

At a Rate of Knots

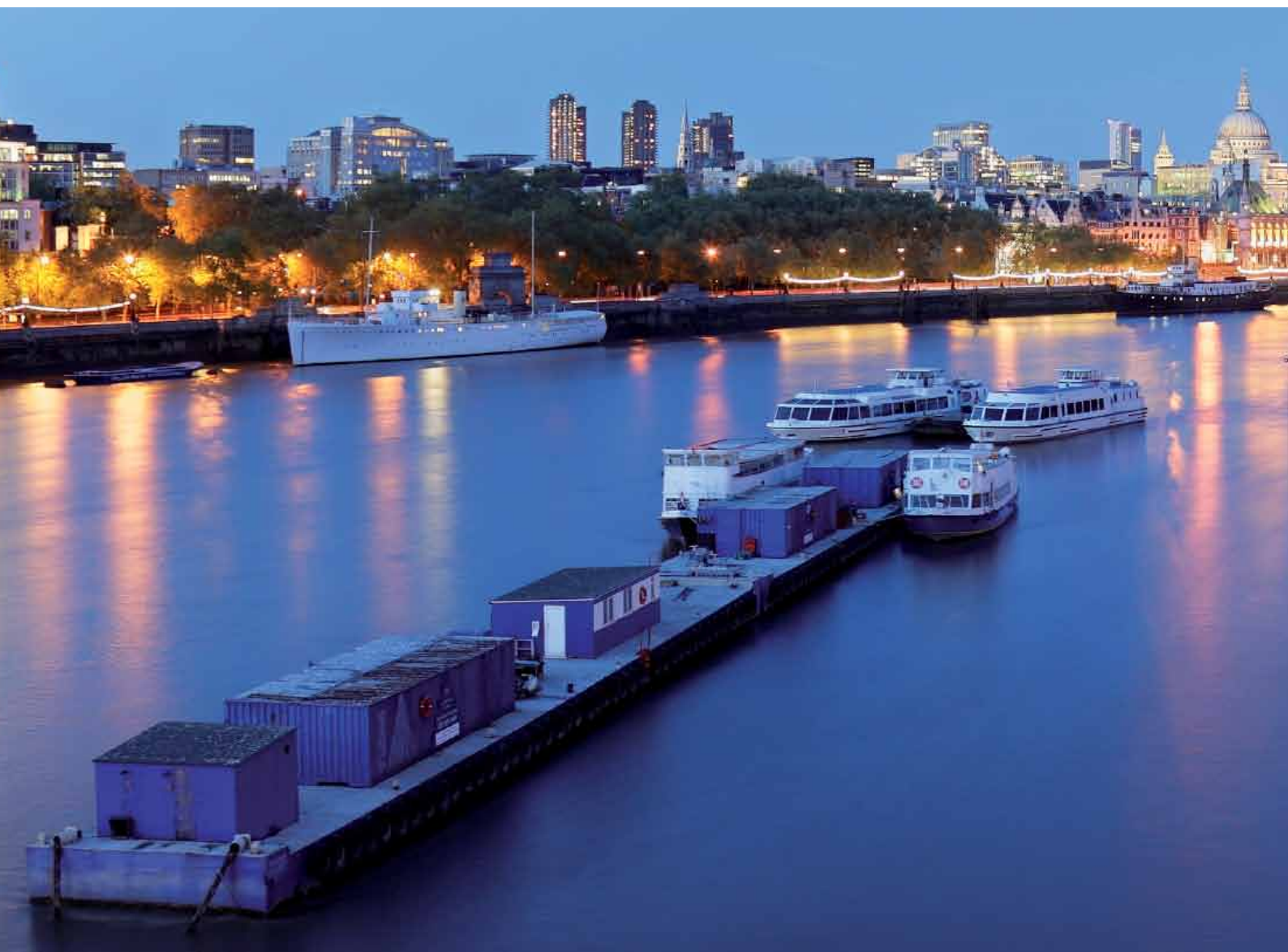


Improving public transport on the River Thames

Paul Buchanan, Andrew Gilligan, Zac Goldsmith,
Cynthia Grant, Steve Norris and Neil O'Brien

illustrations by Black Hat

edited by Robert McIlveen & Ben Caldecott



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Executive Summary

The Thames is London's historic highway yet it is invisible on the transport canvas of London. Transport for London has even taken it off the standard Tube map, although we are delighted that it will return in the next edition of the map.¹ The river promises an exciting new transport network for Londoners, at a fraction of the normal cost for infrastructure projects, but needs sustained political leadership to make it happen.

This report argues that we can make much more of the river for very little cost, producing a new, integrated and expanded service which will offer a great new option for many of London's commuters. The river is a core part of London's identity yet it is cut off from its transport network. This report sets out how to correct this.

By upgrading and extending Central London piers, using the planning process to deliver new piers in Docklands and the Thames Gateway, and establishing air traffic control style-management of the river (see p27) the infrastructure for successful river services can be established. This will enable the sort of service London deserves: ten-minute services departing from well-managed and organised piers, stretching from Putney in the West to Erith in the East via Central London and Canary Wharf.

The key to making it all happen is integration with the rest of the network, which has the potential to unlock suppressed demand and make the service financially viable with little or no increase in the current small subsidy. While it would remain a premium service, bringing it within TfL's system makes it much more attractive than when operating on a standalone basis.

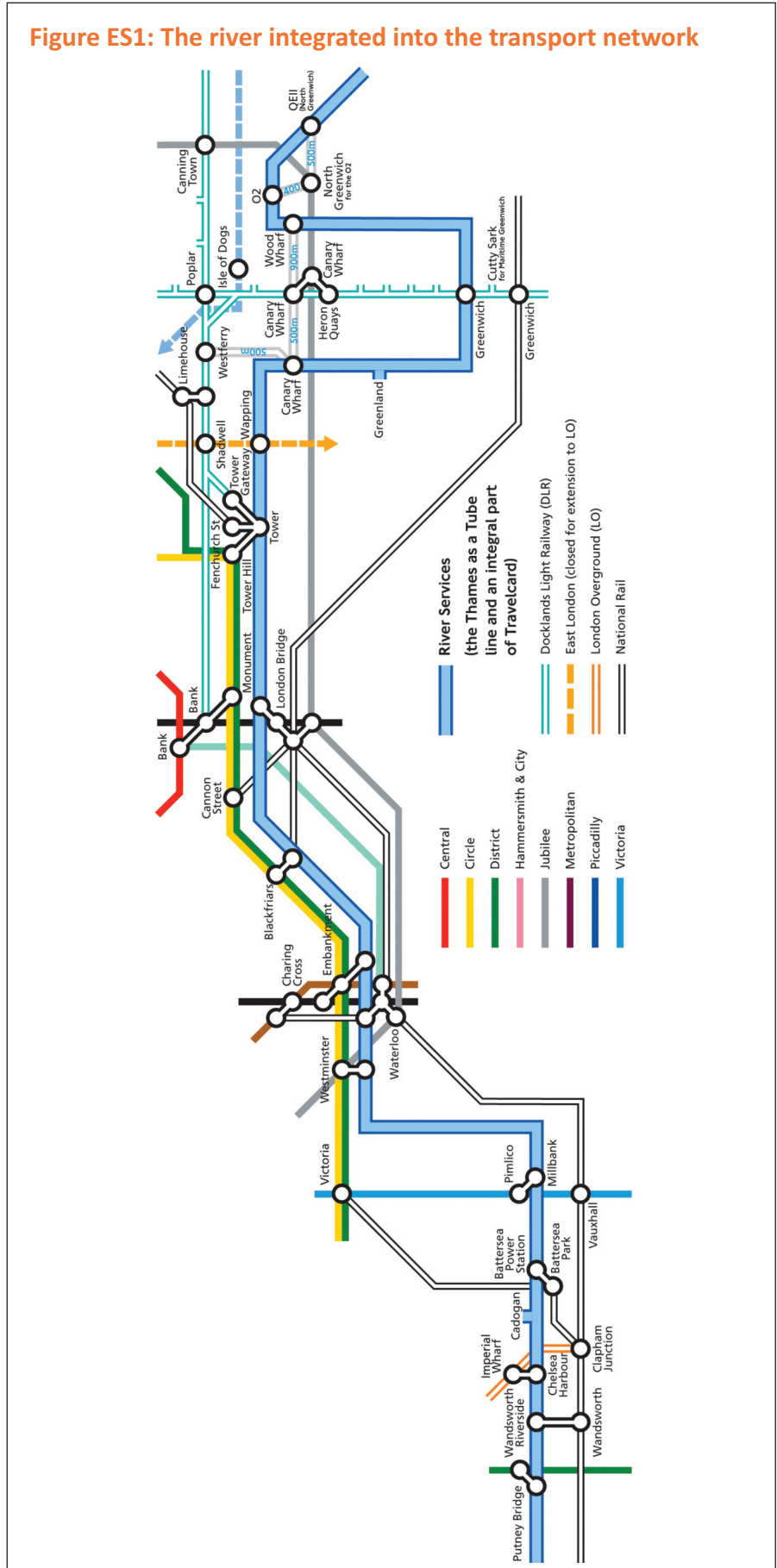
This report has at its heart a robust demand study to establish that this is more than just a dream: 12 million journeys a year on the river can be achieved by 2026 if our proposals are enacted, an increase of 287.1% above the projected number of journeys in 2009. The river services at present receive very little subsidy compared with other modes of transport, yet have significant benefits for people living and working near the river. The business case projects that this is commercially viable, with the right framework – integration with the rest of the network is crucial to unlocking the river's potential.

River services have the potential to add a new element to London's transport system at very little cost. In fact, for the costs of upgrading the Central London piers, far more private than public sector investment will be leveraged in the form of new boats and outer London piers. For relatively little outlay in terms of subsidy and capital expenditure significant private investment will deliver an outstanding service. Spending £15-30 million on upgrading piers will produce absolutely first-class facilities for an expanding service, while subsidy equivalent to that enjoyed by buses and DLR would cost a maximum of £4 million per annum once the service has grown to its predicted maximum, and an average of £3 million per annum over the next 17 years.²

¹ "Mayor orders Thames back on map", BBC News, 17th September 2009; <http://news.bbc.co.uk/1/hi/england/london/8260943.stm>

² Based on maximum demand projections in Chapter 4 with 33p per passenger subsidy applied (not adjusted for inflation)

Figure ES1: The river integrated into the transport network



By dramatically improving public transport on the River Thames our proposals would aid the regeneration of East London. Some of London's most deprived districts would be linked with Canary Wharf and the City by a stylish, frequent and reliable service.

Table ES1: Approximate subsidy levels for different modes of transport

Service	Subsidy per passenger
Bus	33p
Tube	56p
DLR	33p
River – Thames Clippers	14p

River services are one of the most accessible public transport services in London, rivalled only by the Docklands Light Railway (DLR). The quality of life benefits stem from the same source – the space, fresh air and, due to safety regulations, guaranteed seat (or wheelchair space) which make river services so attractive. By introducing demanding emissions standards on boats bought in the proposed expansion of services and integrating the service, river transport could become a much lower carbon form of transport than the alternatives.

The river is underused by people at present. This report sets out how, with sufficient political leadership and integration, public transport on the river can flourish – as it does in Brisbane and Hamburg.

To enhance public transport and realise the potential of the River Thames as an important transport route, the following recommendations should be adopted:

1. TfL must take leadership and ownership of river services – By appointing a board member to be responsible for delivering river services, and strengthening the under-resourced executive team, TfL can be positioned to take a more strategic interest in developing river services.

2. Task TfL with air traffic control-style traffic management – At present piers are congested, tourist and transport boats impede each other and there is minimal enforcement of timetables. With ownership and leadership of river service planning and procurement, TfL can manage the traffic flexibly to minimise delays and disruption, giving priority to different services over peak times throughout the day.

3. Ticket integration – By bringing the river services within TfL's ticketing structure the river service will become to be seen as one more part of the transport network. This includes season tickets, full Oyster and Travelcards. Much better enforcement – on boats and at piers – is needed to clamp down on fare evasion.

4. All strategic Central London piers should be managed and ideally owned by TfL – At present pier ownership is split between a variety of private and public bodies. In the core Central London area TfL should seek to buy all strategic piers in order to integrate pier ownership and traffic management; TfL should manage those key piers it cannot buy.

5. Key piers should be upgraded and extended – Some piers are in serious need of expanding or upgrading to facilitate simultaneous embarkation and disembarkation, improve the passenger experience or enable more boats to dock. In the central area development of these piers should be led by TfL, which should consider the business case for spending £15-30 million pounds upgrading strategic piers to enable a better service. Appropriate maximum docking times for different services should be imposed and enforced once the piers have been upgraded to allow for faster turnaround.

6. New piers should be developed as residential and commercial development occurs – New piers should be a key part of the development of the Thames Gateway and western riverside. Some areas already have sufficient population to justify a pier; some will have in the near future. Private developers should be required to build these in the planning process.

7. Signage to and from piers should be a priority – Many piers are almost invisible. Better signage, comparable to that for Underground stations, should be introduced at and around each pier.

8. There needs to be strategic planning of river services – At present piers and routes develop ad hoc. Given the significant growth expected over the coming decades, in particular in Docklands and the Thames Gateway, a more strategic approach to route planning is needed to ensure that the necessary infrastructure, traffic management and management capacity at London River Services (LRS) are in place when needed.

9. The river service should be designed to be as accessible as possible – Boats and piers are already more accessible for wheelchair users and other people with limited mobility than most London's public transport network, and this should be explicitly prioritised in the pier upgrade programme.

10. Piers should be designed or upgraded to maximise interchange with other transport modes – In addition to better information and signage, links to bus interchange, cycle parking, public cycle hire and pedestrian routes should be considered. These links should be used to extend the range of the piers to as many homes and places of employment as possible. More publicity should be given to the range of destinations in central London which are within a 15-minute walk of pier locations. Park-and-ride options in East London should also be explored.

11. Where necessary the service should be subsidised – Subsidy is one part of the combination of measures needed to expand services. Creative, targeted use of subsidy should be used to help grow river services. The river currently receives significantly less subsidy than other modes of transport in London. TfL should be prepared to use small levels of subsidy to drive better use of the river.

12. The speed limit should be reviewed – The speed limit west of Tower Bridge should be reviewed with the aim, among others, of delivering a viable transport service. Better traffic management, and improved safety techniques and schedul-

ing should all be considered so that faster journey times are possible for commuters in the morning rush hour. A code of practice for leisure users of the river should also be prepared. New boats should be designed to minimise wash, reducing the impact on other river users.

13. Emissions standards of new boats should rise over time – with expansion of river services comes the possibility of improving environmental performance. By stipulating a rising emissions standard for boats, the service can expand and become greener over time.

Introduction

Andrew Gilligan and Robert McIlveen

‘But Lord! What a sad time it is to see no boats on the river’

Samuel Pepys

London’s Historic Highway

Through the heart of London, free of all the normal hold-ups, runs a broad highway used to a fraction of its potential. In just a few years, and for £15-30 million investment of public money, we can create a new waterborne line on the Tube map, with a frequent service from Putney to the Thames Gateway.

This would be no ordinary service. It would never be stopped by traffic or points failures. It would bring new links to places badly served by the transport system and much-needed relief to the whole network. It would grow and adapt with the city it serves. It would seize the imagination and raise spirits. Hundreds of thousands of

Londoners would be liberated from their subterranean tunnels, travelling instead with the wind in their hair and the matchless spectacle of the world’s greatest city before their eyes.

“The river is part of London’s identity, yet its transport role has been hidden away”

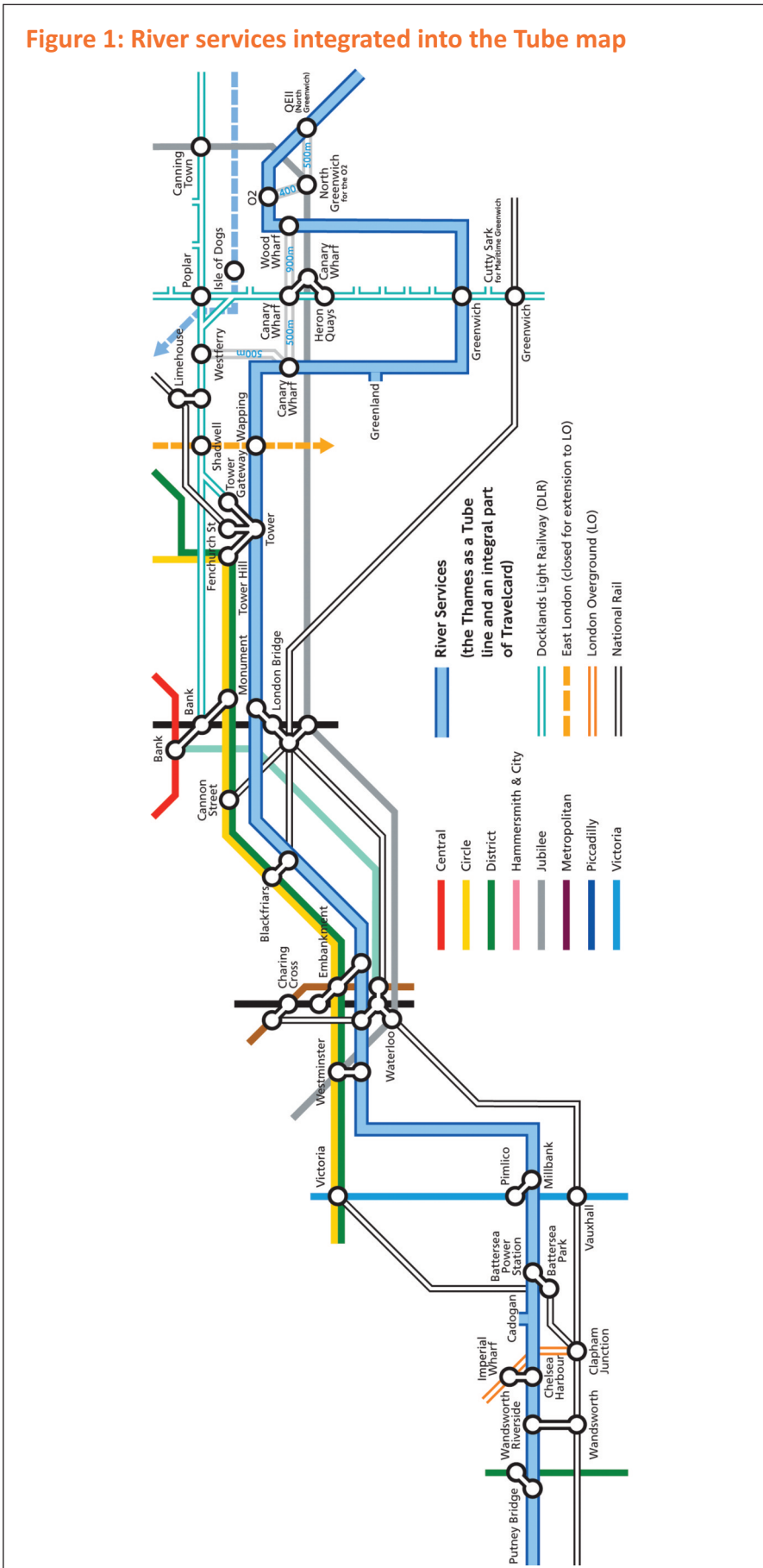
The Thames is London’s historic highway, yet it is strangely forgotten in this role today. The Tube map tells you where some of the piers are, but not where you can go to from them or what sort of service you will find. In their immediate vicinity piers have a low profile; many people are unaware that such a service exists on their doorstep.

The river’s role is remembered when the rest of the transport network freezes – such as with the snow in February 2009 or on 7th July 2005. On these occasions, boats offered a crucial service to get people home safely. For special events the river is simply the most spectacular way to travel through London. Just imagine the Olympic torch sailing past Central London’s iconic waterfront on its way to Stratford in 2012.

The river is part of London’s identity, yet its transport role has been hidden away. Integrating river services into both the ticketing structure and the Tube map will reveal to Londoners and visitors alike the possibilities the river has to offer (Figure 1).

This report shows the way to making the most of the Thames. River transport suffers from a lack of leadership, confused administrative arrangements and, critically, indifference from institutions which could make a difference. By taking a strategic lead, the mayor could push through a much more integrated service, serving more of London and relieving some of the worst pinch-points in the rest of the network.

Figure 1: River services integrated into the Tube map



A Solid Foundation for River Services

This report is not just one of iconic visions. Too often, the river has been seen as a playground rather than a serious part of the transport network. The robust demand study in Chapter 4 demonstrates the potential for river services to carry at least 12 million passengers a year by 2026, providing a firm base for expanding services. The business case we have put together in Chapter 5 shows how minor public expenditure can leverage significant private investment and provide a really special service at much lower cost than other new transport projects in London.

Flexible route designs and a thorough, strategic understanding of how to upgrade and extend piers, manage traffic and expand the service are clear steps to unleashing the potential of the river. Strategic investment by TfL in the crucial Central London piers can be used to encourage the privately financed development of piers in the outer reaches of the Thames. International comparisons are vital – cities such as Brisbane and Hamburg have shown how river services can become a normal part of an integrated transport system rather than a day-trip option.

Figure 2: A 15-minute walk from Central London piers



The politics of the river are bound up with the politics of London. Steve Norris writes a chapter discussing both the unique nature of London's government and how the Thames has long been an issue for transport in the capital. The need for strategic leadership to drive through river services is vital to their success; the elected mayor is uniquely placed to deliver it.

