other financial intermediaries).
- In addition, if a project bond is included in the financing package, it will generally also be possible for the EIB to provide certain subordinated credit enhancement instruments to improve the rating of the (senior) project bonds and thus to make an investment in the bonds even more attractive.<sup>9</sup> Such a structure was, for example, chosen for the initial financing of the A7 I (Hamburg – Bordesholm) project.<sup>10</sup> It should be noted, however, that banks as well as other private investors may be keen to invest in a project bond. Consequently, while the A7 I (Hamburg – Bordesholm) project bond was purchased by

banks as well as other institutional investors, the A6 (Wiesloch/ Rauenberg – Weinsberg) bond was only purchased by a bank. While, in theory, the options for private investors to invest in project bonds are broad-ranging, it should be noted that there may be certain de facto constraints on potential investors. For example, it is sometimes the case that significant financiers are only prepared to invest in a project if all the other investors with outstanding commitments in the financing package achieve certain minimum rating criteria (so-called "co-funders risk") and/or if certain categories of investors are excluded from participating. Such criteria obviously limit access for private investors to invest in projects.

### Private vs. public financing

Private sector investment in PPP projects in the German road sector is not essential: the alternative would be for the public authority to finance the relevant project from the public sector debt. This could even prove to be cheaper than procuring investment from private financiers, because the public authority could raise debt on the capital markets on more attractive terms than private investors would be able to. The German Federal Government has, nevertheless, decided to open up the German trunk road sector to private debt investors. The advantage it sees from doing so is that the more stringent risk assessments carried out by private debt investors, as well as their incentive to reduce costs, may help to avoid unprofitable public investments, so that higher funding costs are compensated by a lower risk for taxpayers of a credit default due to an unprofitable project.<sup>11</sup>

<sup>9</sup> European Investment Bank, "An outline guide to Project Bonds Credit Enhancement and the Project Bond Initiative", [www.eib.org](http://www.eib.org) (21 December 2012).

<sup>10</sup> European Investment Bank, "A7 extension: first financing operation in Germany with EU project bonds", [www.eib.org](http://www.eib.org) (27 August 2014).

<sup>11</sup> Scientific advisory board of the German Ministry of Finance, expert opinion on opportunities and risks of PPP projects (*Chancen und Risiken Öffentlich-Privater Partnerschaften*), [www.bundesfinanzministerium.de](http://www.bundesfinanzministerium.de) (2/2016).





## Attractive investment opportunities

The decision of the German Federal Government to open up PPP projects in the German road sector to private finance creates attractive investment opportunities, especially in the current environment of low interest rates. Despite some reservations and vigorous debates, PPP projects in the German road sector are strongly supported by the German Federal Government, as the new generation of projects and their inclusion in the German Plan for Federal Traffic Routes 2030 (*Bundesverkehrswegeplan 2030*) demonstrates. The current German Minister for Transport, Alexander Dobrindt, made clear his view that concerns about economic efficiency are outweighed by the positive effects of involving the private sector, on the basis that, without private investment, certain projects might not come to fruition at all.<sup>12</sup>

## Opportunities for private investors in the secondary market

Further opportunities for private investors may also arise in the secondary market, with possible refinancings of existing projects. PPP projects in the German federal trunk road sector permit or, in certain cases, actually require a refinancing to be undertaken; e.g. where more favourable financing conditions have evolved in the market during the contract term. In June 2016, the refinancing of the A8 (Ulm – Augsburg) project reached financial close. According to the Federal Transport Infrastructure Plan 2030 (*Bundesverkehrswegeplan 2030*), refinancings of further projects

(the A5 (Malsch – Offenburg), the A8 (Augsburg – Munich), the A1 (Bremen – Hamburg), the A4 (Hörsel Hills bypass), the A9 (Lederhose – Thuringia/Bavaria state border)) are also envisaged.

So, all in all, there are busy times ahead for those wishing to invest in the German trunk road sector.