Attractions of the River

The main attractions of river services are obvious. For those living within reasonable distance of a pier, commuting in the fresh air rather than a crowded Tube train is very appealing. New and existing piers give easy access to Central London, making the river an attractive option for commuting (Figure 2). If river services can deliver frequency, reliability and reasonable fares, there is a large potential market. The advantages of river boats over other modes of travel lie not just in pleasantness,

but also in the very low cost of infrastructure: a new pier costs £1-5 million compared to £150 million for merely upgrading Bond Street Tube station.³ It is clear that significant improvements can be made on the river at very low cost. Flexibility is another major benefit of river services – routes can develop with demand rather than being tied to existing infrastructure.

There are other attractions which are less obvious. Accessibility is a key advantage; boats comprehensively beat the Underground for wheelchair access and, with less constraint on space, are more accommodating than bus or overground services. Because safety rules demand that every passenger must have a seat, the boats are much more spacious and accessible – passengers with small children or those with limited mobility will find the boats a much easier way to travel than battling crowds on the Tube or bus.

There are potential environmental benefits from expanding river services. For those who drive river services will be much more attractive than other already crowded options and may even persuade them to shift from private cars where the routes are suitable. Stringent emissions standards for new boats built for expanding services could lead the greening of London's transport network.

London's economy would also benefit. The city's transport infrastructure is a significant negative factor for many businesses, and a high-quality, integrated and reliable river service offers a way to overcome some of the deficiencies in the road network and public transport. The CBI has found that 61% of businesses think London's road network is getting worse, with a resulting decline in London's attractiveness for investment.⁴ The service would particularly benefit Canary Wharf, while also relieving pinch-points such as Putney. It would also boost the regeneration of East London's riverside districts, both economically and in the quality of life they enjoy.

Opportunity Now

The history of failed attempts to develop London river transport compares poorly with the thriving services on other urban rivers around the world. But now is a uniquely propitious moment for London's river. New riverside development – above all, Canary Wharf and North Greenwich – means that there is, for the first time, the critical mass to sustain an effective service.

As more and more jobs are based in areas that currently have relatively poor connections with Central London, new services will be needed. River services are very well suited to supply the demand because those developing areas are in many cases close to the river. These services will link in with Crossrail, providing better access to the Thames Gateway from the west than ever before. A fast connection to Canary Wharf will be a powerful tool for economic development in parts of East London.

The Olympics provide a crucial part of the backdrop to this project. The millennium was the first great stimulus to river services and its immovable deadline forced the pace. The franchise was awarded to one company which then had the security to invest in expanding its operation. The Olympics should provide the deadline to upgrade the key piers and organise river services more efficiently and rationally.

³ This is before the costs of the Crossrail station; <http://www.crossrail.co.uk/company/communications-centre/press-releases/shortlist-announced-for-redevelopment-of-bond-street-tube-station>

⁴ "Businesses warn London must keep up with global rivals", CBI press release, 2008; <http://www.cbi.org.uk/ndbs/Press.nsf/0363c1f07c6ca12a8025671c00381cc7/cb6edeeb281e4c20802575120046981f?OpenDocument>

Surmounting Opposition

The public authorities which could enable river services to thrive have, for various reasons, not done so. The Port of London Authority (PLA) has responsibility for safety throughout the river, as well as owning some piers. It is not in a position to encourage the maximum economic use of the river, especially given its much more significant freight interests downstream.

Transport for London (TfL) is responsible for London's transport, so is the key agency for delivering integrated river services. Yet it lacks interest in the river, considers it an uneconomic and unimportant transport option, continuing to concentrate on what it regards as more important modes. It has even gone so far as to remove the river from its standard Tube map before being instructed by the mayor to restore it.

TfL's wholly owned subsidiary, London River Services (LRS), is under-resourced and understaffed, and often has its focus diverted onto tourist and charter services to the detriment of public transport. To achieve the level of river services London deserves, TfL must be much more engaged.

Most of the practical arguments deployed against using the river – tides, environment, journey times and boat capacity are weak. The only real practical barriers – pier capacity, congestion, marketing and ticketing – are minor and easily dealt with. The economic case for improving public transport on the Thames is robust. Enhanced river services could also serve a diverse range of London's neighbourhoods, from the business centres of Canary Wharf and the City to parts of East London in need of regeneration.

The true problems are political, not practical. Until the announcement of the Thames Concordat by the mayor in April 2009, there was an almost total lack of co-ordination and leadership on the river. Transport on the Thames should be viewed as an ordinary part of the transport network. The Thames is London's ancient highway and has the potential to add a highly valued and attractive service for great swathes of the city. It should not be held back by bureaucratic indifference or corporate inertia.

As ever, the key to delivering this service is to get the framework right. Sorting out pier ownership and management, delivering effective scheduling of Central London piers and integrating river transport with the rest of London's public transport network will all come together to restore the Thames to its position as London's principal highway.

1

The Potential of River Services – and the Barriers

Andrew Gilligan

Experiencing the rush-hour journey on Thames Clippers' catamaran from Greenwich to Waterloo reveals most of what you need to know about the river's future potential and present problems.

The traffic in Greenwich town centre is inching round the one-way system. The Docklands Light Railway is running well, but is horribly overcrowded. The over-ground train does all right until it nears London Bridge – then has to wait ten minutes, creeping from signal to signal, for a platform to come free. As our boat charges upstream at 30 knots (35mph), we are almost certainly the fastest thing within a five-mile radius.

At this time of day, and on this part of the river, it is striking how much space there is on the Thames, and how little of it is used. This is a highway around 900ft wide – broader than most of the M25 – but from which commercial traffic has almost vanished. There is just one major goods user left on the river: barges carrying waste from Wandsworth to a landfill site near Tilbury, two to three times a day.

On the open rear deck of the *Cyclone*, two newcomers to the service are grinning to themselves at the sudden surge of speed and the glorious, if rapidly receding, views of the Royal Naval College. Inside, the more seasoned passengers have settled down with their laptops. The trains may be a crush of bodies, but on the river safety rules ensure everyone a seat. There is a small bar and buffet, and drained commuters can even get a massage on the way home.

On its first day, 24th May 1999, Thames Clippers operated one boat and carried 81 passengers. Now its service runs every 20 minutes during the day and half-hourly all evening until midnight on a route between Central London, Canary Wharf, Greenwich and the O2 arena, with peak extensions to Woolwich; its average daily passenger load is around 7,500. With virtually no public subsidy, the river boat has already become the fastest growing form of transport in London.

“Even the current service is 3,000% better than anything else,” says Rob Williams, a nuclear medicine technologist from Woolwich, who uses the riverbus every day to reach his job at St Thomas' Hospital. “I once actually used it to bring an emergency patient to the hospital, because it was the quickest way. A special ambulance would have taken hours.”

But the main argument for expanding the riverbus is not that it would make commuters' lives nicer. That is merely a pleasant by-product. The true value of the river is that it represents the quickest, cheapest and easiest way of addressing some of London's most serious transport challenges.

The Mayor's Strategy for the River

Anyone who has ever stopped on a bridge or gazed out of a window at the River Thames will have experienced a sense of immense serenity but also a great opportunity. The opportunity to showcase London to visitors, to relieve pinch-points on our transport system, and to provide a commuting experience second to none, not only in this city, but in any city in the world. The Mayor has felt these emotions too and has clearly defined what he would like to see. The river to become an integral, well used, increasingly vibrant as well as a pleasant part of our transport system, and this priority is enshrined in his draft Transport Strategy.

River travel can rightly be romanticised – a comfortable seat, space to walk around your vessel and stunning views – it is why there has been phenomenal growth to over 5 million waterborne journeys a year in 2008, from only 2 million in 2000. Proof that Londoners and visitors want more of this mode and the quality of journey it can provide. Savvy developers are recognising the advantages of maximising their links with the river. In the East, the O2's new owners invested in the Thames Clippers service enabling them to provide a great alternative to the bus and tube. In the West, Galliard Homes funded a pier at their Wandsworth Riverside Quarter development and the redevelopment of Battersea power station should provide further exciting opportunities.

However, further expansion depends on all of those who have a stake in the river working together. What is required is focus and coordination, and this is what the Mayor has provided. On behalf of the Mayor, I chair a River Services Concordat group made-up of over forty different organisations involved in the operation and development of river services, including operators, pier owners, the riparian Boroughs, and Transport for London. The Concordat is an agreement to work together in order to develop services to their full potential. The Thames may flow freely but the challenges of improving services and infrastructures are constrained by financing, capacity, and demand. We have not allowed the group to get lost in an idealised notion of what could be achieved, but have focused on what needs to be achieved to release the river's true transport potential. The Concordat has focused on six priority workstreams: Olympic services, pier capacity, pier signage, service quality, integrating ticketing, passenger information and management information.

To date the Concordat has enabled the introduction of Oyster Pay as You Go on Thames Clipper commuter services, an achievement that deserves to be trumpeted as river services are now linked to land-based public transport with a single ticket for the first time. Work on increasing pier capacity has resulted in TfL and the ODA funding the extension of Tower Pier and improvements to Greenwich Pier, while the ODA river operators, the PLA and pier owners have developed a draft timetable to serve riverside venues during the Olympic & Paralympic Games. Much more is to come, including the standardisation and improvement of signage, the raising of service quality and more pier capacity.

We must all fly the flag for our river, even in these difficult times, so that millions of people can make the choice to travel by the river.

Kulveer Ranger

In the areas immediately along the river to the east of the city, employment was forecast to grow by 23% between 2001 and 2016. Yet by last year, the rail links serving the area were already operating at around 5% over capacity.⁵ The arrival of Crossrail at Canary Wharf and Woolwich will help, but only in part of the area, and not until 2017 at the earliest.

The riverbus should be seen as a supplement to Crossrail that will benefit a wide area. An altogether smaller-scale project, it can be delivered quickly and at a fraction of the cost, and provide extra connectivity between Crossrail and the Thames Gateway.

River Services Upstream of Westminster

River transport is growing apace between Westminster and the Thames Barrier as regular new services, and the development of piers attract increasing numbers of passengers.

Sadly it is a different story upstream of Westminster Bridge. Apart from the sponsored “Tate to Tate” service between the two Tate art galleries, there is a skeleton service of three boats from Putney Pier during the morning rush hour and three returning in the evening. These single-hull boats are much slower than the catamarans operating in the lower reaches: the journey from Putney to Blackfriars takes about 45 minutes with stops at Wandsworth Riverside Quarter, a new pier built by a developer, Chelsea Harbour, Cadogan Pier and Embankment. Also, the timetable of links to the Thames Clippers services from Blackfriars is still far from perfect.

Yet there is a growing population of potential river users in the various developments along the banks of the river between Putney and Vauxhall, including new apartments at Battersea Reach, Plantation Wharf, and Imperial Wharf, and the von Essen Hotel Verta by Battersea Heliport. TfL, which oversees the river services, maintains that only the development of the Battersea Power Station site and its existing pier will realise the true potential of transport to the upstream reaches. But the power station developers, Real Estate Opportunities/Treasury Holdings, are unlikely to complete the redevelopment before 2015 and apartment dwellers in Battersea Reach are growing understandably impatient.

The developers in that part of the river appear willing to share the construction costs of new piers and this should be encouraged in line with the mayor’s stated aim to increase river transport. Such a project would also need goodwill and advice from the Port of London Authority, which oversees dredging requirements and controls the legal status of piers.

Richard Tracey AM

In West London, too, population growth has stimulated demand for transport. Further increases are anticipated, albeit at lower levels than in the east. In contrast to Docklands and Greenwich, however, there has been no investment whatever in the capacity of west London’s radial rail network for at least 50 years.

The result is that the Borough of Hammersmith & Fulham has the most congested roads in London, according to Transport for London studies, with delays of 7.6 million minutes per kilometre a year. The Borough of Wandsworth is the fifth most congested in London, with delays of 6.26 million minutes per kilometre a year.⁶

⁵ London Assembly answers October 2008

⁶ Transport for London Network and Performance Research Team, technical note 3 (April 2006), table 3, page 5

Putney, in Wandsworth, is also identified by the London Assembly as an important pinch-point in the rail network where significant overcrowding occurs.⁷ These are precisely the areas for which we advocate providing a new West London riverbus.

The Invisible River

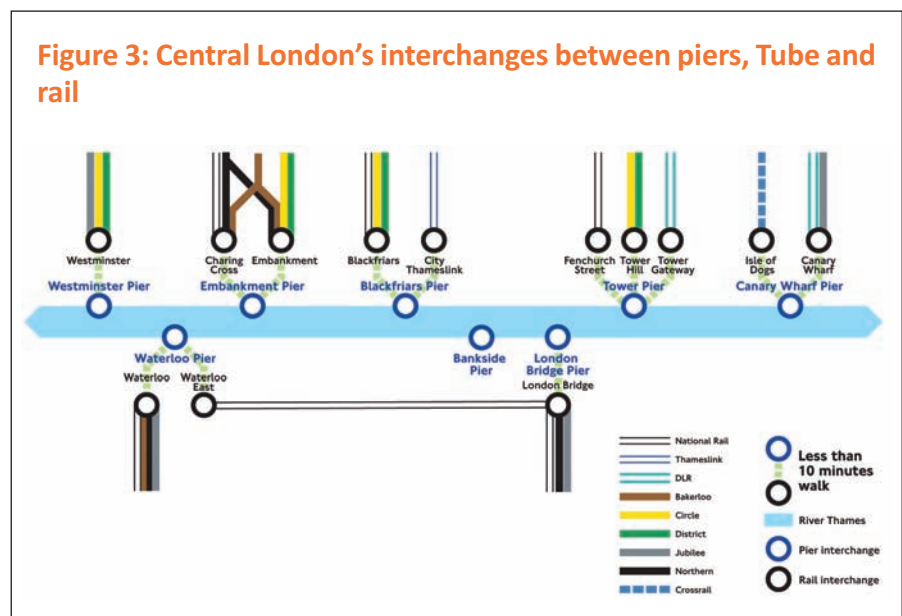
On the transport canvas of London, the riverbus and its stops are virtually invisible. The route does not appear on the Tube map, or any other widely available transport map. If you are looking for a Tube station, it is easy to find. Signposts point the way. Giant Underground logos, large notices and big blue canopies announce its presence.

But there is almost nothing at, for instance, Woolwich pier to suggest that any service operates from it at all. If you get close enough, you find a small-print poster showing the timetable. But there are no logos, no big signs, nothing to tell the passer-by that this is a transport terminal.

Even in the Royal Arsenal riverside development by Woolwich Pier, only 12 out of 20 residents canvassed knew that the service ran frequently and where it went. In Woolwich town centre, there are no signposts to the pier. Only five of 20 passers-by were aware that any river service existed at all to their part of town. Not one knew how often it ran or where it went.

Woolwich shares a characteristic of most other piers on the river: almost all are within easy walking distance of the places they serve, and the other transport links to those places, yet are hidden from them. Interchange is an essential part of most Londoners’ travelling lives. But interchange with the river is difficult and discouraging for the uninitiated. As Figure 3 shows, there is a good network already in place if only people were aware of it. Some of the piers – Westminster, Embankment, Blackfriars and London Bridge – are right next to the connecting station, while others are a short walk. Drawing the dots between piers and other modes of transport is essential to delivering better services – and virtually cost-free.

Figure 3: Central London’s interchanges between piers, Tube and rail



⁷ Greater London Assembly Transport Committee (2009) “The big squeeze: rail overcrowding in London”

At Waterloo Station, there are 43 signs to the Underground and buses – but only one, at a far end of the terminal, to the nearby pier. At London Bridge, it takes just two-and-a-half minutes to walk from your National Rail train to the pier – exactly the same as it takes to reach the Underground platforms. But though, unusually, there is good signposting from inside the station itself, it directs you to what looks like the wrong place – the entrance to an office block called the Cottons Centre.

The pier is the other side of this building and there is in fact a public right of way through the foyer. But the Cottons Centre refuses to signpost it. Most people, reluctant to enter what seems like the reception area of a private office, end up wandering about, trying to find some way around the office buildings that block the river off from the station.

Information

Most London travellers have little idea about how or where to access river services, or where to find the information necessary. London River Services publishes *A Guide to River Thames Boat Services* twice a year, which sets out timetables for all leisure and commuter passenger services, but is really designed for the user who has already discovered the river and knows what to look for. One of the Thames concordat working groups is looking at how to improve and co-ordinate such information.⁸

One obvious improvement would be to show the connections between the river, its piers and the Tube network. TfL and the London Development Agency must take the lead in providing better mapping and information.

Cynthia Grant

Ticket Confusion

All too often, when you finally find the pier, the confusion only gets worse. At any Tube station, copious signage leaves little doubt about where to buy your ticket and which platform to use. But at Greenwich Pier, the would-be river passenger is confronted by no fewer than four separate ticket offices, all operated by different companies offering very different services.

The chaotic ticketing is symptomatic of the riverbus's greatest single problem: its almost total isolation from the fully integrated fare and ticket structure that covers every other public transport service in London.

As you gaze at the ticket offices, it is far from clear which is the fast commuter service and which the hour-long sightseeing trip with full commentary. At Greenwich, travellers who clearly wanted the commuter boats were witnessed being intercepted by sightseeing company staff and shepherded onto the rival, slower service. Those people will probably not use the river again. At Embankment, eastbound boats are marked "Waterloo" which makes little sense until you realise they are on a loop. Where tourist and commuter flows interact they sometimes conflict, with commuters in a rush held up by tourists taking their time.

⁸ Pier owners, boat operators, borough councils and TfL have signed up to a river Concordat led by the mayor which commits them to work together to improve ticketing, piers and passenger information

Legible London

Legible London is a new signage system that could become as recognisable a landmark as the red telephone box or Routemaster bus. Originally proposed by Central London Partnership, a public-private initiative to improve competitiveness and the quality of life in the capital, it has been several years in the making. The signage is being tried out in Covent Garden, on the South Bank and around the West End.

The purpose of Legible London is to place street markers and wayfinders at a large number of strategic locations to show pedestrians that they do not need to rely on the Tube and bus for short journeys. Legible London signs could be introduced in the vicinity of piers making it much easier for casual boat users to locate piers at very little expense. The net effect could be to declutter the riverside by removing existing superfluous and confusing signs.

Figure 4: Legible London sign



Another way to improve the visibility of piers is to use some universally recognisable flag, banner, or landside gateway to advertise their position. At present many piers, such as Blackfriars, are all but invisible to the pedestrian, especially at low tide. A colourful and well designed entrance, which can also make clear whether leisure or commuter services operate from a pier, would be extremely helpful.

One of the Thames concordat working groups has reviewed the signage to and from 23 piers along the river; in its submission at the end of the year the group will recommend that this work should continue and become the responsibility of TfL's rivers team.

Cynthia Grant

Slow Boat

When you finally make it on board, the trip may start speedily enough. But after leaving Greenwich, almost at once, the boat must ease down briefly to 12 knots (13.8 mph) first for Piper's Wharf, a boatyard, then for a canoe club and then to pass Convoy's Wharf, where a few boats are tied up. The Port of London Authority (PLA), which controls navigation on the river, is worried that they may be rocked by the wash from our high-speed passage.

At Woolwich Pier itself, the PLA has refused to remove a set of buoys left over from the days before the pier was installed, which means that the boats all have to waste time backing in.

Between Woolwich and the O2, the Environment Agency performs a test closure of the Thames Barrier once a month from 8am to 10am, the middle of the morning rush hour, meaning that most of the peak services from Woolwich have to be suspended that day.

At Wapping comes a much longer speed restriction. The PLA has imposed an easedown of 12 knots for the whole of the rest of our journey to Waterloo, a

distance of more than three miles. The easedowns were introduced two years ago after a new houseboat community was opened on the north bank at Wapping, and the PLA feared that wash from the clippers would rock the boats. The electoral roll shows that this houseboat development contains 23 voters.

“What does us is the easedowns,” says Thames Clippers captain John Abbotson. “It’s like watching paint dry, this speed. If we didn’t have to ease down we could do the full trip [Woolwich-Waterloo] in 40 minutes.” It currently takes 59 minutes.

Pier Pressure

Perhaps the most important physical factor that restricts riverbus operations – and stifles their potential for growth – is delays at stops, principally caused by lack of pier capacity. Even on the current 20-minute frequency, boats sometimes have to wait a few minutes for a berth to become free. Lack of space often prevents the boats from using more than a single point to unload, and then load, their passengers. The boats carry up to 220 passengers. At most of the busier stops, dozens of people must disembark in single file through a sole exit, before equally large numbers of people can board, also single-file. Greenwich appears to be the only stop where, throughout the day, passengers can simultaneously get on or off.

In another example of the difficulty of co-ordination on the river, the piers between Woolwich and Waterloo are owned by no fewer than seven different bodies – TfL, two local authorities, two private developers, the Port of London Authority and the canal operator British Waterways.

To further confuse the picture, different parts of some piers are owned or managed by different people. At Greenwich, for instance, the pier promenade is owned by the PLA while the pontoon is TfL territory; others are managed by TfL, but not wholly owned by it. Although there may be staff from up to six different organisations, including boat operators, at any one pier, few actually help people to use river services.

There is no hanging around by the crews of the boats. The engines are kept running at each stop and they leave as soon as the last passenger is aboard. There are often hold ups because of pier congestion caused by different operators not adhering to the schedule or overstaying their berthing slot times. To keep services operating reliably this report recommends expanding and upgrading piers to increase capacity while giving piermasters the power to enforce schedules.

Where River Is Faster

The clearest indication of the vast potential of the Thames is that even despite all these handicaps, some river journey times still beat their fastest equivalents on land – and many others are comparable.

The best comparison journeys tend to be to and from those stops – such as Masthouse Terrace and Greenland – which serve areas poorly connected by other public transport. Greenland Pier, for instance, serves a large area around 15-minutes walk from the nearest Tube station, Canada Water. Journeys between places which do have convenient stations, but which involve a change of train en route – such as Greenwich-Blackfriars – are also quicker by river.

Table 1: Comparison journey times (station to station or pier to pier, in minutes)

	Journey details	Train/Tube/DLR	River
Canary Wharf to			
The City	DLR to bank, boat to Tower	12	9
Embankment	DLR and Tube	25	24
Greenwich	DLR to Cutty Sark	10	10
London Bridge	Jubilee Line	8	10
Greenwich to			
Woolwich	Overground Rail	14	15
City	DLR to bank, boat to Tower	22	19
Embankment	Overground Rail to Charing Cross	18	34

The river also offers similar journey times between some places which do have convenient and direct parallel rail services. The riverbus travelling time from Greenwich Pier to the City (Tower Pier) is 22 minutes, exactly the same as the travelling time by DLR from Cutty Sark to its City terminus at Bank. Tower Pier is less convenient for most of the City than Bank station, but that is made up for in many cases by the time saved in not having to get from Underground platforms to the street.

There is a fast Jubilee Line Tube service between Canary Wharf and London Bridge. But between the reception area of the 1 Canada Square office tower and the mainline station at London Bridge, actual travelling time in the weekday rush hour (including walking to and from the station platforms/piers at both ends) is only a few minutes longer by riverbus (20 minutes) than by Tube (16 minutes).

The difference is due almost entirely to the fact that the pier is farther away from the centre of Canary Wharf than the Tube station, and takes around four minutes longer to walk to. Once you have reached the pier and boarded the boat, the actual trip time to London Bridge on the non-stop service is only a minute longer than the Tube, even though the Tube is a direct line with no changes.

In the examples above, we have compared only actual travelling times. When average waiting time is included, the advantage of the river erodes because boats are much less frequent than the parallel services on the rest of the transport network (Table 2).

Table 2: Frequencies of river services and the rest of the network – minutes between departures

Route	Peak		Midday		Evening	
	River	Train/Tube	River	Train/Tube	River	Train/Tube
Canary Wharf-London Bridge	10	3	20	5	30	6
O2-London Bridge	20	3	20	5	30	6
Greenwich-London Bridge	20	10	20	10	30	15

Surmounting the Barriers

The barriers to a better service are by no means insurmountable. The lack of enthusiasm at TfL for river services can be addressed by giving LRS adequate resources under a board member tasked with integrating river services into London's transport network.

There are a variety of problems which can be solved with a little determination and even less money. Delivering upgraded and expanded piers is an essential precondition to success. Air traffic control-style management would mean that boats would have to run according to a strict schedule over the length of the river and especially at piers. At present piers have schedules which are rarely adhered to and traffic on the river is almost a free-for-all. Changing this would require an increase in resources for LRS who would be in charge of enforcing it in co-operation with the PLA as well as the leadership and drive to put it in place. Creating conditions whereby leisure and business transport co-exist in their distinct markets will allow both to flourish and leave management of the river as a question of schedules and pier slots, not one of protecting operators from competition.

The river, and the bureaucracies involved in running it, need to change from a can't-do attitude to a can-do one. The key agencies should examine what could be done to enable greater flexibility with the speed limit and what is needed at piers to ensure smooth operation and reliable timekeeping. With the right leadership the river can once again be London's highway.

River Services in Putney

For many residents who live along the south of the Thames in places like Putney, the river is already daily part of life. Whether passing over it on a cramped tube or train to get to work, spending time walking alongside it or even rowing on it from one of the many rowing clubs on Putney embankment, the River Thames is never far from our daily life. But as big a part of our lives as it is, when it comes to using the River Thames to get about in London, there are few opportunities in our great city that are made less of.

Our current river boat services principally serve commuters during the early morning and though they are very popular there is a sense that many more local people might choose to switch their journey from land to water given a higher-frequency service, throughout the day. Whenever the topic is raised with people, the general consensus is certainly that in spite of our valued existing service we are not making the most of what is a wonderful asset right on our doorstep. The river is already an integral part of our local environment in Putney and people feel much more could potentially be done to weave it further into their daily routine. With the riverside housing regeneration that has happened along much of the river from Putney as far as Battersea Park, there is now a critical mass of demand waiting to be tapped into. Getting better river boat services to feed the city is something that many residents have often raised with me as a local MP. It was something I initially looked at because our tube and train services are so overcrowded. There is a real need to look at all ways in which we can make sure our local transport network can meet our demands. It seems only logical to look at using our river better.

If the Battersea Power station site is redeveloped with a pier then we could see even more possibilities created and more demand for river boat services than we already have from local communities living along the river. Critically these new residents and their families may just provide the level of demand for day time travel on the river that can make setting up more extensive services a better opportunity for private investors. It seems that over time, our demand for better services is likely to continue growing.

London's transport infrastructure has a rich heritage, but ultimately, the overwhelming majority is on land. It is time to now see how we can redress the balance.

Justine Greening MP

What Needs to Happen

River services have a huge potential which is not being tapped. There is no drive to promote services or even provide decent information for those who don't already know about the services. The introduction of Oyster pay-as-you-go on the boats is welcome, but is only a small first step. Full integration into Travelcards and season tickets across the TfL network would unleash the potential of the river, as well as giving TfL an interest in making the most of it.

TfL should be given responsibility for leading the development, integration and promotion of river services. This requires leadership from the mayor but also needs a dedicated member of TfL's board with sufficient political clout to overcome institutional inertia. TfL should be in control of Central London piers – and own as many as possible – to enable better traffic management as well as upgrading and extending the key piers. While it will probably not be able to buy all of the key piers currently in private hands, such as Canary Wharf, agreement with those owners who will not sell should be reached to manage schedules and access to the piers. A concerted effort should be made to improve information about services and, crucially, make piers more visible.

The speed limit should be constantly reviewed and any other options for managing safety should be prioritised. Air traffic control-style traffic management and sensitive scheduling would reduce congestion at key times, enabling the speed limit to be flexible.

2

The History of Transport on the Thames

Andrew Gilligan

On the face of it, the history of Thames commuter riverbus services is one of repeated and complete failure. Since 1900, at least 11 separate riverbus services have been launched, with vessels ranging from a fleet of 29 gleaming 130ft steamers to hovercraft and even three Russian hydrofoils. All but one of them ended after only a few years. From A P Herbert to John Prescott, from John Gummer to Frank Dobson, generations of politicians have promised further new services which never got started.⁹

But dip below the surface and a far more complicated picture emerges. London's past riverbus services did not fail because they were impracticable. They did not fail for lack of passengers or because they lost huge amounts of money. They carried enormous numbers of passengers and lost very modest amounts of money by the standards of public transport. They failed largely for the lack of political and bureaucratic support, which sometimes verged on obstruction. This problem remains the biggest hurdle for river services to this day.

The most concerted attempt at a commuter riverbus service was launched by the London County Council (LCC) in June 1905. A fleet of 29 specially built steamers operated a 15-minute, year-round service between Hammersmith and Greenwich – divided, after the first few days, into two separate eastern and western legs. The fare for a journey of up to three miles was just a penny; even the full trip, which took two hours, cost only fivepence. These fares were in most cases much cheaper than the parallel tram and rail services.¹⁰

Despite operational difficulties – mostly fog, far more prevalent then than now – and private competitors putting on a rival ten-minute service, the LCC boats proved hugely popular, carrying 200,000 passengers a week in their first ten months of operation.¹¹ In its first full summer, 1906, the service carried 3,182,612 passengers.¹²

Political Barriers

The real problems were on land. The LCC was controlled by the Progressive Party, allied to the national Liberal Party but also with a strong labour movement and socialist presence; Sidney Webb, co-founder of the Fabian Society, was a Progressive LCC councillor. Under the Progressives, the LCC practised a form of municipal

⁹ Gummer wanted to “see the Thames as a living waterway extending from Teddington to the sea”. Prescott promised to “make the millennium the turning point for the revitalisation of the Thames”. Dobson’s manifesto for the 2000 London mayoral election promised a full, high-frequency riverbus service

¹⁰ Dix F, *Royal River Highway*, David & Charles, 1985, p120

¹¹ *Ibid*

¹² *Ibid*, p129

socialism, taking control of many of the tramways, investing in schools and social services and building the first council estates.

In the run-up to the 1907 LCC elections, the new Municipal Reform Party allied to the Conservatives, seized on the new steamers as a “wedge” issue symbolising Progressive expansionism and extravagance. Frank Dix, historian of the Thames passenger services, describes how the Reform Party “made the failure of the steamboat service to pay its way one of the major points in its campaign... Vans toured the streets carrying tableaux depicting the Progressive Party’s houses falling down and the LCC’s steamers sinking below the waters of the Thames.”¹³ The steamers were, in short, the 1907 equivalents of 2008’s bendy buses, albeit with far less justification.

The Reformers won the 1907 election on a manifesto to abolish the boat service, and duly did so. In any case, the Progressives had already lost their nerve the previous year, raising the fares, axing the winter service and putting the tramways manager in charge, even though the boats were rivals to his trams.

A 2006 report by the London Assembly claimed that the LCC service lost the then colossal sum of “over half a million pounds.”¹⁴ In fact, over its three years of operation, the service’s losses were modest, a total of £73,882 – equivalent to £6.6 million at current prices, or £2.2 million a year.¹⁵ The entire LCC riverbus service also lost about the same each year as the LCC’s other, much more limited river operation, the Woolwich Ferry, over which there was never any controversy at all.¹⁶

No Boats on the River

This debacle pretty much settled things for the next 40 years, although there was a flurry of activity in the mid-Thirties following A P Herbert’s much discussed book, *No Boats on the River*. The Minister of Transport, Oliver Stanley, ordered a full-scale public inquiry, but the carefully worked-out and costed proposals – for a 50-boat service running up to every four minutes in rush hours – came to nothing. It would have required a small subsidy, which was not forthcoming, and the newly formed London Transport was not interested in a service which it saw as a rival to its buses and Tube trains.

The Blitz brought London the only riverbus service in its history provided by London Transport. Using hired boats and LT bus conductors to collect fares, it operated between Central London and Woolwich for six weeks in 1940 when parallel rail and tramways were bombed, although it too was twice interrupted by mines.¹⁷

The immediate postwar decade witnessed the second attempt to revive the river. From 1948 onwards a private company, R G Odell, ran 150-seater boats on a 30-minute service from Kew to Greenwich. At a time when integration between modes was almost unknown, riverbus tickets could also be used on suburban BR trains.

Thanks partly to this and to a general rise in demand for transport, huge numbers were carried in the postwar years. 1951, the year of the Festival of Britain, set what is still the record for Thames public transport services. In the six good weather months of 1951 alone, 5,114,393 passengers sailed to the Festival site on the South Bank and a further 2,135,718 were carried on the regular waterbus.¹⁸ The following year, R G Odell received the OBE for services to transport on the Thames.

¹³ Ibid, pp127-8

¹⁴ Greater London Assembly (2006) “London’s forgotten highway”, p4

¹⁵ Dix op cit, p29

¹⁶ The Woolwich Ferry lost £67,202 over the same period

¹⁷ Graves C, “London Transport Carried On”, London Passenger Transport Board, 1947

¹⁸ Dix F, op cit, pp167-8

True to form, however, London Transport and the Port of London Authority continued to obstruct matters; tickets could not be used across boats and other LT services, and the PLA refused to allow passengers onto the piers until the boats had tied up, meaning that loading took far longer than it should.¹⁹ Odell's service was initially profitable. But like many bus and rail services in the 1950s and early 60s, it was felled by rising car ownership. Modest subsidies could have kept it going, but were not forthcoming and the service ended in 1962. It remains the longest-lived Thames commuter operation to date.

Interestingly, throughout the first seven decades of the 20th century, one argument against riverbuses was rarely heard: lack of capacity on the river – though the Thames was, of course, far busier then than it is now, and there were none of today's advanced electronic navigation aids. Even though the river from the Port of London to Woolwich was thick with commercial traffic, Dix records no significant accidents involving the 20th-century passenger services.

Riverbus

The 1970s saw repeated attempts by private companies at services using hydrofoils, hovercraft and catamarans, none lasting more than a year or two, all falling victim to the increasing dereliction of the eastern Thames as the London Docks closed. The area's rebirth as Docklands in 1981 seemed to offer new hope, but initially this was misplaced. Surprisingly for an area surrounded on three sides by water, policymakers' entire focus was on new roads and the proposed Docklands Light Railway. The main initial transport study by the London Docklands Development Corporation (LDDC), London Transport and Ken Livingstone's Greater London Council did not make a single mention of river services.²⁰

In 1988, with little official encouragement apart from the support of the LDDC and an Enterprise Allowance grant, a group of private entrepreneurs set up the Thames Line (later branded RiverBus) service, operating up to 11 fast 62-seat boats between Canary Wharf, central London and Chelsea Harbour at 15-20 minute intervals. It was subsidised, not by London Regional Transport (LRT, as London Transport had been renamed), but by four Docklands property developers.²¹

By 1992, it attracted 750,000 passengers a year, but the recession drove traffic away and put several of the developers out of business. RiverBus repeatedly sought alternative finance from LRT and asked to be brought within the Travelcard scheme, but was refused.²² It finally collapsed in 1993 with losses of £2.5 million in its last full year, relatively small by comparison with almost any other form of public transport.²³ Indeed, this is smaller than the subsidy many bus routes enjoy.

RiverBus had a number of drawbacks. Its pier at Canary Wharf (whose remains, complete with branding, are still visible) was at Cuba Street, much less convenient than the current pier and in the wrong direction for central London. Its boats were too small to make the most of peak-hour demand and its fares were about double the DLR's (heavily-subsidised) prices. Above all, however, Docklands had not yet reached critical mass. Although the main Canary Wharf tower was up, it stood mostly empty and had yet to be joined by the cluster of other blocks which now surround it.

¹⁹ Dix F, *op cit*, p165

²⁰ "Public transport provision for Docklands: summary of the assessment of the options", Report of the Docklands Public Transport and Access Steering Group, LDDC, 1982; from www.lddc-history.org.uk/other/1982transport-report.pdf

²¹ Later the Department of the Environment also chipped in £500,000

²² "Starting From Scratch – the Development of Transport in London Docklands", Chapter 9: Riverbus; LDDC Transport Monograph, 1997; www.lddc-history.org.uk/transport/transportmon3.html#Riverbus

²³ Low V, "All hands to save the RiverBus", *Evening Standard*, 11th January 1993

Recent Development of River Services

The revival of river operations in recent years was as a result of the interest in river transport for the millennium celebrations, and the creation of new piers and services to take visitors to the Millennium Dome in 2000. This initiative was supported by the injection of Lottery money through the Millennium Commission for the construction and improvement of piers, and by major private sector investment from boat operators, in particular City Cruises. New piers were created at Waterloo for the London Eye, and at the Dome, and substantial improvements were made to piers at Blackfriars, Embankment and Westminster.

In the eight years since the end of the millennium celebrations there has been change and growth in the use of the river for transport mainly as a result of large-scale riverside development, which started with Docklands and has continued with residential and employment development all along the Thames.

During 2005 several other factors combined to raise the profile of river transport. Anschutz Entertainment Group (AEG), the operators of the O2, acquired the leading commuter river services operator, Thames Clippers, and ordered six new fast catamarans, which were delivered in 2007. These have been used to drive the growth of services operated by Thames Clippers.

On Saturday 8th August 2009, a typical summer Saturday, over 35,000 passengers used the river to travel to the O2 at North Greenwich – a much higher number than any recent forecasts have considered possible.²⁴ Interestingly on August Bank Holiday 1906 the London County Council's riverbus service carried 80,000 passengers in a day – so it has been done before.²⁵

Since 2000 passenger numbers on scheduled public transport river services have risen from around half a million to four million a year. If the proposals in this report were to be implemented, the annual passenger traffic on the river could increase much more in the coming decades. The challenge is to make these services financially viable through correct pricing, route design and marketing, with full integration with other transport, and providing a subsidy to certain routes where necessary, thus providing maximum benefit to London.

Cynthia Grant

Sean Collins, managing director of Thames Clippers catamarans, admits that when he started his service in 1999, TfL and the PLA “thought it would be just another failed riverbus.”²⁶ Yet Thames Clippers may actually show how history is changing. Aided by the vast increase in riverside population and jobs – above all, at Canary Wharf and the O2 – Thames Clippers has already lasted much longer than any other river commuter service in London's modern history other than Odell's. And unlike that service at the ten-year mark, it is still growing. In 2009 it is expected to carry 3.1 million passengers, more than any Thames commuter service in all but two of the previous hundred years.

It has benefited from a network of five new or improved piers installed between 1999 and 2003 to mark the millennium (at Tower, Blackfriars, Embankment, Waterloo and Millbank). This shows the power of public investment in piers to leverage private investment in boats, with the result that there is an excellent service on course to break even this year.

²⁴ Thames Clippers' data

²⁵ Herbert A P, *No Boats on the River*, Methuen, 1933

²⁶ Interview with the author, summer 2009

3

River Services in Other Cities

Neil O'Brien

If the history of transport on the Thames is not illustrious, international comparisons suggest that delivering river services is eminently possible. If well-integrated river services can be delivered in Hamburg and Brisbane why not in London? What key lessons can be drawn from other experiences of river transport?

Brisbane

Brisbane is famously the place where the scriptwriters of the soap opera *Neighbours* send any character they want to kill off. But though this Australian city may be a graveyard of youthful acting careers, it is the birthplace of the modern fast river ferry.

As part of its case against increasing the use of the Thames, TfL claims that “successful water transport is usually found in harbours,” while linear river services are “more challenging” given their “low passenger loadings.”²⁷

In fact, high-frequency linear river commuter services exist in many cities including Hamburg, Paris, Rome, Amsterdam, Chicago, Cairo, Dubai, Bangkok, Manila, Tokyo, and Sydney (which has a service up the Parramatta River in addition to its cross-harbour ferries). There are also high-frequency linear services on lakes or channels in Zurich, Geneva and Stockholm, among others. Some of these services offer important lessons for London and will be described in detail later in this chapter.

However, it is Brisbane which provides the clearest model. This congested city with little recent tradition of river use has established a long-distance, high-speed linear riverbus service, fully integrated into the rest of the transport network, which quickly achieved impressive passenger volumes and market share.

There are many similarities between London's Thames Clippers service and the CityCat operation in Brisbane. Both use similar catamaran-type vessels; indeed, some of the boats used by Thames Clippers were built in Brisbane.

Like London, Brisbane has experienced substantial employment and population growth in recent years, placing severe strain on the transport network: the population of the municipal area grew by more than 12% between 2001 and 2007.²⁸ Like London, Brisbane has a developed, electrified rail network and an extensive bus service, but also suffers severe traffic congestion.

Like the Thames, the Brisbane River does not run a particularly straight course and is not the most direct route between several of the places it serves. Brisbane's

27 “River services overview”, briefing by the TfL Commissioner's Policy Unit, January 2009

28 Brisbane City Council annual report 2007-08, p5

current water service began in 1996, just three years before London's. The two cities have almost the same number of boats (Brisbane 14, London 13) and a route of similar length (Brisbane 11.8 miles, London 11.25 miles).

Nevertheless Brisbane's service has won a far greater market share than London's. Brisbane's population of 1 million is less than a seventh of London. But the CityCats carried 6.1 million passengers in 2007-08,²⁹ more than twice as many as the Thames Clippers service, even though the boats themselves are smaller, with a capacity of 149-162 people against most of the Clippers' capacity of 220.

If the conventional linear ferry, which is also part of Brisbane's regular transport network and serves the city centre, is included, the total number of passengers carried was seven million – 5.1% of the total public transport market

and more than a tenth of the total passenger volume on the buses.³⁰ By comparison, the Thames had a share of London's public transport market of less than 0.1% in 2007-08.³¹

Unlike London's riverbus, the Brisbane CityCat service was established from the start by the local council with

“ Unlike London's riverbus, the Brisbane CityCat service was established from the start by the local council with a clear commitment to both capital and revenue subsidy ”

a clear commitment to both capital and revenue subsidy. Brisbane City Council bought and owns the boats, which cost about A\$3 million (£1.6 million) each, a total of about A\$40 million (£21 million.) The council has also invested about A\$10 million (£5.5 million) in piers.

The service started in 1996 with four vessels, operated by a contractor, and for the first eight years its growth patterns were somewhat like London's: very good but not amounting to a significant presence in the transport market. The turning point came in 2004 when a new contractor, Transdev TSL, took over and, most importantly, the service was fully integrated into the rest of the Brisbane transport network.³²

From July 2004 the boats have joined local buses and rail in a common zonal fare structure. Monthly travel passes for the other modes are also valid on the water. A single ticket takes you, at no extra charge, on to a connecting bus – and 10 of the CityCat's 15 stops have bus connections from the pier.