### Maximilian Uibleisen

Partner, Frankfurt  
T +49 (0)69 97 11 27 74  
maximilian.uibleisen@ashurst.com



### Derk Opitz

Partner, Frankfurt  
T +49 (0)69 97 11 27 07  
derk.opitz@ashurst.com



### Karsten Raupach

Counsel, Munich  
T +49 (0)89 24 44 21 180  
karsten.raupach@ashurst.com



### Holger Mlynek

Senior Associate, Frankfurt  
T +49 (0)69 97 11 28 49  
holger.mlynek@ashurst.com

<sup>12</sup> Article in Merkur, "Private investors may invest in road construction" (*Privat-Investoren dürfen Straßen bauen*), [www.merkur.de](http://www.merkur.de) (26 May 2015).



# Should we nationalise travel agents?

## *Mark Elsey writes...*

Those of you waiting with bated breath for my pearls of wisdom on how to help governments meet infrastructure affordability challenges will, I am afraid, have to wait for the next edition of *InfraRead*. Why? Because I cannot refrain from commenting on the suggestion (proposals?) put forward by the UK Labour Party to nationalise our water, rail and energy industries and at the same time to take back into public ownership the 750 or so PFI projects currently active in the UK.

Much of the debate on this issue has focused on the legalities and costs of any such action, both of which are very real and substantive challenges. The recent National Infrastructure Commission consultation document also highlighted the need for more empirical data to evidence the very real benefits that the NIC is confident that private investment and operation can deliver.

But in the face of a UK electorate that seems receptive to any "promise of a better land", no matter how far-fetched, and whose instinct for economic common sense and self-preservation seems to have been lost in the welter of social media hype and "fake" news, there must be a question mark over relying solely on economic arguments. This point came home to me recently in a poll which not only showed that a majority of the UK public were in favour of widescale utility nationalisation but that 29 per cent were in favour of the Government nationalising travel agents!

Pending the centrists unearthing a truly charismatic and media friendly leader, the economic argument (indeed, any economic argument) appears to have been lost. A change of tack is required and that tack needs to play to the tunes that drive today's audience. To begin the fightback my three step strategy would be based on the following:

**Rebalance:** We need greater UK institutional equity investment in UK infrastructure: a much larger proportion of the UK population must feel that they have a stake in UK infrastructure investment. Options include mandatory infrastructure investment thresholds for pension funds, a UK sovereign wealth fund or even "tag along" rights for UK institutional funds on a defined portion of major UK infrastructure or utility investments.

**Reboot:** We also need more imaginative and flexible structures to enable us to move away from the historic binary approach of

infrastructure and utilities being either in public ownership or private ownership, and with a large trench in the sand being drawn between the two. The very real financial benefits offered by projects such as the Thames Tideway Tunnel show what can be achieved when the traditional public/private dividing lines are challenged.

**Rebrand:** The words "private" and "finance" should be banned from any future structures or initiatives (and, ideally, from all historic partnering arrangements too). This may sound simplistic but these two words are (probably unfairly) viewed as politically toxic in the UK. The Scottish (NPD) and Welsh (MIM) programmes show how a few tweaks and rebranding can materially change attitudes.

The private sector also needs to take a much more proactive approach, in conjunction with the relevant public authorities, to spotlight the very many real benefits (personal experiences not just statistics), that private investment and innovation have brought to the UK's infrastructure. And this needs to be done through those media channels and formats that reach out to the wider population, not just via *The Times* and the BBC news channel.

This, of course, requires co-ordination and vision and, ultimately, a guiding mind. With public sector eyes focused firmly on Brexit, and an increasing flight of talented individuals away from the Civil Service, there are significant question marks over the Government's bandwidth (or appetite) to step up to these challenges.

So how can the infrastructure industry help? A coordinated organisation (or maybe a federation of existing bodies) to speak with a unified voice for all the different private sector stakeholders across the wider infrastructure market would be a start. Anyone interested in taking on the challenge? Perhaps as a start we should join forces with the travel agents...



**Mark Elsey**

Global Head of Infrastructure  
T +44 (0)20 7859 1721  
[mark.elsey@ashurst.com](mailto:mark.elsey@ashurst.com)