Almost from the moment the service was integrated, passenger numbers exploded. The new contract with Transdev anticipated a 50% rise in passengers in the seven years to 2011; this was achieved in 18 months. By 2007, there were 78% more passengers than in 2004.³³

The fares are substantially lower than London's. The maximum single fare is A\$2.90 (£1.50), or A\$2.32 (£1.20) with a go card, the Brisbane equivalent of the Oyster – less than a quarter of the London fare. A monthly ticket is A\$92.80 (£47.86) – less than half the London price.³⁴

The service is also more frequent than on the Thames. The CityCat now runs every 15 minutes throughout the working day. At peak hours on the busiest part of the route, intervals between boats are typically seven to eight minutes and can be as little as four minutes.³⁵

None of this would be possible without public subsidy, albeit a modest one. The revenue subsidy from Brisbane taxpayers is A\$12 million (£6.2 million) a

29 Brisbane City Council annual report, 2007-08, p72

30 Buses made 67.6 million journeys in 2007-08, Brisbane City Council annual report 2007-08, p72; suburban rail made 61.7 million journeys, Queensland Rail annual report 2007, p57. The seven million figure for river services does not include the city's two cross-river ferries

31 Total number of non-river public transport trips was 2,774 million, "Travel in London report", Table 2.1, TfL 2009. Total number of river public transport trips was 2.3 million

32 It was originally called MetroLink Queensland, but we have used the current name throughout to avoid confusion

33 "Brisbane Ferries: mid-term status report", Transdev TSL

34 See fare tables on Translink website; www.translink.com.au/go.php#fares

35 See timetables on Translink website; www.translink.com.au/tt_results.php

year out of a total annual subsidy for Brisbane transport of A\$273 million.³⁶ Total public expenditure on the service, boats and infrastructure since it began in 1996 has amounted to around A\$120 million (£61 million), an extremely low figure by the standards of London transport projects (compare to the cost of the Woolwich DLR extension, p57).

The CityCat has seized the public imagination, becoming in the words of Brisbane's Lord Mayor, Campbell Newman, "an iconic part of the city."³⁷ In other urban centres, political candidates compete to promise the greatest number of houses or buses; last year Newman and his Labor opponent vied on how many new CityCat boats they could promise the voters.

More boats are certainly needed to prevent the service becoming a victim of its own success: 83 journeys in September 2007 alone were forced to leave passengers behind and regular queues of up to 100 people are seen at city-centre stops in the evening.³⁸ Passenger growth has tailed off as a result, only rising by 1.5% last year. To restart the upward trajectory, eight new boats are to be put into service and double-decker vessels are being considered. A sale-and-leaseback deal of the existing fleet has just been concluded to finance further expansion.

Are there any practical reasons why London cannot follow a similar course to Brisbane? There are more tourist boats on the Thames than in Brisbane, but other traffic on the Brisbane River is heavier. In a city with high temperatures and year-round sunshine, many residents own and frequently use their own pleasure boats and there are also more unpowered craft (canoes, rowboats etc) than on the inner-city stretch of the Thames. Maritime Safety Queensland, the state regulatory authority, says the city stretches of the Brisbane River are "heavily used by commercial vessels."³⁹

The Brisbane River's tidal range (2.5 metres) is less than that of the Thames (6-7 metres) but, as we discuss in Chapter 8, tidal range is of limited relevance to inner London riverbus operations. Thames piers are more congested than Brisbane ones, but the pier extensions we propose will address this.

It is unlikely that a London riverbus service could attain as much as a 5% market share, since bus, Tube and rail services here are more established than in Brisbane. However, it is clear that substantially more is possible on the Thames than is currently happening.

The difference between Brisbane and London is primarily a matter of political leadership and a small amount of money. Unlike in London, with its tangle of responsible bodies, leadership on the river is vested in the Brisbane City Council. The council has been prepared to subsidise the service and the establishment of fully integrated city transport has been the critical factor.

Hamburg

In Hamburg, perhaps the best European model for London, integration is taken for granted. The HVV, Hamburg's equivalent of TfL, provides three linear routes along the Elbe, numbered in the same sequence as bus routes. The main service, the 62, runs every 15 minutes between 05.15 and 21.15, then half-hourly to 23.45, on a trip making six stops and lasting around 35 minutes.

The main ferry terminal at Landungsbruecken is directly served by three lines of the city's S-bahn (suburban railway) and by the central circular line of the U-bahn

³⁶ Brisbane City Council, "Transport Plan for Brisbane 2002-2016", p53

³⁷ Brisbane City Council annual report, p3

³⁸ *Brisbane Courier-Mail*, 12th December 2007

³⁹ Brisbane River code of conduct, June 2009, from www.msq.qld.gov.au

(Underground), with a bridge link between the station and the ferry terminal. All the ferry piers except one are bus interchanges, with many connections advertised and guaranteed. All tickets are interchangeable across all modes.

In Hamburg, too, sharp growth has been recorded: passenger numbers have more than trebled to 6.4 million a year since 2001.⁴⁰ This is a market share for river transport of just under 1%, less than Brisbane's but still almost ten times London's.⁴¹ However, integration was not the key factor in this growth, since the Hamburg ferries are long-established and have been under common ticketing with the rest of the city since 1928.

The main driver of growth in Hamburg is something that has also happened – to a far greater extent – in London: the development of a new waterside quarter, Hafencity, Hamburg's answer to Docklands which includes a new concert hall, corporate offices and tourist attractions. Unlike in London, however, the ferry service was an integral part of the project's transport network. Use of the ferry is expected to expand greatly as the development does.

Other River Services

Bangkok: Intensive, long-established service of local and express boats to 38 stops along the Chao Phraya river, running every 5-20 minutes on four routes. Commercial.

Manila: New service (2007) to 15 stops along Pasig River, every 30 minutes. Government subsidised.

Tokyo: Service Asakusa from Tokyo Bay along the Sumida-gawa river, every 40 minutes. Commercial, integrated.

Dubai: New service (2007) along Dubai Creek, eight stops, every 15-30 minutes on five routes. Government subsidised.

Cairo: Long-established service along the Nile from Maspero to five stops, every 15 minutes. Commercial, not integrated.

Sydney: Half-hourly service to 12 stops along Parramatta River. Government subsidised, integrated.

Rome: New service (2003) along the Tevere river. Seasonal, not integrated, targeted at tourists.

Amsterdam: Connexion waterbus to destinations beyond the city, some quite long distance. Subsidised, integrated.

Other Cities

Other major European transport operators are starting to interest themselves in linear river services, and are taking a strikingly different tack to TfL's hands-off approach in London. In June 2008, the Paris transport authority, RATP, launched Vogeo, the first commuter riverbus on the Seine. It runs a six-mile route serving five simple piers from Gare d'Austerlitz to Maisons-Alfort. Boats run between 07.00 and 20.30, every 15 minutes in peak hours and every 20 minutes outside. It is described as a 30-month experiment.

As in Brisbane and Hamburg, the Paris riverbus is fully integrated into the normal ticketing system. In its first two months it carried an average of 1,000 passengers a day. The set-up cost was €10.5 million (£9.26 million) and the

⁴⁰ "Geschichte der HADAG" and "Unsere Flotte", www.hadag.de

⁴¹ Out of total journeys of 1.95 million a day, 711 million a year, HVV Zahlenspiegel (statistics snapshot), 2007

annual subsidy will be €4.6 million (£4.05 million) – roughly ten times what TfL provides in London.⁴²

America’s urban commuter ferry services, though quite extensive in New York, Boston, San Francisco and Seattle, and fully integrated with their city transport networks, are almost exclusively cross-river or cross-harbour. There is a short all-day commuter riverbus service along the Chicago River, integrated with a local railroad, and some peak-hour only services up the Hudson and East Rivers in New York.

London, therefore, has a unique distinction. It is alone in the Western world in operating a high-frequency, year-round, all-day commuter riverbus in complete isolation from the rest of its transport network, without the day-to-day involvement of its transport authority and with barely any subsidy.

42 Dossier de presse from
www.vogueo.fr/Espace_presse/telecharger/DP_Voguelo_28_06doc.pdf

4

Demand for River Services

Paul Buchanan⁴³

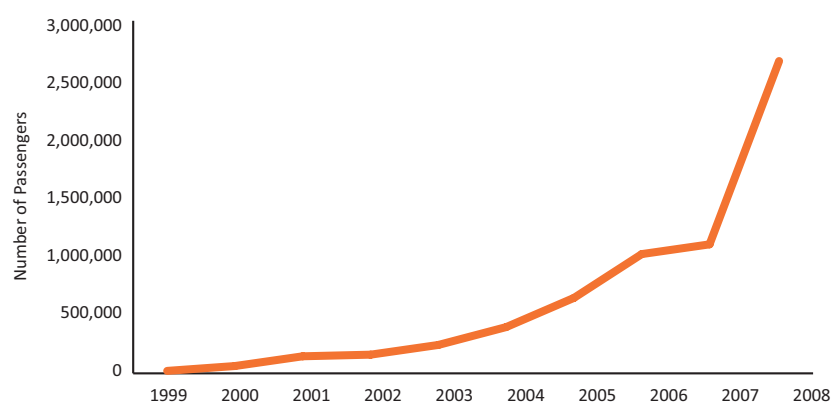
A successful river service cannot be built on dreams and enthusiasm alone. To ensure that the service proposed is viable, it must be based on the potential demand for it.

The history of river services shows that there is potential demand for river transport, with the future plans for residential and business development at Battersea, the Isle of Dogs and in the Thames Gateway offering even more. Transport services exist to satisfy demand for people to get from A to B quickly, efficiently and at reasonable cost. Our estimates in this chapter are cautious and probably conservative. The possibility of a more dramatic development, as in Brisbane, is very exciting, however, this study does not rely on such a change in behaviour – though it would of course be very welcome.

Demand for river services has increased markedly in just the past few years. In 2006 just over 400 commuters used the Thames Clippers express river boat service a day. Such numbers pale into insignificance against the 870,000 daily peak time trips into Central London on the rail and Underground networks, placing the river boats firmly in the “other” category in the reporting of commuter travel. Yet there is evidence that the times are changing.

The Thames Clippers service has recently experienced a surge in demand: passenger numbers more than doubled between 2007 and 2008 – a rise of 140%. Annual patronage is set to break through the three million mark this year.⁴⁴

Figure 5: Annual passengers – Thames Clippers river boat service



43 With Ryan Emmett and Martin Wedderburn

44 Annual passenger boarding numbers and internal predictions supplied by Thames Clippers

Clearly some of this increase has been driven by the opening of the O2 arena in June 2007 and AEG's investment in new boats to transport visitors to it. Yet there has also been a substantial increase in peak-time travel into Central London. By analysing the service changes that have caused this increase in demand, it is possible to forecast the potential for future growth.

Who Are the Current Users?

It is estimated that on weekdays passengers using the Thames Clippers river boat service are broadly equally divided between commuters and leisure users.⁴⁵ Leisure use of this river boat service varies depending on the season and events taking place at the O2 arena, which it serves. Commuter use, on the other hand, is characterised by regular peak-time flows from residential areas to Canary Wharf and Central London. Approximately 3,000 commuters currently use the service in the morning peak.

Two sources of data have been analysed to paint a picture of current commuter passengers: the Canary Wharf employee travel survey and surveys undertaken by the Olympic Delivery Authority as part of its demand forecasting exercise.⁴⁶ Postcode data from both shows where river boat users began their journey in the morning peak. The vast majority of these users walk directly to the pier and are therefore clustered within a ten-minute walking distance (approximately 800m) of the pier.

How Far From the Piers?

Potential users need to be able to access piers and, in cases such as Greenland and Masthouse Terrace, this mainly means on foot (Figure 6). These two areas are residential and not very well connected to the rest of the network at easy walking distance. Having piers within a short walk therefore offers a good alternative to other modes of transport. Developers building new piers should seek to ensure that they are a short walk from as many people as possible, as well as providing interchange with other modes of transport.

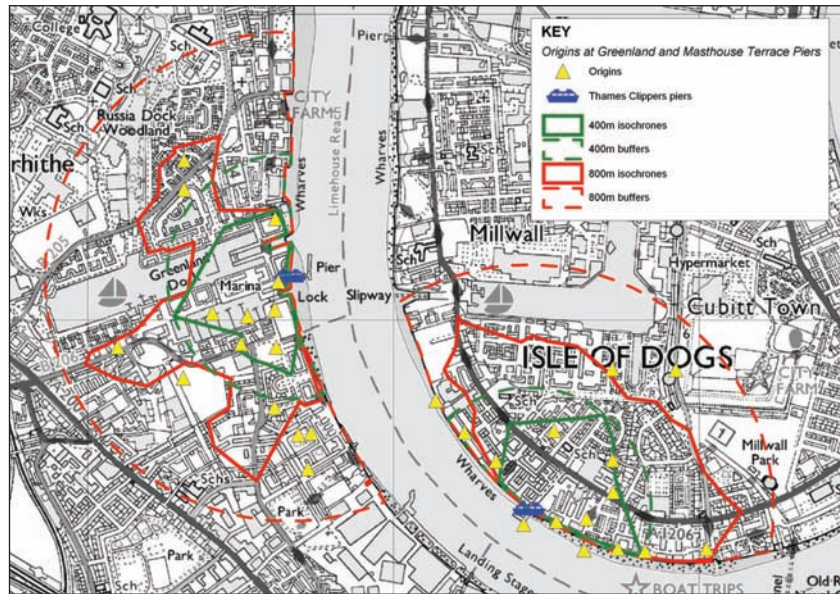
The area from within which people can walk to a destination in a certain time, say five or ten minutes, at an average walking speed is known as an "isochrone." The size of this area depends on the paths and streets available. In Figure 6, the areas within a five-minute (400m) and ten-minute (800m) walking distance were calculated from the actual pedestrian network surrounding Greenland and Masthouse Terrace piers. The isochrone – the line of points from which it takes the same length of time to walk to the pier – is represented by the solid lines in Figure 6. Distances measured as the crow flies are represented by a dotted line to show how different the actual walking distance can be. The "pedshed" value – described as "the basic building block of walkable neighbourhoods" – is the ratio of the area inside the isochrone to the as-the-crow-flies area.⁴⁷ This provides a more realistic assessment of how accessible a pier is than simply presenting population numbers within a certain distance of it.

⁴⁵ Since no recent passenger survey data is available, this figure is derived from an interpretation of passenger origins and destinations throughout a typical weekday

⁴⁶ Canary Wharf Employee Travel Survey, Canary Wharf Group, 2007, data summary available at <http://www.canarywharfenvironmentalandsocialreport.com/transport.aspx>; and "Understanding demand for river passenger services for London 2012", Olympic Delivery Authority, 2007

⁴⁷ University of British Columbia James Taylor Chair in Landscape and Liveable Environments; <http://www.jtc.sala.ubc.ca/annolink.html>

Figure 6: Walking catchment areas to two river boat piers



In Figure 6 the difference between the two piers is clear – Greenland’s pedshed value, 33% at 800m, is significantly lower than for Masthouse Terrace, 52%. This is largely because Greenland has a large dock next to it, making it further to walk to from some parts of its neighbourhood. The pedshed is a very useful measure of pedestrian connectivity and is relevant when assessing the potential market from piers in new developments. If the pedshed ratio is to be desirably high – for example, at least 75% – piers need to be located in areas easily accessible to their wider neighbourhoods. Connectivity to the pier is maximised where the riverside path is continuous, where radial pedestrian routes converge on the pier and where the surrounding developments are designed to be well connected.

In Central London, most commuters walk from the piers to their workplace. However, journey destinations in Central London are much more dispersed than journey origins, suggesting that the walking catchment of the Central London piers is up to a 15-20 minute walking distance. A small proportion of commuters also change on to other types of public transport to complete their journey.

Forecasting Future Demand

Attempts to forecast river boat usage with traditional transport planning tools have been notoriously unreliable. Journey times by river boat for people living close to piers serving Canary Wharf and Central London are often marginally faster or about the same as other modes of public transport. Yet even where the boats are marginally slower they attain a similar share of the commuter market.

The river boat user surveys conducted by the Olympic Delivery Authority found that the three main reasons why commuters choose to travel by boat rather than other forms of public transport are the less stressful journey (36.5%), the convenience of the service (29.5%) and its reliability (14.6%), not the speed of the journey.⁴⁸ Some areas close to the river have relatively poor access to the Underground, DLR and National Rail networks so travelling by boat is a more convenient option. In particular, travel by other public transport

48 Olympic Delivery Authority 2007, op cit

modes can involve changing at least once, as well as more crowded travelling conditions.

Clearly a segment of the total passenger market values convenience, reliability and journey quality very highly and appears to be relatively insensitive to small changes in journey speed or cost.

Understanding Changes in Demand

How can the 140% passenger growth of 2007-2008 be explained? Our analysis revealed a variety of causes. Although the opening of the O2 and the expansion in the number of boats serving it were important, it was changes in fares and improving frequency that stimulated demand the most (Table 3). This is important because frequency and fares can continue to be improved, whereas the O2 opening was a one-off event.

Table 3: Reasons for growth in Thames Clippers' service

Fare changes	30%
Frequency	30%
Opening of the O2	25%
Marketing	20%
Reliability improvement	15%
Background growth	10%
Hours	10%
Total	140%

The Thames Clippers service links some of London's prime growth areas. The list of riverside development sites in East London is lengthy and includes Wood Wharf, Convoy's Wharf, Lea Peninsula, Charlton riverfront, Gallions Reach, Silvertown Quays and Peruvian Wharf. And it should be borne in mind that the remaining phases of the Greenwich Millennium Village alone will boost the total number of homes on the Greenwich peninsula to 10,000.

The growth in population is mirrored by strong growth in jobs predicted for areas adjacent to the river. Even conservative assumptions for the Isle of Dogs suggest a 37% increase between now and 2016, and 76% by 2026. Similarly, total employment in the riverside wards of Central London is set to grow by 22% until 2026. In times of economic uncertainty forecasts may be revised but the growth in both population and jobs is likely to stall only temporarily: the expected increase in commuter demand under our baseline scenario is 150% by 2016.

Table 4: Forecast baseline growth

	Commuters (million)	Leisure users (million)	Total (million)
2009	1.1	2.0	3.1
2016	2.9	2.5	5.4
2026	5.2	3.9	9.1

Although our baseline growth scenario assumes that the number of piers served will remain unchanged, a significant capacity increase would be required to make this growth happen. Our forecasts have assumed that larger boats will not be used and therefore that they will have to run more frequently to provide additional capacity. This in itself would generate additional growth in demand, and it is predicted that a ten-minute service will be needed before 2016.

But this increase in boat capacity also assumes that additional capacity is available at piers. Given that spare pier capacity is currently unavailable at peak times, this clearly implies that both tighter management of docking times and investment in new infrastructure will be required.

Calculating Future Demand

So how can we reliably estimate future demand from river services? The answer, as with all forward projections, is that forecasting the future is difficult and certainty diminishes the farther ahead we look.

Demand at new piers is based on the population living within an 800m walking distance to the pier. In the case of new developments, the potential market share is calculated from predictions of total occupancy living within 800m of the piers. In the absence of predictions of the 800m isochrone from development master plans, a pedshed value of 75% has been assumed. The proportion of these residents commuting to the defined destination zones within the Isle of Dogs and Central London was derived from travel-to-work patterns in the 2001 census. These were then adjusted for the predicted growth in jobs in each zone. We assume as a conservative baseline that boats have an average 20% of mode share within the 800m isochrones of the existing piers.

Changes to frequency of service and fares have been calculated on the basis of estimated elasticities of 0.4 and -1.2 respectively. These estimates are derived from past changes in demand experienced by the operator following changes in fares and frequency of service. Therefore if the frequency of boats doubles from three to six boats an hour, demand is estimated to increase by 40%. Elasticity falls to 0.1 once frequency rises to one boat every ten minutes and is assumed to be negligible for frequencies higher than one boat every five minutes, a “turn-up-and-go” service. Frequency has to grow with demand to accommodate extra passengers; this in turn increases demand, requiring an iterative approach to find the optimum balance.

It is never possible to include all relevant factors when forecasting demand and therefore we have assumed that service reliability, operating hours, speed restrictions and local marketing will not change. The impact of changes to competing public transport services is also not included, although the arrival of Crossrail in 2017 will increase competition from rail for commuters living around Woolwich Arsenal and Canary Wharf.

Our principal goal has been to estimate commuter demand for river boats and therefore leisure demand has not been forecast in detail. Instead we have assumed that it will grow in line with overseas tourist visits to London.⁴⁹ However, future leisure demand will depend on a variety of factors, not least the popularity of the O2 arena and the attractions in Greenwich. Similarly, a variety of product and pricing strategies can be employed to target specific segments of the leisure market, such as partnership with tour buses and/or Greenwich attractions.

49 Future growth in visits extrapolated from “Key Overseas Visitor Statistics”, Visit London 2008; http://www.visitlondonmediacentre.com/images/uploads/London_-_Key_Overseas_Visitor_Statistics_2008.pdf

New Opportunities

Several other market opportunities for the Thames river boat service have been under discussion recently. From November 2009, Thames Clippers services have accepted payment on board by Oyster. Thereafter there will be no technological barrier to incorporating river services into the London Travelcard system. Integration with other modes of public transport, as discussed in Chapter 5, is a key recommendation of this report. From the perspective of a daily river boat commuter, this would deliver a small reduction in the cost of a season ticket but, importantly, it would also eliminate the need to pay additional single fares when using other modes of public transport. From our model we estimate that this change in fare structure would increase total patronage by 16%.

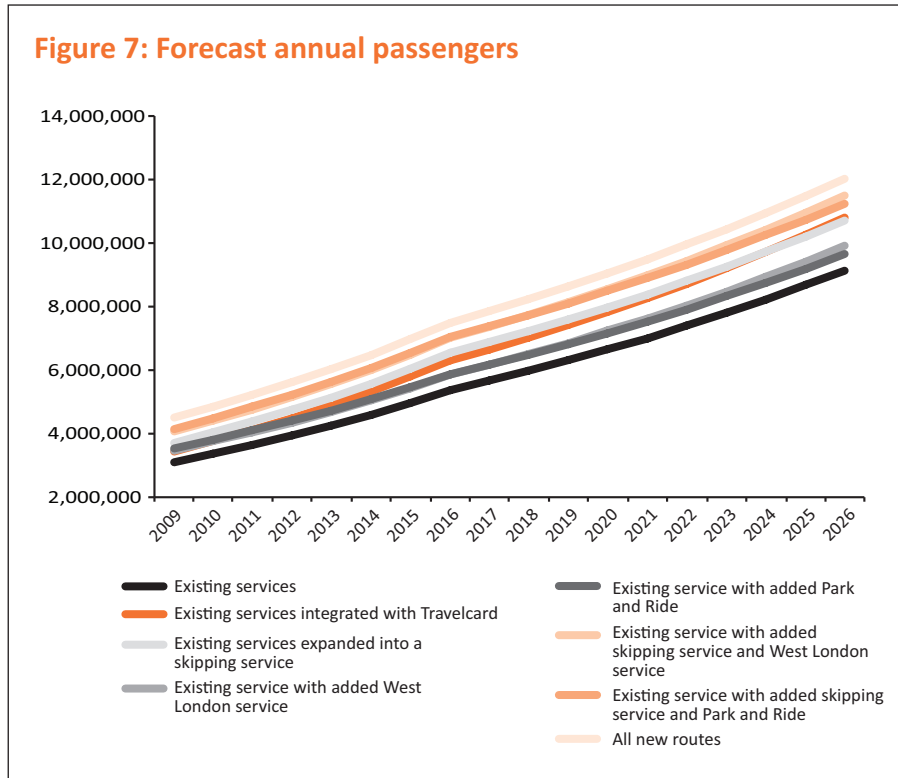
There are a considerable number of potential pier locations in East London. These include both new projects and existing structures that could be converted. In many cases, new developments offer the potential to bring piers into service. Although it may not be possible to bring all the identified piers into operation, a potential increase in patronage of up to 20% is achievable if all boats serve the main hub piers and a “skipping” service serves the smaller piers.

There is also scope to tap into new developments in West London (Chelsea Harbour, Battersea Power Station), while securing a regular timetabled service to Putney. Due to the nature of the bridges, piers and tidal conditions, the choice of vessel is constrained in this section of the river and it is not possible to extend current services westwards. For this reason, forecasts are based on a separate stopping service between Putney and Central London. Demand for such a service is forecast to be in the region of 350,000 passengers per annum. This would relieve Putney, one of the worst pinch-points in the Tube network, as well as serving areas which currently have very poor connectivity, such as Battersea. Options for this service are discussed in Chapter 7.

Another suggestion is to attract passengers from the Thames Gateway region through the provision of park-and-ride piers close to the M25. Varying amounts of parking already exist at commuter rail stations in the area, but growth is clearly constrained by competing demands for space close to transport hubs. By contrast, park-and-ride sites adjacent to the riverside could be established in areas with fewer competing uses and lower land values. These piers would have to offer competitively priced parking spaces and peak-time express services into Canary Wharf and Central London (and some level of service would also be required outside peak hours). The potential market for such services is expected to be in the region of about 400,000 trips annually.

All the models run demonstrate potential demand for river services. Even with no changes to the service, demand will grow, yet with some specific changes and well designed development, it could grow even more. Two simple operational changes – integration into the existing TfL payment structure with Oyster, Travelcards and season tickets, and the introduction of skipping services which improve travelling times by reducing the number of stops on each service – would have an effect even before adding an upgraded and expanded western service and the potential for park-and-ride from the M25.

“ Even with no changes to the service, demand will grow, yet with some specific changes and well designed development, it could grow even more ”



The combined impact of the new services proposed under this model is impressive. Total patronage could quadruple to at least 12 million passengers per annum by 2026. This compares well with, for example, the Waterloo and City line of the London Underground network, which carries 9.6 million passengers annually at present.⁵⁰ Three-quarters of the demand would be from non-leisure users, making it a key part of London’s commuting infrastructure. As an integrated part of the normal transport network, river services clearly have a significant contribution to make.

Table 5: Percentage increases in demand if our recommendations were implemented now

Service	% increase in 2009
Integration with Travelcard, Oyster and Season Tickets	11%
Expansion into skipping service	20%
Adding West London	12%
Adding Park and Ride	14%
Total for All New Services	45%

Previous studies of river services have often underestimated how much demand there is. These services have shown a tendency to create their own demand as the huge surge in Thames Clippers’ service shows. Our forecasts here should therefore be taken as conservative.

⁵⁰ “Waterloo and City Line facts”, TfL; <http://www.tfl.gov.uk/tfl/corporate/modesoftransport/tube/li nefacts/?line=waterloandcity>

5

Business Case for Expanding River Services

Paul Buchanan⁵¹

Introduction

The demand analysis in the previous chapter has shown that there is potential for commuter trips by river boat to quadruple to 12 million a year by 2026. It has taken into account a range of factors that influence the size of the potential market and the willingness of Londoners to switch from other forms of transport to the river. To meet this demand, investment in boats and piers will be required, in particular to manage large flows of passengers at peak times. Is there a sound financial business case for this investment?

The business case this relies on certain assumptions, and growth in river services will doubtless be an evolutionary process, growing with the redevelopment of the parts of the city they will serve. As such, a business case projected over twenty years is subject to significant uncertainty. It may well be that growth exceeds or undershoots the demand projections in different areas, or that some redevelopments come late or early. Part of the benefit of the river as a transport investment is the flexibility involved. As demand grows, so can supply because of the ease of adding new boats or piers. This makes the river unlike tube or rail projects, which can have too much capacity in early years and be unable to grow later on. The river can respond to the changing city in a way many other transport projects cannot.

We now consider the financial viability of providing new river services, routes and destinations, given the potential for growth in demand. The business case compares the costs and revenues of running the additional services which were outlined in the previous section.

This analysis shows that with integration into the network and a subsidy matching that enjoyed by London Buses, river services are financially viable. Even excluding leisure services, with these changes the river can become an integral part of London's transport network without excessive cost.

Costs

Boats

The main costs faced by the river boat services are boats, piers and operating costs. The expansion of existing services will require additional boats both to run more often and to serve more destinations. This is in addition to the extra boats necessary

⁵¹ With Ryan Emmet and Martin Wedderburn

to meet the projected increase in demand from the rise in the riverside population. There is also the cost of replacing existing boats. According to Thames Clippers the average cost of a boat is £3 million and its average service lifetime is roughly 18 years. We have annualised these figures, effectively assuming the boats are leased or bought with a loan.

Table 6 sets out the size of the boat fleet required to run the new services in each of the forecast years. These estimates are of course subject to the growth of the service and the areas being served. Given uncertainty about development, these are maximum estimates, not cast-iron forecasts. These would rely on sufficient demand materialising to make the capital investment worthwhile. The skipping service may well be delivered using fewer boats as some piers will develop larger markets than others, for example, and the below assumes all envisaged piers come to fruition with a ten-minute service. The actual size of the fleet may be less if some areas are served less frequently or are not redeveloped to their maximum potential.

Table 6: Estimated fleet size required for new services

Fleet size required	2009	2016	2026
Existing services	9	19	33
Existing services with change in fares	11	27	44
Existing services plus skipping service	21	43	66
West London service	10	12	19
Park-and-ride	4	4	4
All new services	35	59	89

Operating costs

Rather than attempt to estimate separate costs for staffing, fuel, repair and maintenance of boats for different services, we have applied an average price of £8.40 per boat kilometre as the parameter for estimating operating costs. This is calculated from cost information supplied to us by Thames Clippers and an estimate of the total distance covered each year by all its existing services. By way of comparison, the average cost of running a bus service is roughly £2.50 per vehicle kilometre, while the cost of operating the London Underground is around £35 per train kilometre. River services require more staff and fuel than buses but have much lower infrastructure, maintenance and staff costs than the Underground.

Piers

Chapter 6 goes into the detail of piers, considering what investment is required and where. This report argues that the piers in Central London are of crucial strategic importance for the success of river services and the wider river economy and that the costs of upgrading, extending and expanding piers should be borne by TfL. We estimate that the cost of providing first-class piers for the busiest and most important stretch of the river is between £15 and £30 million.

On the rest of the river financing piers is inevitably going to be developer-led. Section 106 agreements can be used to require that new developments provide a pier.⁵² As the redevelopment of East London’s Docklands and Thames Gateway continues there will be new projects of sufficient scale to justify a pier. The cost

52 Section 106 of the Town and Country Planning Act 1990 allows a local planning authority to enter into a legally-binding agreement or planning obligation with a landowner in association with the granting of planning permission

of these should be borne by the developers. None of the pier costs discussed in this report are intended to be borne by boat operators.

Revenues

Fares

The estimate of revenues is based purely on the number of annual trips multiplied by an average fare split between those paying the current walk-on fare (with the Travelcard discount to £3.35) and those using a monthly season ticket (cost £100). It excludes revenue generated from leisure trips (mostly daytime travel) or from other sources such as advertising. Estimating the impact of incorporating river services into the Travelcard is slightly trickier as Travelcard prices are based on zones and it is uncertain what proportion of the revenue will go to the operator. In the absence of hard data it is assumed that the price effect represents a 33% reduction in the cost of a monthly clipper season ticket, with all revenues going to the operator. This is another area where changes made now will have long-run effects. While current passengers are relatively insensitive to price changes, expanding the service may bring in new passengers who are not so insensitive, while the dynamic effects of integration are inherently unpredictable. The growth of river services will shape and be shaped by the financial performance, which will largely rely on revenues from operation. Fine-tuning these to optimise demand will be crucial as the service grows.

Modelling Revenue from Leisure Services

Modelling revenues from leisure passengers is more complicated than from commuter traffic, hence its exclusion from much of this analysis. The predicted commuter demand is based on growing residential and commercial development which is relatively well understood. Leisure travel is much more seasonal but also depends on external factors such as the O2, Battersea Power Station and even the fire on the Cutty Sark.

The present service roughly breaks even. On commuter traffic only it makes a small loss; leisure travel makes up the gap. What is harder to predict is how leisure travel will grow with an upgraded service. It may well be that, as in Brisbane, making the service better integrated and more frequent will result in a step change which could be of even greater benefit to leisure travellers than commuters.

In the previous chapter leisure customers were forecast to make up around a quarter of passengers. This means that they will provide a substantial revenue stream, especially as they will pay full fares much more often than commuter passengers. On this basis, any service operating at a small loss on commuter numbers would still be breaking even.

Robert McIlveen

Subsidy

Thames Clippers currently receives an operating subsidy from TfL of approximately £370,000 a year which is also incorporated into this analysis and is assumed to remain constant in real terms. This equates to around 14p per passenger this year, which is well below all other public transport subsidy levels in London.

Table 7: Subsidy levels for different modes of transport⁵³

Service	Subsidy per passenger
Bus	33p
Tube	56p
DLR	33p
River – Thames Clippers	14p

The Impact of New Services

Table 8 summarises the results of the outline business case for the new services without a change in subsidy or savings from integration. This is presented as the average annual profit/loss of the first and second ten years of operations in present values. All the operations are projected to be loss-making with the exception of the park-and-ride service.

Table 8: Summary of financial case for first and second ten-year periods, net average annual financial impact (£ million)

Proposed service option	2010-2019	2020-2029
Existing services	-1.6	-2.4
Existing services with change in fares	-3.3	-4.5
Skipping service	-5.5	-4.4
West London service	-6.2	-9.8
Park-and-ride	-0.04	0.3
Skipping service + west London service	-11.7	-14.1
Skipping service + park-and-ride	-5.5	-4.0
All new services	-11.7	-13.8

In terms of the level of loss per passenger the figures range from 10p to £13.73. The analysis shows why the private sector has not sought to develop more extensive commercial river services and why river passenger services will remain a niche operation without intervention similar to that provided for other forms of public transport.

Table 9: Net average annual operating profit/loss per passenger (£)

Proposed service option	2010-2019	2020-2029
Existing services	-0.32	-0.30
Existing services with change in fares	-0.59	-0.48
Skipping service	-0.98	-0.46
West London service	-13.63	-13.73
Park-and-ride	-0.10	0.65
Skipping service + west London service	-1.91	-1.37
Skipping service + park-and-ride	-0.91	-0.41
All new services	-1.78	-1.27

⁵³ Figures for bus, Tube and DLR derived from TfL 2008-09 accounts, as net loss per passenger. This does not reflect all capital costs etc but is a reasonable estimate. "Annual Report and Statement of Accounts", TfL, pp10-11, 117

As with other forms of public transport the requirement to provide a large number of services to cope with high levels of demand in the peak periods which are then not required in the off-peak period is a major factor in the high level of operating deficit.

The West London river service performs particularly badly from a financial point of view. This is mainly due to the new services having only a small impact on journey convenience for many commuters travelling from the west. In addition, operating costs are higher since western services require smaller boats due to the water levels at low tide on this stretch of the Thames. This means more boats are required to carry a smaller number of passengers.

A higher subsidy level

At present Thames Clippers receives around a third of the level of subsidy per passenger carried as is paid to London Buses. This report argues that river services should be integrated with the rest of the network, so raising the subsidy to at least a comparable level to buses would be a logical step. Table 10 summarises the financial impact of increasing the passenger subsidy to the same level as buses.

Table 10: Impact of increasing the per passenger subsidy to 33p, net average annual financial impact (£ million)

Proposed service option	2010-2019	2020-2029
Existing services	-0.4	0.0
Existing services with change in fares	-1.8	-1.7
Skipping service	-3.6	-1.2
West London service	-6.1	-9.5
Park-and-ride	0.1	0.5
Skipping service + west London service	-9.6	-10.7
Skipping service + park-and-ride	-3.5	-0.7
All new services	-9.5	-10.2

Table 11: Impact of increasing the subsidy per passenger to 33p, net average annual operating profit/loss per passenger (£)

Proposed service option	2010-2019	2020-2029
Existing services	-0.07	-0.01
Existing services with change in fares	-0.33	-0.18
Skipping service	-0.65	-0.13
West London service	-13.30	-13.40
Park-and-ride	0.23	0.98
Skipping service + west London service	-1.58	-1.04
Skipping service + park-and-ride	-0.58	-0.08
All new services	-1.45	-0.94

This would support the existing services and park-and-ride and bring other services closer to breaking even. While subsidy alone is not sufficient to deliver a successful, expanded service, as part of a package of changes to how the river is run it will support the growth of river services. In terms of supporting the growth of services a subsidy may well be vital – the example of Woolwich Arsenal pier is instructive. In this case, a significant subsidy in the first year – equivalent to £4.30 per passenger – fell to just 54p per passenger in two years.⁵⁴ Front-loading subsidy as a way to kick-start services may well be the best way to support the development of river services.

The vital role of integration

The full integration of Thames boat services into the Oystercard fares system will have a dramatic effect on the finances of river services. Once passengers can use river services as seamlessly as they can the other modes of transport in London the service becomes much more attractive than when they have to pay cash for the boat then use Oyster for everything else. It would also do away with the need for separate season tickets for river services. There is room for efficiency savings and some economies of scale as the service is expanded with integration, with potentially a more dynamic effect as seen in Brisbane. This makes a big difference to the viability of services, leading to the long-term profitability of most routes. An 18% saving in operating costs from integrating ticketing and other systems would radically improve the financial performance of the service leading in the long term to virtually all routes (except the West London service) being able to be operated on a fully commercial basis. Even West London services, the weakest of those considered, are within range of being made viable with a combination of sponsorship, leisure trips and potential subsidy from developers, especially Battersea Power Station.

Table 12: Operators’ profit/loss after fully integrating services into TfL fares and networks, net average annual financial impact (£ million)

Proposed service option	2010-2019	2020-2029
Existing services	3.7	16.8
Existing services with change in fares	2.0	15.0
Skipping service	-1.2	10.2
West London service	-4.2	-2.4
Park-and-ride	0.4	1.2
Skipping service + west London service	-5.4	7.8
Skipping service + park-and-ride	-0.8	11.4
All new services	-5.0	9.0

The level of subsidy per passenger required to support services till they reach commercial viability is reasonable once the West London service is stripped out and in the long term an extensive network of river services appears to be viable.

⁵⁴ Greater London Assembly (2006) "London's forgotten highway" p17

Table 13: Impact of fully integrating services into TfL fares and networks without upgraded subsidy, net average annual operating profit/loss per passenger (£)

Proposed service option	2010-2019	2020-2029
Existing services	0.72	2.01
Existing services with change in fares	0.33	1.51
Skipping service	-0.27	1.02
West London service	-9.33	-3.48
Park-and-ride	0.82	2.31
Skipping service + west London service	-0.94	0.71
Skipping service + park-and-ride	-0.19	1.08
All new services	-0.82	0.79

Public transport has wider economic benefits. These are not as simple to model as a straight commercial business case, but are potentially significant. The benefits to London's regeneration, in particular in the Thames Gateway could be large, helping to drive the economic development of a historically poor part of the city. Putting a monetary value on this is subject to sufficient uncertainty that we have not attempted to include it in the analysis.

Non-financial benefits also include better quality of life for passengers shifting from other forms of transport to high quality river services. Other travellers would benefit from reduced overcrowding on existing transport services.

Conclusion

Expanding river services to take the increased demand anticipated is financially viable with the right structural changes. With integration into the TfL ticketing structure, costs fall and passenger numbers increase, as happened in Brisbane. The costs to the public purse are small compared to TfL's other projects; the real challenge is making the right changes to ticketing and operations. Subsidy is probably required to support growing services. Given the current low level of subsidy compared to other modes of transport and the relatively small size of the river sector, this should not present an excessive cost to TfL.

Growth in the population provides a robust basis for projecting passenger numbers. It is reasonable to assume that the current trend in growth of the riverside population will continue. On this basis the business case for expanded services from the east looks viable in the long term, but only if the service is fully integrated into the TfL ticketing system. Oyster in particular provides the opportunity for efficiency savings that strengthen the business case. Being part of the TfL network will also provide more stability in service planning and investment, allowing cheaper financing of new and replacement boats. As the redevelopment of the eastern stretches of the river continues, the river can provide flexible, cost-effective transport which grows with the city.

Cost in Context: TfL's Other Projects

The costs of expanding river services to TfL are very small beer in comparison with some of their other projects. For example, the new Docklands Light Railway extension to Woolwich, opened in January 2009, is projected to deliver an extra five million journeys a year at a cost of £180 million.⁵⁵ Quite rightly, nobody questioned the spending of this money on the grounds that it would deliver only the same capacity as a bus route – the argument often used against the much cheaper river services.

Phase 1 of the East London Line upgrade extension, the largest single transport improvement project under construction in London, is projected to deliver an extra 23.8 million journeys a year at a cost of £900 million.⁵⁶ The Croydon Tramlink is carrying 26.5 million passengers a year; it cost £200 million.⁵⁷ These projects, although all welcome, make the Thames a much more attractive project for delivering millions of extra journeys at much lower cost.

Table 14: Cost per extra journey of selected projects excluding operating subsidy

Project	Total Cost to Public	Total Extra Journeys	Cost per Journey
East London Line extension	£900 million	23.8 million	£37
DLR extension to Woolwich	£180 million	5 million	£36
Croydon Tramlink	£200 million	26.5 million	£7.50
River services proposals	£30 million	9 million	£3.33

Andrew Gilligan

55 Transport for London press release "Mayor unveils DLR Woolwich Arsenal station" 12th January 2009

56 House of Commons transport committee third report, session 2005/6

57 Department for Transport (2005) "Light Rail Statistics England – Key Facts"

6

Piers

Cynthia Grant

Most transport infrastructure is expensive, slow to build and difficult to fit into the physical spaces of a historic city. London's river services are the exception. The city grew up on the Thames precisely because of the river's transport advantages. Today the only infrastructure needed to enable river services to flourish is the piers.

Although there is a public right of navigation, use of London's river is effectively rationed through the availability of piers and moorings. Many of the busiest piers are publicly owned and services that use these piers are licensed by London River Services, a subsidiary of Transport for London. Several important piers are in private hands, however, notably London Eye (Waterloo), Canary Wharf and London Bridge. For river services to flourish, Central London's piers need to be upgraded, extended and managed by TfL. At the same time TfL should take responsibility for river services and reduce congestion through air traffic control-style management.

Outside Central London, TfL need not take such a hands-on approach. New piers should be developed as part of the general redevelopment taking place in Docklands and at Battersea. These can be delivered through consistent use of Section 106 agreements in the planning process for new developments.

Future Growth

As the number and frequency of both transport and tourism river services increase, so will the pressure on pier capacity. So far, however, no significant public funds have been budgeted for river infrastructure. The Thames concordat has identified essential pier requirements but this has not yet been transformed into a strategic plan.

Private developers with sites on or close to the Thames are showing increased interest in encouraging river services and developing piers. Berkeley Homes, for example, is providing a subsidy to Thames Clippers to serve its residential development at Woolwich.⁵⁸ As discussed in Chapter 3, the residential population in Thames Gateway is expected to grow faster than any other part of the capital, and there is also considerable residential growth upstream of Westminster.

London's river services cannot grow sufficiently unless the capacity and spread of its piers are vastly improved and extended, a situation which is increasingly recognised.

58 "London's forgotten highway", London Assembly Transport Committee, GLA Oct 2006, p17

Since 2000, when Transport for London and its subsidiary, London River Services, took ownership of a number of important piers, there has been marked progress in improving pier infrastructure after decades of neglect. With money from various sources, including the Millennium Commission, TfL, and the private sector, major changes have been made to Greenwich, Tower, Blackfriars,

“As the millennium celebrations showed, the combination of a fixed deadline and the political imperative to display London at its best can produce huge change over a very short period”

Embankment and Westminster piers. New piers have been built at North Greenwich (QEII Millennium Pier), Bankside, Millbank, and at Waterloo (London Eye Millennium Pier). All of this infrastructure investment has helped to foster the huge growth in river services between 2000 and 2009.

There is still a long way to go. The changes so far have revealed how much unsatisfied demand there is. That the growth in traffic to date has exceeded all forecasts made in 2000 suggests that future growth is also likely to be higher than expected.

The London Olympics in 2012 can provide a further impetus to river transport development. As the millennium celebrations showed, the combination of a fixed deadline and the political imperative to display London at its best can produce huge change over a very short period. Although the original Olympic submission did not make much of the river's role, the ODA has since researched its potential contribution more fully, and wants to ensure adequate infrastructure at locations such as Tower Hill. There is a commitment to improving river infrastructure, not only to provide river services during the Games but also as a long-term legacy.

The Power of Piers

The key to being able to run reliable and efficient scheduled public transport services on the Thames is to ensure that there is sufficient berthing capacity at the Central London piers, and that these piers are rigorously managed. Pier capacity, amenity and quality between Tower and Westminster all need to be increased and improved.

The piers in this stretch of river will continue to see the most demand for both boarding and alighting passengers and for a very quick turnaround of boats, as Central London is going to be the destination of choice for the majority of passenger river trips. If the capacity shortfall of these central piers is not addressed, then it does not matter how good the piers are in the outer reaches of the river, boats will be waiting for berths when they reach the centre and will fall behind their schedule. Given that frequency and reliability are crucial to demand for services, this could be a huge disadvantage if not successfully addressed.

If the owners of piers, whether public authorities or private owners, committed to upgrading and extending them then the private sector boat operators would find it easier to justify investment in new boats and be better placed to raise the finance necessary. In other words, if the public sector orchestrates and supports the delivery of the key piers and manages them effectively, then the private sector can play its part by funding the fleets necessary to operate a higher level of service. This would be a genuine public-private partnership.

Balancing Demand for Pier Access

Demand for pier space must be balanced between the three elements of the market – fast passenger services, leisure/tourist cruises and charter services. Competition between these three elements can lead to conflicts at piers and between operators. For fast passenger services the priority is to minimise the “dwell” time at piers in order to ensure that timetables are strictly met and penalties not incurred. It is therefore crucial that a berth is available on arrival and that passengers can get on and off efficiently.

For the other boats dwell time can be longer and more flexible. Leisure/tourist services operate on a schedule but are more relaxed services designed for enjoyment; passenger boarding and alighting is often slower. Charter services, used for corporate events or private parties have a very different business model that requires them to be in a specific location at a specific time with a longer dwell time, which may be extended to accommodate latecomers.

The main conflicts between these services occur because of extended dwell times so that a berth is still occupied when another vessel arrives. The best solution is to segregate services wherever possible, which has implications for pier size and provision. Possible charter piers include Savoy, Festival, Somerset House or even a new pier at North Greenwich. Where segregation is not possible, rigorous enforcement of scheduled dwell times is necessary which requires TfL to take a strategic management approach.

What To Do with Piers

The piers in the core of Central London are well placed to serve the area’s large labour force. Each needs improving in different ways and there are also a limited number of locations where new piers could be added. Wherever possible, new designs should allow for segregation between scheduled services and charter boats to accommodate the particular needs of each sector. Where this is not possible, there will always be a need for a management regime which encourages boats to follow docking rules and timetables and penalises infractions. Pier masters should be employed, with powers to issue fines or deny operators pier access if necessary, and be backed up by CCTV.

The capital investment necessary would be £15-30 million, a sum which for the most part would have to be borne by the public sector. A new pier and associated waiting facilities can cost anything of the order of £1-5 million once all costs have been included.⁵⁹ A study done for the developers of Battersea Power Station in 2006, a study in which both PLA and TFL participated in, recommended that all the key piers in central London would need to have at least one berth added. Recent pier constructions have ranged from £1 million at Woolwich to £3 million at some of the Central London piers.⁶⁰ Improvement/extension costs can range from £200,000 to £3 million, but the Thames concordat working groups are exploring cheaper options.⁶¹ As discussed in Chapter 7, all the key piers in central London would need at least one extra berth.

TfL is best placed to research and make a business case to justify this investment – and there is an excellent case to be made. If there is also a political imperative to improve river services, it should be possible to find the money to bring a major benefit to London.

59 TfL quote a figure of £4-5 million for the pier at Millbank although this includes excellent facilities

60 “BA London – Millennium Wheel Eye Pier”, http://www.beckettrankine.com/PS/97-030_BALondonEye-MillenniumWheelPier_HQ.pdf and “Royal Arsenal Pier”, http://www.beckettrankine.com/PS/99-038_RoyalArsenalPier_HQ.pdf, Beckett Rankine Partnership

61 “Parkview Ferry Study – River Services for Services Power Station”, Beckett Rankine Partnership, January 2006

The other advantage is that this is something that could be done relatively quickly. With the right approach and drive from TfL and the mayor, several of the Central London piers could be upgraded and improved before 2012, and the remainder by 2015. If the public sector makes this investment in London's river "bus stops", then the private sector will respond by investing in boats and new services.

This analogy reflects what happens on land with bus services. The highway authority locates and maintains the bus stops and bus lanes, and the private sector responds to TfL's request for services by buying and maintaining bus fleets and tendering for service operations. There is no reason why the same model should not work on the river. TfL already licenses service proposals on the Thames, and ensures a balance between different and competing operations and routes. This role could be extended to include forward planning of river route proposals which could be shared with other river interests and tested for navigational implications by the PLA.

Ownership, Management and Traffic Control

In order to ensure the efficient turnaround of boats, so that they can meet their schedules, as many of the Central London piers as possible should be brought under the ownership and/or management of the TfL subsidiary, London River Services. Some, such as Westminster or Embankment pier, are already owned and operated by LRS, whereas others, such as London Bridge City, are in private hands. Buying those piers which the owners are prepared to sell, and reaching agreements for managing the schedules of those piers which can not be bought, is essential for enabling the air traffic control-style traffic and pier management needed to manage traffic on the river.

LRS should also manage the busiest piers outside the central area, such as Canary Wharf and Greenwich. Others may be added to this list as services develop and passenger numbers grow.

Placing LRS in a position to manage all the schedules of boats in Central London would be a powerful way to maximise the existing capacity of the river. Air traffic control-style scheduling and strict implementation of slots at piers will reduce congestion and enable much better services for all companies operating on the river. All piers should be provided with real time information about "next boat" arrival, and in addition it should be possible to make boat schedule information available to mobiles as is being done for outer London bus services.

LRS will need expansion to meet this challenge as it is presently very over-stretched and understaffed.

Some piers need upgrading or extending to enable the full potential of river transport to be met. Where they are operating close to capacity and boats are impeding each other, or where the pier is in poor condition and in need of modernisation, the work could, for little cost, have a large impact. As riverside developments continue, there are also locations where piers could usefully be built.

There are public benefits from TfL investing a relatively small amount of money in upgrading the piers in London. Reduced congestion and better management would produce a more efficient service which could take the strain from other services. Compared to the cost per passenger journey of other projects delivered, this investment is excellent value.

Table 15: Key Piers in need of upgrading, extension or (re)building with costs (excluding design, land and other fees) by 2012

Pier	What needs doing	Pier Improvement cost
Westminster	Extension	£200-250,000
Embankment	Extension	£300-500,000
Savoy	Rebuild	£2 – 5 million
London Eye	Extension	£0.5 – 1 million
Festival	Extension	£300 – 800,000
Somerset House	New	£2.5 – 5 million
Blackfriars	Extension	£300-800,000
London Bridge	Rebuild	£2.5 – 5 million
Tower	Extension	£200 – 800,000
St Katharine's	Upgrade	£100 – 500,000
Total		£9.4 – 20.7 million

London's Piers: Summary

The proposals for the majority of London's piers, existing and proposed have been summarised in a report commissioned by the LDA in 2008.⁶² A working group managed by London River Services is examining its proposals and will make its recommendations to the mayor's Thames concordat at the end of 2009. The list below summarises the issues for the most strategically important piers only:

Tower Millennium Pier was rebuilt and formally opened with its new name in July 2000. It is on the north side of the river just west of Tower Bridge and is owned and managed by LRS. A section of the pier is dedicated for use as a small cruise terminal, and this part of the pier acts as an international point of entry for passengers from cruise ships moored next to *HMS Belfast* or east of Tower Bridge.

Tower Pier is used by both commuter and leisure services and is also available for charter boats. Tower Hill, Tower Gateway, Fenchurch Street, Aldgate and Aldgate East stations are all located within 15-minutes walk.

Tower Pier is currently operating close to capacity. TfL and the Olympic Delivery Authority plan to increase its capacity to serve visitors in 2012. Any extension to Tower Pier would be simpler, and less expensive, if cruise ships and their passengers were relocated to the south bank next to *HMS Belfast*.

St Katharine's Pier is located just to the east of Tower Bridge and is privately owned and managed. Its proximity to Tower Pier means that it could provide a relief role and, without being formally renamed, could be used as "Tower East" when necessary.

Swan Lane Pier is on the north side of the river, to the west of Tower Pier. It is privately owned and managed and is the operational base of a private leisure operator. It is close

⁶² "River Thames Pier Proposals", Scott Wilson

to Cannon Street, Monument and Bank stations, and is very well placed to serve a large catchment in the City. As part of redevelopment proposals for the adjacent property, the City of London Corporation has secured an agreement from the developer that the pier will be acquired when it becomes vacant. The intention is that it should be upgraded to accommodate river passenger services. It would be a highly desirable riverbus stop for scheduled commuter services.

Blackfriars Millennium Pier is located just to the west of Blackfriars Bridge, and is owned and managed by LRS. It is close walking distance from Blackfriars and St Paul's, and has the potential for excellent interchange with Thameslink when it reopens. With Thameslink closed, it is currently served by commuter services from both west and east London in peak hours only.

This pier is very well located to serve a wide catchment in the City. Although it has enough capacity for current operations, when Thameslink reopens there will be all-day demand here and an extension of the pier will be needed.

Signage to this pier is very poor. It is very hard to locate as a pedestrian unless you know exactly where to go, and you have to cross a major junction and very busy roads to access it.

Somerset House has recently carried out a feasibility study to review the potential for a new pier in front of its building, next to the RNLI Lifeboat Pier.⁶³ This new pier could serve both Somerset House and a large catchment in Covent Garden and the Strand area; it has the potential to be an important destination pier for both tourists and commuters.

Embankment Pier is located close to Hungerford Bridge, and is owned and managed by LRS. It is very usefully located adjacent to Embankment station, and several Tube and mainline stations, including Charing Cross, are within a 15-minute walk.

It currently serves both commuter and leisure services and is also a base for a charter operator. Because of these shared uses its capacity is under pressure and some upgrade is needed. This could be provided by the rebuilding of the adjacent pier at **Savoy**, where the use of an existing Bazalgette sewer opening in the river wall should make passenger access easy to design, and acceptable to the planning authority. The current owners of Savoy Pier want to carry out this rebuild.

Westminster Millennium Pier is located just to the east of Westminster Bridge and is owned and managed by LRS. The old pier was replaced and reopened as the Westminster Millennium Pier in 2000. It is used exclusively by leisure operators operating scheduled services and charter boats, although its excellent location and interchange facilities with the Jubilee and District lines mean that it would be very suitable for scheduled public transport services.

Increasing capacity at this pier is problematic because of space and navigational constraints, so management of the use of pier space provides the best opportunity for increased use, but an option for providing a new dedicated berth should also be explored.

63 Unpublished report

London Eye Millennium Pier (Waterloo) was built in 2000, and was designed by architects Marks Barfield, who also designed the London Eye, and Millbank Millennium Pier. It is owned and managed by London Eye (Merlin Entertainment /Tussauds), and the services here are a mixture of scheduled leisure and commuter services, and charter operations. This mix of leisure and commuter services means that the demand at this pier is high and an increase in capacity is needed before 2012.

Signage and information to the pier also need to be improved to strengthen the connection to Waterloo station. There are also opportunities here to provide links to the cycle hire scheme.

Festival Pier (Waterloo East) is located next to the Royal Festival Hall, the Queen Elizabeth Hall, the National Theatre and the Hayward Gallery. It is owned by LRS and has some spare capacity as most scheduled services are using the adjacent London Eye Pier.

Bankside Pier serves both commuter and tourist services, and has a very mixed catchment of office and residential users as well as the large visitor numbers generated by Tate Modern, Oxo Tower and the Globe. With Tate Modern attracting around five million visitors a year, there is enormous potential for increasing the use of this pier. For this reason developers and occupiers of South Bank would like to see a second South Bank pier between Festival and Bankside.

London Bridge City Pier is located by the More London development, next to *HMS Belfast*. It is privately owned and has only recently begun to be an important commuter service pier. It is very well placed to serve a large office and visitor catchment (Borough Market, London Dungeon, Shad Thames and the GLA) and for interchange with National Rail at London Bridge. It has the potential to be an important pier, with very high usage.

The design and layout of the pier – it looks a bit like a floating Chinese restaurant – is not at all suited to meeting this potential, and the berthing space and passenger facilities are in urgent need of improvement. The most satisfactory outcome here would be for TfL to come to an agreement with the current pier owners about the future of the pier, and to rebuild and manage it to accommodate an increased service level. The existing pier could be moved to another location or sold on.

Canary Wharf Pier, which is located on the western side of the Isle of Dogs in an area with a huge office, retail and residential catchment, is owned by the Canary Wharf Group. The pier is served by public transport river services from both east and west, as well as a cross-river shuttle from Southwark. The use of Canary Wharf Pier continues to grow steadily and the berthing facilities need to be expanded. The proposal for a second strategic pier for the Isle of Dogs, located on the eastern side of the peninsula, at **Wood Wharf**, would mean that commuters travelling from the eastern end of the river could have a considerably shorter journey than at present, as they would not have to make the long trip past Greenwich in order to reach Canary Wharf – see route maps in Chapter 7.

7

Routes

Cynthia Grant

Development of piers is crucial to open up capacity on the river and to enable new routes to be established to serve wider reaches of the river with a much improved service. The scheduled public transport routes which are operating on the Thames have developed mainly through the initiative of private operators coupled with the needs of riverside developers, as well as ad hoc opportunities arising from the building of individual piers. They have also been influenced by physical constraints on the river, such as bridge clearances, distance, and speed limits.

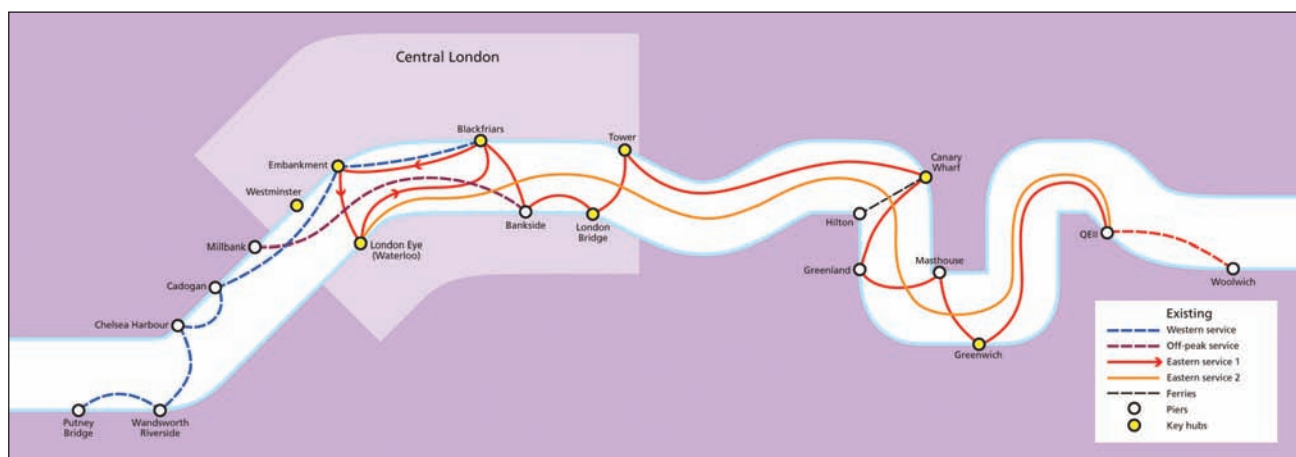
The routes have evolved over time, and remain fluid as they can be amended and changed, subject to negotiation with the licensing organisation, London River Services. They are also very dependent on the boat fleets available, and on the ability of operators to fund new boats when needed, as without a fleet of the appropriate size and quality it is not possible to operate a reliable and frequent scheduled service. The longer the route, the more boats that are needed to operate it.

How Are Routes Decided?

At present no agency undertakes formal planning of routes in the way that happens with bus routes on London's roads. This is partly because routes have been initiated almost entirely by private operators responding to the demands of the market. The exception to this was the Millennium routes for 2000, tendered for on behalf of the Dome. On the strength of winning this tender City Cruises bought several new vessels, a significant investment risk that could not have been justified without the expected business for travel to the Dome.

With no formal planning of future routes, the system works by individual operators taking route suggestions to LRS and negotiating the proposal. LRS seeks to ensure that no new service takes business away from existing services, whether run by a commuter or tourist operator. It also consults with the PLA on any navigational concerns a new service may raise. If LRS is satisfied that the proposal is of value, does not cause commercial problems for other operators, or navigational or pier capacity problems, then it will consider licensing a new service. This approach raises questions regarding the competitive nature of river services – competition should drive up standards and lead to diverse, well focused and marketed services and it is questionable whether LRS should be able to block services because of their impact on other operators.

Figure 8. Existing Services



This system has worked up to now, after a fashion. However, with continuing growth, it would be preferable for TfL to take a proactive lead in planning routes and services, in discussion with the operators as necessary. With a route structure plan for the whole river, and commitment to the improvement of key piers, TfL could consult on plans for new services with all interested parties and ask for tenders. Operators would then be able to justify the expansion and improvement of their fleets. The length of contract that would be necessary to allow such major investment in boats would be about 15 years. TfL would need to consider contracts of this length, with possible break and review clauses at five-year intervals. There would be fierce competition for these routes, so TfL's river team should manage the route procurement process in a similar way to the London Buses team. In addition, it would need a dedicated scheduling and enforcement team to ensure that service schedules were met and that operators were observing good practice and dwell time agreements at piers.

Suggested Routes

The following are by no means the only way to deliver new services, which will depend on how developments proceed, the boat operators' plans and a range of other variables. These route plans are included to illustrate the shape of a future river plan. They have made certain basic assumptions:

1. West and east:

Because of the differing character and bridge constraints on the western and eastern parts of the river, their optimal boat types and boat speeds are likely to be different. The plans show two different but overlapping service patterns, one to the east, and one to the west. In addition there may need to be an operational base at each end of the river to ensure that early morning services could start up efficiently and be close to any staff base, although maintenance should probably be rationalised at a single location.

2. Central Area:

The west and east services are assumed to have some overlap in the Central London core. This area would be the destination for most passengers and the piers would need the capacity for the number of stopping services proposed, with segregation wherever possible between charter, tourist and commuter

services. In order to maximise circulation easily around this core area there should be a one-way anticlockwise loop service calling at all the main piers. This would effectively be a London *vaporetto*, similar to Venice’s iconic service.

3. Limited stops

As discussed in chapters 4 and 5, it is assumed that not all services have to run from one end of a route all the way to the centre, stopping at every pier on the way. It is desirable to minimise the number of stops whenever appropriate, as dwell times and zigzagging routes can make journeys much longer than is desirable. Longer journey times and route lengths also require larger boat fleets, so there is work to be done in providing an optimal balance on all these factors.

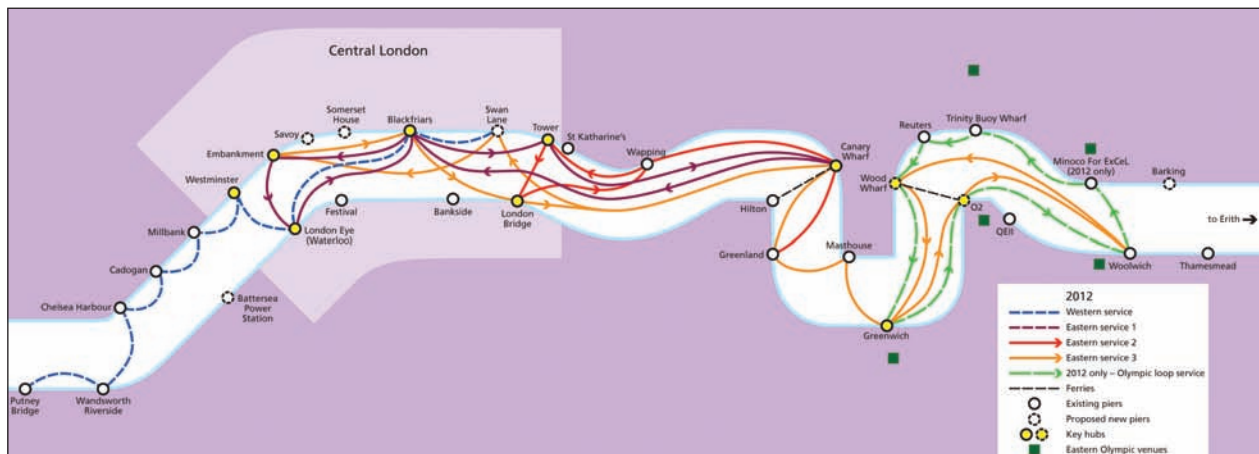
The routes illustrated propose a mixture and variety in the stops served, with the assumption that when absolutely necessary passengers can interchange in the central area to take a final hop on the *vaporetto* to their preferred destination, or use one of London’s bridges or hire bikes to walk or cycle the final leg.

Route Proposal 1. What could be running by 2012?

The routes illustrated for 2012 assume that pier capacity will have been increased at all the key central London piers and that new piers will have been built at important locations. In central London this would include Westminster, London Bridge City, London Eye/Festival, Embankment/Savoy, Blackfriars, and Tower, where in each case one dedicated berth for passenger transport services would need to be added. An additional berth would also be needed at Canary Wharf and at Greenwich. If a new pier were available at Swan Lane by this date that would be a great asset.

In East London new piers are shown at Wood Wharf and Greenwich Peninsular west; the latter could supplement the present QEII pier for scheduled services. It also shows a loop service using piers at a number of other existing East London locations just for the duration of the Olympics. This includes piers at Minoco – for ExCel; Trinity Buoy Wharf, which could have a bridge link to Canning Town interchange by this date; and Reuters, which connects to the DLR.

Figure 9: Proposed Routes for 2012



The services shown are essentially a development of those which are running today, but with the addition of some more limited stop options on the eastern routes and new services to Canary Wharf to coincide with peak demand in morning and evening.

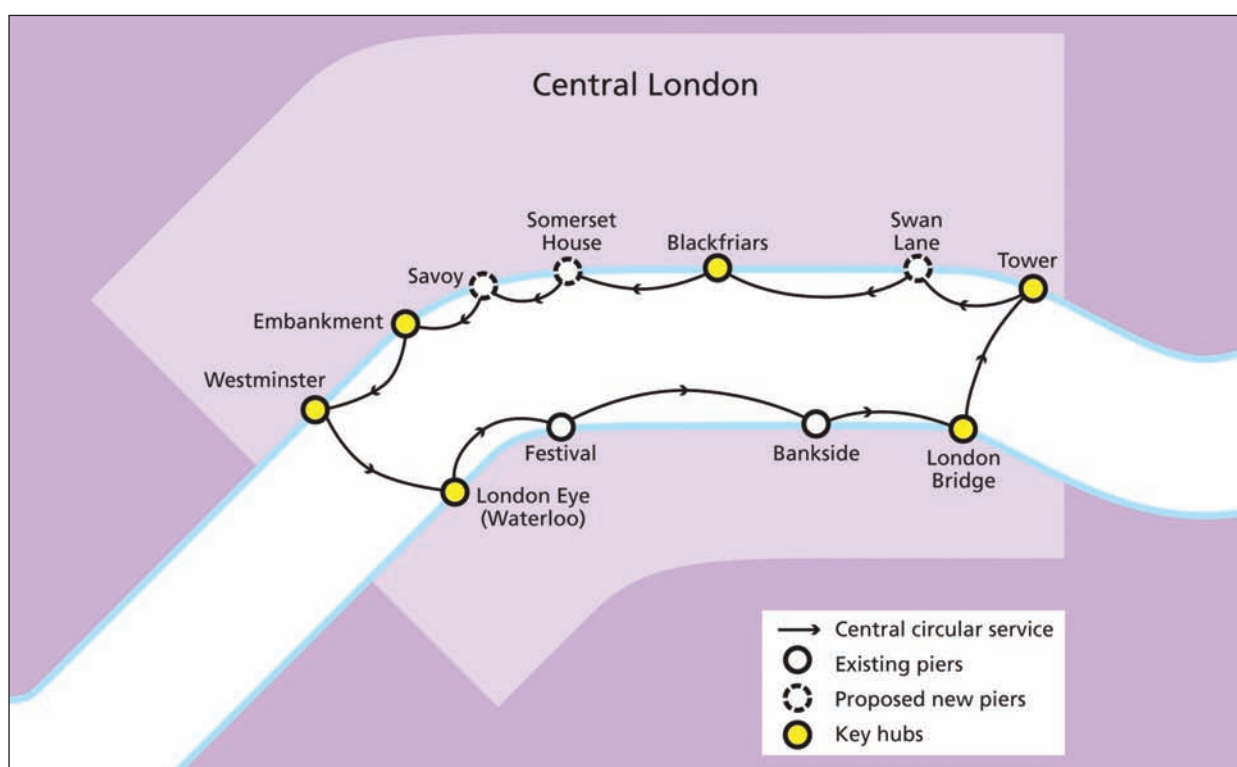
The existing ferry between Hilton Docklands and Canary Wharf could be run more frequently, to better serve a Southwark catchment, and a new ferry linking Wood Wharf, Greenwich Peninsula west and Reuters could provide a valuable interchange and link service.

All of the services shown between Canary Wharf and Central London, and between Putney and Central London should have a minimum 15-minute frequency, so that passengers would feel able to turn up and go without having to rely on timetables. All permanent piers would also have real time information displayed showing next boat arrival times. The average journey time between Woolwich and Canary Wharf would be 30 minutes, between Putney and Waterloo 40 minutes, and between Canary Wharf and Blackfriars 15 minutes

Route Proposal 2: A central London circular service by 2015?

This shows a simple stopping service which would circulate anticlockwise to all central London piers (where capacity permits) on a five-minute frequency, using a small fleet of conventional vessels. They would not need to be high speed boats, but would need to be manoeuvrable. They should also have a low air draft and a shallow water draft so that they would be able to navigate through the outer bridge arches, leaving the centre lanes and arches to the faster services and tourist boats. Limiting the amount of times that these boats would zigzag across the river means that they would create minimal navigational interference.

Figure 10: Central London *vaporetto* service

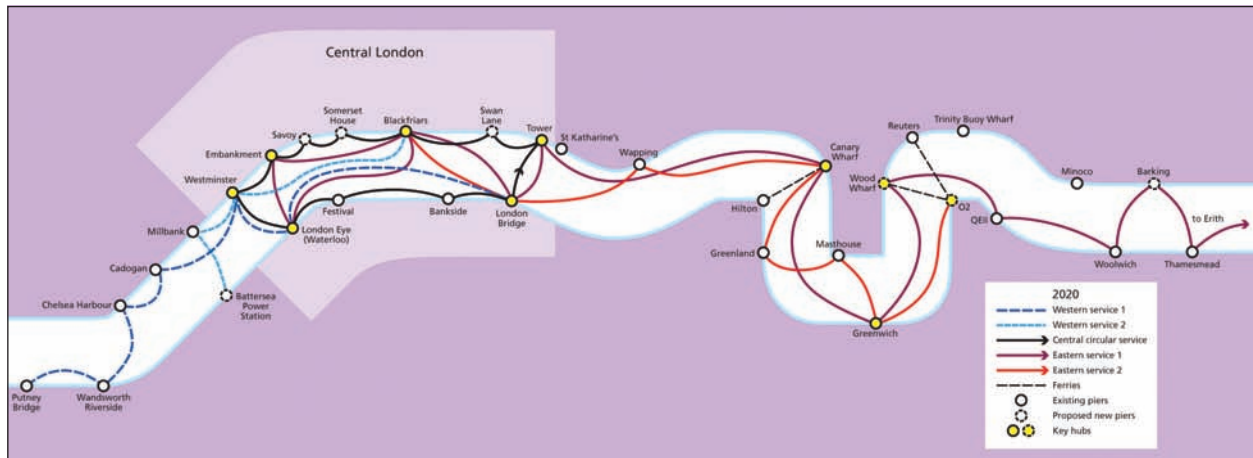


Route Proposal 3. What could be in place by 2020?

By 2020 it is to be hoped that London's central piers would be operating efficiently, with any capacity shortfalls addressed and new piers in place at Somerset House and South Bank. Savoy Pier should have been reconstructed and be used in conjunction with Embankment as Embankment East while potentially St Katharine's could support Tower Pier when necessary.

In the west it is to be hoped that a way will have been found to bring the existing pier at Battersea Power Station into use. Even if the development has not been completed by that date, agreement should be sought with the developer to use the pier and to find a way to provide public access.

Figure 11: Proposed Routes for 2020



Services from west and east can then be split further to serve a variety of piers, minimising duplication as far as possible and thus shortening journey times. To the east, services could extend past Woolwich to Erith, and to any park-and-ride sites which have been identified.

Frequencies could be increased, and all services would overlap with the central London loop boats.

All of these proposals would of course require a major investment in boats, boatyards and in crew recruitment and training. It is also worth saying that none of the proposals are intended to replace the existing tourist services. Indeed these should also grow and flourish in the new supportive climate, with clear differentiation at piers for what is on offer. Just as open-top tourist buses and public transport buses share roads but have separate bus stops, the river can make space for both.

The principles have been discussed with the PLA and it supports the proposal to have structured route planning and consultation. A strategic plan allows all the key players to prepare for an expansion in services rather than have safety, scheduling and development occurring in isolation from each other.

8

Quality of Life and the Environment

Zac Goldsmith

Quality of life is a key part of London politics. Air quality, traffic and congestion are all problems raised when the local environment is discussed, and with good reason. Travelling by river boat is an inherently more pleasant experience than taking the Underground or bus and should be promoted for improving the quality of transport experienced by Londoners. It also has the potential to be rapidly decarbonised, leading the greening of London's transport network.

Quality of Life for Passengers

In terms of relaxation, space, light and fresh air the river beats the Tube, bus and trains hands down. Even for those not directly on the river, there will be some benefits. By relieving the worst pinch-points on the network, such as at Putney, commuters over a wider area can benefit. If a proportion of commuters from Putney switch from the Tube to the river, commuters throughout the District Line will enjoy a more comfortable journey.

Modal shift is the holy grail of public transport. Attempts to lure (or indeed, tax) people out of their cars and on to buses and trains have seen little success. River services, however, are different. As outlined earlier, in Brisbane the CityCat service has resulted in a modal shift of around 250,000 journeys a year from cars.⁶⁴ Among the proposed new routes in Chapter 6 are park-and-ride riverbus services specifically aimed at replacing around 400,000 car journeys a year.

The main advantages of a car – comfort, space, a guaranteed seat – are also present on the boats. Thames Clippers even have a café-bar on board. For those commuters who want to travel in comfort and for whom the routes are appropriate, the river offers a huge advantage over any other mode of transport. On its own scale, the river could achieve a significant modal shift, enhancing quality of life for people who use it and those whom they make space for.

Quality of Life for Riverside Communities

The really exciting thing about the river in terms of quality of life is the impact it could have on some of London's most deprived neighbourhoods. Take the Pepys Estate in Lewisham, which is a stone's throw from Greenland Pier. Integrating the

64 Interview Brisbane City Council

service within the season ticket and Travelcard systems would make the service more usable – and cost-competitive. It could be transformed from being a service for more affluent residents of dockside apartments to become a key part of life in one of South East London’s most challenging estates.

The role of river services in the regeneration of the Thames Gateway makes it even more exciting from a quality of life perspective. By delivering economic benefits and raising the quality of the transport infrastructure, the quality of life for people in neglected districts can improve dramatically. Transforming neighbourhoods from forgotten backwaters to prime riverside communities has the potential to radically improve residents’ lives.

Greenhouse Gas Emissions

Beyond the local impact of river travel on people’s lives, what impact would an expanded service have on London’s greenhouse gas emissions? Estimates of the emissions from river travel vary enormously. A briefing by the policy unit of TfL’s commissioner states, “currently river CO₂ emissions per passenger kilometre are over nine times that of buses.” The briefing claims that high-speed riverboats generate an extraordinary 795g of CO₂ per passenger km, against 83g for a bus and 78g for travel by Tube.⁶⁵ This estimate is far more than even the most gas-guzzling car, and around five times greater than a Boeing 737.⁶⁶ TfL earlier estimated the boats’ emissions at a rather more modest 245g per passenger km, while Thames Clippers claim of 82g per passenger km.⁶⁷ This demonstrates not just the marvellous flexibility of statistics, but also the lack of reliable data on the river operation.

Bearing in mind the incredible range of figures for emissions per passenger km, we can approach emissions for the sector as a whole as, hopefully, more accurate. The total quantity of CO₂ emitted by all London’s river passenger services last year was 13,312 tonnes.⁶⁸ This includes all the tourist, disco boat and restaurant cruises as well as commuter services. Given its year-round operation, its lengthy route and its extended service day, we have estimated that Thames Clippers accounts for 70% of this amount, a total of 9,318 tonnes. To put that figure in perspective, it is less than half of the 21,747 tonnes carbon footprint of TfL’s corporate head office.⁶⁹

Clearly the CO₂ per passenger km figure depends on the number of passengers carried and the distance those passengers travelled. TfL reached its 795g per passenger km figure by assuming an average trip length on Thames Clippers of just 5km (3.1 miles)⁷⁰ – less than half the actual average trip length, according to the company.⁷¹ In order to achieve its carbon emission claim, TfL must also have grossly underestimated the average number of passengers carried by each vessel – putting it at perhaps as few as 20 passengers. The operator of the services puts the average at around 120.⁷² This enormous discrepancy would be at the heart of the similarly large difference in emissions figures.

Unlike other London transport modes, there are no official published figures, independent of those produced by the operator, for the distance travelled by river passengers last year.⁷³ However, we can independently approximate the total annual distance travelled by the boats – 520,000 km.⁷⁴ Dividing the service’s yearly carbon footprint of 9,318 tonnes by that distance, and then dividing the result by 120 passengers per boat, gives us a ball-park estimate of the service’s CO₂ emissions. It comes out

65 “River services overview” briefing by the Commissioner’s Policy Unit, TfL, January 2009, p3

66 The Department for Transport estimate is 158g per passenger km

67 Cited in H2Oceanjet letter; Response to mayor’s *Way to Go!* document, Thames Clippers, January 2009, p5

68 TfL Environment Report 2007-08, data tables, p5

69 Ibid

70 “River services overview”, briefing by the TfL Commissioner’s Policy Unit, January 2009, footnote p3

71 Interview Sean Collins, managing director, Thames Clippers

72 Thames Clippers, January 2009, op cit, p5

73 The only statistics published by TfL appear to be for the numbers of tickets sold at piers, a figure of very little use since many Thames Clippers passengers buy their tickets on board or travel on season tickets

74 This figure is achieved by multiplying the length of the core route by the number of boat journeys made on it each week and adding an allowance for the Woolwich extension. This total is in turn multiplied by 52 for an annual figure.

at 149g per passenger km, still higher than a bus but vastly lower than TfL's claim.⁷⁵ Clearly better data is needed from independent sources to get estimates based on real journeys, but it is clear that TfL's estimate is way over the mark.

The service's environmental performance is highly dependent on passenger loadings. If the vessels, which have a capacity of 220, run with fewer than the claimed average 120 passengers, they will be less environmentally friendly. However, if the service were improved, promoted and integrated in the way this report is recommending, the vessels could run with many more than 120 passengers and thus achieve full CO₂ comparability with any other mode – even if they were to remain diesel-fuelled.

Andrew Gilligan

Wash and Tides

The issue of wash, and the potential bank erosion caused by it, has been raised by some objectors to an improved riverbus service. Interestingly, however, the most recent available study, by Dredging Research for the Port of London Authority, suggests that though the Thames Clippers vessels do cause the most wash, the reason for their doing so is not their high speed, but the changes in their speed, including those they must make to observe PLA speed restrictions. In the words of the report, "there is no clear guide to a relationship between wave wash and... the speed of the vessel... It is likely that the impact [of the Clippers' wave wash signature] is a function of different ranges of speed, e.g. slow, medium and fast speed, with the ranges and the transfer between them producing distinctly different wave wash... rather than being directly proportional to speed."⁷⁶

The Thames tides are another objection sometimes raised. The former mayor, Ken Livingstone, used to say that a full river service was impossible because the Thames has such a large tidal range. It is hard to understand where this view comes from. At 6-7 metres, the tidal range of the Thames is considerable and in some parts of the river, it can indeed make life difficult for boats, with berthing impeded at low tide and journey times changing from day to day with the changing direction of the tide. But these problems only affect sections upriver from inner London. There is never a tide-related problem with berthing at any of the piers from Putney eastwards which the service would use. The boats currently in use have sufficiently powerful engines to keep to their timetables even when the tide is against them.

Environmental benefits

The proposed expansion of river services represents an opportunity to set an ambitious minimum emissions standard for new boats on the river so that operators have an incentive to invest in cleaner boats now, and eventually take the most polluting boats off the river. By encouraging the development of alternative fuels for river services as well as promoting efficiency improvements with an emissions standard, the environmental performance of river services can be dramatically improved as they expand.

⁷⁵ The method is crude, but if used with the buses it does produce a result very close to TfL's official figure for bus emissions: total distance travelled by London buses in 2006 (the latest available data) was 458 million km, their carbon emissions were 622,500 tonnes, average load per bus was 16 passengers. This gives a result of 85g of CO₂ per passenger km, very close to the official figure of 83g

⁷⁶ "Measurement of vessel wave wash in Limehouse Reach, data report", Dredging Research for the PLA, May 2009, p10

Rather more exciting, though, is the boat service's immense potential for swift conversion to more sustainable fuels. Unlike the bus network, it is currently a small operation, without huge numbers of legacy vehicles to replace or convert. It also benefits from a relatively contained operating environment, presenting fewer practical obstacles to using alternative fuels, including electrification or even hydrogen. One operator is already undertaking a feasibility study into retrofitting the fleet; options include converting the diesel engines to use natural gas or replacing the existing drive trains with electrical or hybrid drive systems. The new vessels for the expansion of the service proposed in this report should be sustainably fuelled from the start.

River services offer quality of life improvements for the users of the service, with dispersed benefits for other parts of the network. The potential to boost economic development in some of London's most neglected communities and to improve the environmental performance of the service offer an exciting vision of the Thames' future. This is an opportunity which should not be missed.

9

Boats, Frequency and Traffic

Robert McIlveen

Safety is of paramount importance in transport. The *Marchioness* disaster in 1989, in which 51 people died, remains at the forefront of safety concerns on the river. The Port of London Authority is the regulator for safety on the river, and issues extensive guidance and regulation to maintain safety. The master of each boat has responsibility for its safety, as do the owners for ensuring that it is operated in a safe manner.⁷⁷

All large craft, including riverbuses, operating in the crowded central stretch of the river are now required to carry a GPS-based automatic identification system, which shows their position and the position of all other vessels, continually updated, on a screen.

All the riverbuses are also obliged to report the number of passengers they have on board each time they cast off from a stop, so in the event of an emergency the rescue services know exactly how many people they have to account for. The Thames is also now patrolled by the Royal National Lifeboat Institution and measures have been introduced to reduce the likelihood of vessel collisions.

The river - including the busy freight port at Tilbury which takes most of the traffic covered by the PLA - had a median of two incidents (usually minor incidents or near-misses) a month between 2005 and 2008. Compared to the 3,526 people killed or seriously injured on the roads, and between 4 and 9 accidental deaths a year on the Tube, modern river services have never had a death or serious injury.⁷⁸

Some further adjustments may be needed. Even now, as a vessel approaches a pier, disembarking passengers bunch on the deck when a gate in the rails has already been opened by a crewman. As the service becomes busier, crowding in this area could become dangerous if people push forward from the rear before the vessel is properly berthed and those at the front risk falling between vessel and pier. Consideration should be given to implementing some of the measures already found on heavily used urban ferry services elsewhere, such as using ropes or chains to keep crowds back from open gates before the vessel is tied up.

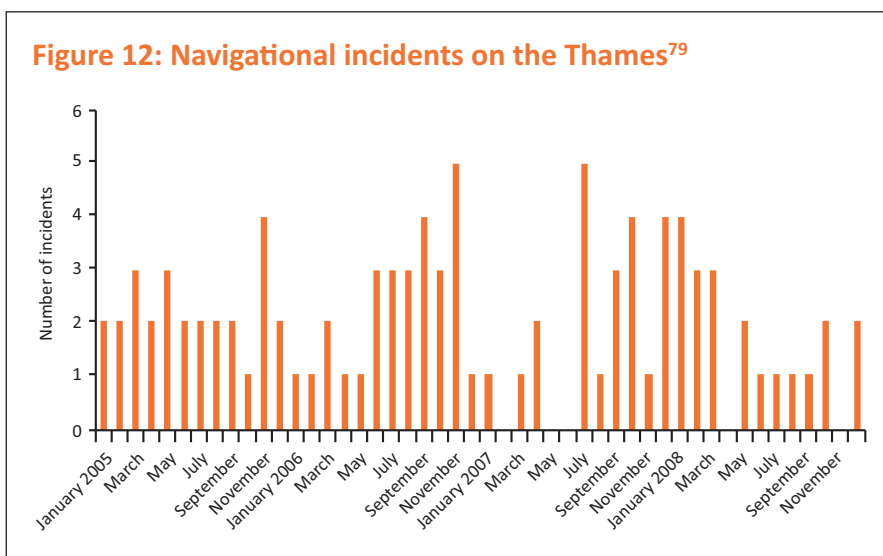
The relationship between the tourist and leisure services and transport is also important. The existing, profitable tourist and leisure services receive no subsidy and have been a major feature of the river economy for decades. Transport services would be faster but do require subsidy to compete with the other subsidised transport systems in London. The model to follow here is that of the transport bus

⁷⁷ "The Code of Practice for Passenger Vessel Operations on the Thames", Port of London Authority, 2009

⁷⁸ "Safety Improvement Plan" London Underground Limited, 2005-06, p2; "Numbers killed and seriously injured on London's roads fall for second year running", TfL press release, 2009, <http://www.tfl.gov.uk/corporate/media/newscentre/archive/1793.aspx>; information from Thames Clippers

service and tourist buses which coexist perfectly happily, each serving their distinct markets. The suggested sites for charter- or leisure-only piers in chapter 6 would make matters much better for all users of the river.

Figure 12: Navigational incidents on the Thames⁷⁹



Congestion

The main safety issue to be addressed is the relationship between speed and congestion. The river experiences congestion between Westminster and St Katharine's piers at peak times. This is particularly the case when other boats need to get through, especially large boats which need to be towed by a tug and which have limited manoeuvrability.⁸⁰

Congestion has two facets: congestion at piers, which has a major impact on scheduling and speed of service, and congestion of the river more generally which raises safety issues, in particular risk of collision. Four of the busiest piers are manned during the day (Tower, Westminster, Embankment and Greenwich) while the rest are not manned. At unmanned piers, responsibility for passengers' safety rests with the boat's master until they have disembarked.⁸¹ Clear signage, secure gangways and gates and passenger control are among the key common-sense requirements for safe pier operation. For manned piers this report recommends a beefed-up piermaster role with responsibility for enforcing safety and congestion rules and the power to issue penalties to operators in breach of them.

Collisions are the most important danger to counter. This was the cause of the *Marchioness* disaster and is a risk which must be minimised. Expansion of service on the river requires the highest safety standards and much better management of the traffic on the river. Air traffic control-style management which is robustly enforced will enable much safer operation for all with increased volumes.

Scheduling is clearly important in managing congestion. One boat operator gave the example of a daily service from Westminster to Hampton Court which departs at the same time each day and does not return until late afternoon. Informally, this boat is given priority by other users, enabling it to get out of the busy area between Westminster and Greenwich all day as quickly as possible. Managing the different users of the river in such a way as to enable all to

⁷⁹ "Summary of Navigational Incidents in the Port of London", Port of London Authority; http://www.pla.co.uk/display_fixe_dpage.cfm/id/2309/site/navigation

⁸⁰ "Central London Vessel Traffic Study – Report", BMT Isis, 2008, p3

⁸¹ "The Code of Practice for Passenger Vessel Operations on the Thames", Port of London Authority, 2009, p35

flourish is a delicate task and needs the full attention of a well staffed and resourced agency to execute it.

Options to reduce congestion include scheduling to level out traffic. This might mean restricting tourist boats in peak rush hours but then restricting transport boats at designated times to allow for the tourist services. Freight, the third major user of the river, could be encouraged to use the least congested times. Boats that lack manoeuvrability, for instance those which must be towed by a tug, should be scheduled to minimise disruption.

As well as safety, congestion has a major impact on the viability of passenger services. Frequency and reliability are vital for establishing viable passenger transport services. Congestion can cause delays which in turn makes the service less attractive. The role of London River Services as manager of traffic is essential for achieving a level of reliability comparable to other modes of transport – if not better.

Speed limits on the river

The current blanket speed limit presents a potential obstacle to developing passenger transport services on the Thames. For the river to be considered as an alternative to other modes of transport, it needs to be fast enough to be an attractive option.

The PLA has imposed a 12-knot speed limit on river traffic in Central London. This followed a consultation on a proposal to limit the speed of high-speed passenger boats between Wandsworth Bridge and Cherry Garden Pier in Bermondsey.⁸²

There is some confusion as to the reasons behind the introduction of the speed limit. Wash from boats was raised in discussions with many boat operators, but the PLA states that the speed limit is “not primarily a wash reduction measure.”⁸³ The PLA’s response to submissions to its consultation discusses wash at some length, however, leading to a lack of clarity. This is important because while safety issues could be resolved by congestion management, wash requires changes to boat design. If the PLA prefers low-wash boats operators would be happy to expand using such designs especially if they allowed a higher speed service.

Many respondents to the PLA’s consultation accepted the speed limit below Westminster Pier but questioned the need for one between Wandsworth and Westminster bridges. This is very important for any service from Putney or Wandsworth to central London because a slower service requires more boats to deliver a high enough frequency, raising costs significantly.

A flexible speed limit may be a solution. Passenger transport is most time-sensitive in the morning and evening peak rush hours. Tourist boats do not normally operate at morning peak time. If tourist services and leisure activities were excluded from the river for the morning peak, the safety concerns around speed and congestion would diminish. A similar approach should be taken to the evening peak, although the interaction between tourist and transport boats at this time would be more complicated. As discussed earlier, air traffic control-style scheduling and distribution of services from piers is essential for getting the most out of the river. Freight, which is timed according to the tides rather than traffic, is more variable but should be managed by LRS to minimise congestion in the same manner.

82 “New Speed Limits in Central London”, Port of London Authority; http://www.pla.co.uk/display_fixedpage.cfm/id/2375

83 “Feedback on public consultation (June/July 2008) on draft Thames bye-laws 2008”, Port of London Authority, p5

Tourism and Transport on the River

Care must be taken that an expanded transport service does not crowd out tourist operators. Those who have a long-established business on the river, and who receive no subsidy, are understandably nervous about the expansion of subsidised public transport services.

The GLA published a report in 2006 which argued that “one of the biggest problems restricting the growth of river transport is LRS’s dependence on and obligation to the river tourist companies.”⁸⁴ The contractual obligations on pier use could be reviewed over time as they expire, but remain an obstacle to a wholesale reorganisation. As discussed in Chapter 6, pier upgrades should enable better capacity for all boat operators, hopefully alleviating this apparent tension. The businesses currently operating leisure and tourist boats would doubtless resent being seen as a problem for transport services.

One tourist operator praised the approach taken in Paris, where tourist and leisure services depart from designated piers which include excellent parking and coach facilities. This operator cited Southwark Borough Council as having a positive approach to this sort of development, which is backed up in the council’s planning framework.⁸⁵ If this approach were used to concentrate tourist and leisure services away from the main hubs of a passenger service, pier congestion would be reduced and the services offered by both enhanced. As discussed in Chapter 6, there are several locations in Central London where designated tourist or leisure piers could be established to relieve pressure on a scheduled pier.

The two types of business are quite different. Tourist boats are mainly concentrated in the area between Westminster and Greenwich, where the majority of tourist attractions on the river are sited, with a few services as far as Hampton Court. Transport services are centred on residential and commercial areas. The times of day the two types of service will peak at are different, with commuter transport dominating in the morning and evening rush hours, and tourism and leisure services starting later and going on well into the night.

The time of year is also an important factor. Tourist and leisure services earn most of their annual profits in the summer months. Passenger services are also likely to be at their most popular in the summer but will be much less affected by seasonal variation. Again scheduling and flexibility on the speed limit are necessary to adapt to different levels of congestion in the summer.

Crew and Training

Central to both the successful expansion of river services and their continued safe operation is high-quality training and sufficient crew. One of the leisure operators discussed a major shortage of qualified and experienced crew, and stressed that while qualification could be fixed relatively quickly, experience and knowledge of the river can only be gained over time. Previous expansions of passenger transport services had resulted in this company losing most of its apprentices a competitor. Support for training would be welcome as part of government’s skills agenda.⁸⁶

The National Boatmasters’ Licence was introduced by the Marine and Coastguard Agency in 2007. This is a new, national-level qualification replacing previous local standards. It is an improvement in that it applies to all commercial vessels, whether carrying passengers or freight. This is to be welcomed because it

⁸⁴ GLA Op Cit, “London’s Forgotten Highway” p10

⁸⁵ “The Southwark Plan”, Southwark Borough Council, 2007, pp61-62

⁸⁶ Policy Exchange published its report into skills in December 2009

will make it easier to recruit crew from outside London in the event of a relatively rapid expansion.

Expanding passenger services will require more crew, but if that is at the expense of the current tourist and leisure services, existing profitable businesses will be damaged. There must be support for increasing the numbers of qualified crew as the use of the Thames increases.

The need for boatyards is the other major constraint facing expansion. Many of London's historic boatyards have been redeveloped, limiting suitable sites and pushing them farther from the centre of the city.

Accessibility

Boats have many advantages over other means of public transport when it comes to accessibility. Their greater spaciousness and the use of ramps at all piers except London Bridge City (which would be made accessible in the recommended upgrade programme) means that they are rivalled only by the DLR as one of the most wheelchair-friendly forms of transport in the city. All boats are already accessible for all passengers.

10

London Politics and London's River

Steve Norris

I was Minister for Transport in London for nearly five years in the mid-1990s. It was probably the best job in the whole transport department in that I could look across all transport modes from boat, bus, Tube and train to taxi, cycle and tram in a clearly defined area that was one of the great world cities and by far Europe's largest conurbation. One of the great strengths of London is that it has arguably the most comprehensive public transport system in the world. Sweltering straphangers on the Tube or motorists locked into seemingly endless jams may be forgiven for not always agreeing, but the reality is that the network, despite suffering from decades of underinvestment by governments of both persuasions, plays its part in enabling 24 million trips every day in a city of 7.6 million people. And the city is still growing.

In the last decade there has been substantial progress in some areas. Billions have been invested in the Tube although arguably not by the most efficient means. The Public Private Partnership forced on London by Gordon Brown has few friends in any quarter. The collapse of the Metronet consortium exposed its weaknesses all too painfully; nonetheless service levels across the system are better than they have ever been and a record number of passengers are being carried. On the downside, London still suffers in the way that many modern cities suffer from chronic congestion and poor air quality and despite fewer vehicles travelling in the central area traffic speeds are no faster now than in Victorian times.

Strategic Leadership

As far as London was concerned the 1990s were a decade in which there was no strategic body with responsibility to deliver city wide services. The Greater London Council had been abolished in 1986 and, despite Ken Livingstone's dire warnings of the disasters which would follow abolition, the city promptly proceeded to enjoy a decade of unparalleled prosperity and creativity. But by 1996 it was plain to any objective observer that the decision not to replace the strategic functions of the GLC with a successor had created a delivery vacuum which needed urgently to be filled. A plethora of public bodies had responsibility for services. In the transport field alone London Regional Transport ran Tube and buses, the 33 boroughs looked after local roads, the Traffic Control Systems Unit managed traffic lights,

the Traffic Director for London had responsibility for the strategic route network while the Port of London Authority took the lead on the river. Other issues were delegated to joint boards of boroughs on either a citywide or regional basis, where predictably reaching any degree of consensus meant travelling at the pace of the slowest.

These were the arrangements with which I was faced on taking office. Indeed, John Major had deliberately created the role of a minister with pan-modal responsibility for London to act as the antidote to growing all-party criticism of the lack of delivery capability. This led me to the firm belief that while the decision to abolish the GLC was undoubtedly right, there was an urgent need for a slim, strategic body that could take decisions in areas like transport where it was quite clear a holistic view of the capital's needs was necessary.

When the Labour Government was elected it promised a referendum for Londoners on the idea of an elected mayor for the city with an assembly ostensibly to hold the mayor to account. This was, of course, a model already in place in virtually every other world city where the need for executive competence had long been recognised. The Greater London Authority Act 1999 provides for the mayor to be responsible for three principal areas: transport, policing and economic development. But crucially in terms of the development of the Thames what the Act also did was to create three executive bodies through which the mayor could exercise control and bring about change: the London Development Agency, the Metropolitan Police Authority and Transport for London.

TfL absorbed virtually all those bodies which had previously operated semi-autonomously. So London Regional Transport and the Docklands Light Railway became, as they always should have been, part of the same organisation. In all, 14 separate organisations came together as one. It has taken a very long time and a great deal of effort to ensure that they now work in a co-ordinated fashion. The task is not yet complete. There is still too much of a silo mentality about TfL, but under Boris Johnson the drive to improve the operating efficiency of the organisation across the board is well underway.

Progress on the Thames

As far as the Thames is concerned the new arrangements have facilitated more progress in a decade than happened in the preceding four. I know from long personal experience how much the river means to Londoners. Back in 1992 I had assumed the questions I would face in my new brief would be about the Tube or the buses or the general state of congestion on our roads. Not so. On almost every occasion the first question I was asked was why we weren't making more of the river. I came to recognise the very strong sense shared by people from every conceivable background that we were neglecting the potential of this great aquatic highway through the city. I also shared that concern. It was clear that since the turn of the century, the old wharves and quays had fallen into disuse as shipping moved to the east coast ports and freight volumes had reduced to a mere trickle. Latterly, the development of Docklands and the growth of attractive apartments on the river's banks had eliminated many of these old freight access points for ever. Meanwhile, pleasure boats of frankly questionable quality offered a cynical service to unsuspecting tourists, few of whom would have recommended the experience to their

friends. With all this in mind, I commissioned a report in 1993 on the use and potential of the Thames. It identified the vast majority of the issues which faced the Mayor of London in 2000 and are still current today.

At a more practical level the report painted a depressing picture. Many key riverside sites such as Tate Britain at Millbank lacked any river access. Westminster, which has always been one of the most popular destinations not least for tourists, had no space to accommodate new services at its already overcrowded pier. There was almost no regular commuter traffic anywhere. RiverBus, which was the brainchild of Olympia and York, then owner of Canary Wharf, ran from there to London Bridge largely as a marketing ploy to attract new tenants. The service had expanded up river but was not profitable and O&Y had problems of its own and could no longer afford to subsidise it. There was an urgent need for investment in new vessels and, just as importantly, the need to integrate river services with other modes so that they were available to Travelcard users and could be visible on the Tube and rail maps carried by every tourist and visible on every train. While it was impossible to roll back the residential juggernaut, there was a role for increasing non-time-sensitive bulk freight such as aggregates and waste as far up river as Brentford Lock. Only Convoys Wharf at Deptford continued as a fully functioning freight wharf while pressure mounted on the few waste transfer stations that moved huge quantities of domestic waste down river to landfill.

Over the first nine years of executive mayoralty much has been achieved. Both mayors have recognised that the Thames is much more than a tourism location or a view from a balcony. They know it is an integral part of what the city is, and what it means to so many of us who call it home. As a result, they have seen the development of river access and services as a priority. In its pay-as-you-go form, Oyster is a great tourist product and the ability to use it on the river is a step forward for them and for regular London commuters. New piers have been opened so that more of riverside London is accessible and there is the start of a commuter cohort which now regularly uses the river simply to get to work. In the past, it was routinely assumed that only rich city types would ever benefit from river services but this new professionalism allied to a clear timetable and multiple destinations means that a million journeys a month on the Thames are now a real possibility. This marks the emergence of the river as a serious mode of personal transport for the first time since the 1930s.

The Future of River Transport

The scope for improvement is by no means complete. The Olympics pose a challenge and a once in a lifetime opportunity to integrate the river into the newly resurgent East London. There is the potential for more piers and more frequent services, which build confidence among a larger number of regular users. This means more investment in a bigger fleet of vessels, involving new and existing operators. Capital will be needed to seed new services. The private sector is demonstrably willing to participate but the price they will exact is that the public sector matches their enthusiasm. Both mayors have responded constructively but this is not the whole story. One organisational anomaly is currently unresolved. While virtually all of the statutory public sector powers necessary to improve the river are incorporated within the GLA, the Port of London Authority remains resolutely in-

dependent. The PLA is the body responsible for safety on the Thames but also has a mandate to promote the use of the river. As such, it should be the perfect partner in the mayor's efforts to improve services. And in practice there has been a gulf between the two as the PLA pursues a policy of maximising revenue from the many piers it controls. The PLA is not in a position to subsidise pier access in order to benefit London in the much wider sense. Yet by common consent this is exactly what London needs and what the mayor's remit entails. While both approaches are perfectly proper in terms of the powers and responsibilities each possesses, they are not entirely compatible.

There is however a remedy available. I believe that the environmental responsibilities of the PLA should be transferred to either the Environment Agency or National Rivers Authority while the navigational safety, leisure and tourism responsibilities should be incorporated into the Greater London Authority, ideally as a division of TfL. The PLA is rightly proud of its century-long tradition of service to the Thames but with new governance in London and the new challenges of the 21st century now is the time to move on.

As this study itself demonstrates, interest in and enthusiasm for the promotion and improvement of the Thames shows no sign of abating. All great city rivers are different. The Rhine, the Danube, the Seine, the Potomac, the Hudson, the Clyde and the Mersey to name but a few all contribute immeasurably to what their cities offer. For far too long London, the greatest of them all, has undervalued the Thames. Now, under a city mayor with many if not all of the necessary powers, some limited funding and real political will to change all that can be transformed. Boris Johnson may yet find that his greatest legacy is not the new Routemaster or even his ambitious and wholly welcome cycle hire scheme but a river of which every Londoner is not only more aware, but justifiably and deeply proud.

Conclusions and Recommendations

There is clearly potential for a significant expansion of river transport on the Thames. The continuing growth of the Thames Gateway, especially of employment at Canary Wharf, will provide scope for a much expanded service. This has not happened already because of political and bureaucratic barriers as well as the drag of inertia.

While governance of London's transport infrastructure has improved, the mess of responsibilities on the river is in need of a radical overhaul. The PLA cannot simultaneously manage safety and maximise the economic development of its piers. TfL's evident lack of interest in the river has left London River Services so understaffed it is unable to think strategically to expand services. Governance of the river is stifling its development in a way that would be unthinkable for any other part of London's economy.

There is a solution. Sustained, strategic leadership from the mayor can shape river services for decades. By allocating responsibility for the river to TfL with a senior board member appointed with the brief to maximise use of the river, the institutional inertia we have today can be broken. Getting all the central London piers in common management, if not ownership, is essential to co-ordinating services, as is air traffic control-style management to reduce congestion and make the most of London's most ancient highway.

The challenge is less financial than organisational. For relatively little public outlay – up to £30 million on piers – and use of Section 106 agreements in the planning process to deliver new piers with new developments, the infrastructure can be put in place to allow private entrepreneurs to deliver an outstanding transport service. Subsidy comparable to the bus network and integration with Oyster, Travelcards and season tickets will unleash demand at little cost by the standards of TfL's budget. Simply making the river a normal part of TfL's network will have a significant effect. Removing the cost barrier of the river being outside the ticketing regime and making interchanges clear will help people who do not know the river use it.

Idealistic visions of river services have come and gone over the years. The opportunity is now here, with the development of Docklands and the Thames Gateway, to provide an effective, viable service which delivers good value for passengers and taxpayers. With committed leadership, it will happen.

Recommendations

1. TfL must take leadership and ownership of river services – By appointing a board member to be responsible for delivering river services, and strengthening the under-resourced executive team, TfL can be positioned to take a more strategic interest in developing river services.

2. Task TfL with air traffic control-style traffic management – At present piers are congested, tourist and transport boats impede each other and there is minimal enforcement of timetables. With ownership and leadership of river service planning and procurement, TfL can manage the traffic flexibly to minimise delays and disruption, giving priority to different services over peak times throughout the day.

3. Ticket integration – By bringing the river services within TfL's ticketing structure the river service will become to be seen as one more part of the transport network. This includes season tickets, full Oyster and Travelcards. Much better enforcement – on boats and at piers – is needed to clamp down on fare evasion.

4. All strategic Central London piers should be managed and ideally owned by TfL – At present pier ownership is split between a variety of private and public bodies. In the core Central London area TfL should seek to buy all strategic piers in order to integrate pier ownership and traffic management; TfL should manage those key piers it cannot buy.

5. Key piers should be upgraded and extended – Some piers are in serious need of expanding or upgrading. Whether to facilitate simultaneous embarkation and disembarkation, improve the passenger experience or enable more boats to dock, piers and pier facilities are seriously under-developed. In the central area development of these piers should be led by TfL, which should consider the business case for spending £15-30 million pounds upgrading strategic piers to enable a better service. Appropriate maximum docking times for different services should be imposed and enforced once the piers have been upgraded to allow for faster turn-around.

6. New piers should be developed as residential and commercial development occurs – New piers should be a key part of the development of the Thames Gateway and western riverside. Some areas already have sufficient population to justify a pier; some will have in the near future. Private developers should be required to build these in the planning process.

7. Signage to and from piers should be a priority – Many piers are almost invisible. Better signage, comparable to that for Underground stations, should be introduced at each pier.

8. There needs to be strategic planning of river services – At present piers and routes develop ad hoc. Given the significant growth expected over the coming decades, in particular in Docklands and the Thames Gateway, a more strategic approach is needed to ensure the necessary infrastructure, traffic management and management capacity at London River Services (LRS) are in place when needed.

9. The river service should be designed to be as accessible as possible – Boats and piers are already more accessible for wheelchair users and other people with limited mobility than most London's public transport network, and this should be explicitly prioritised in the pier upgrade programme.

10. Piers should be designed or upgraded to maximise interchange with other transport modes – In addition to better information and signage, links to bus interchange, cycle parking, cycle hire docks and pedestrian routes should be considered. These links should be used to extend the range of the piers to as many homes and places of employment as possible. More publicity should be given to the range of destinations in Central London which are within a 15-minute walk of pier locations. Park-and-ride options in East London should also be explored

11. Where necessary, the service should be subsidised – Subsidy is one part of the combination of measures needed to expand services. Creative, targeted use of subsidy should be used to help grow river services. The river currently receives significantly less subsidy than other modes of transport in London. TfL should be prepared to use small levels of subsidy to drive better use of the river.

12. The speed limit should be reviewed – The speed limit west of Tower Bridge should be reviewed with the aim, among others, of delivering a viable transport service. Better traffic management, and improved safety techniques and scheduling should all be considered so that faster journey times are possible for commuters in the morning rush hour. A code of practice for leisure users of the river should also be prepared. New boats should be designed to minimise wash, reducing the impact on other river users.

13. Emissions standards of new boats should rise over time – with expansion of river services comes the possibility of improving environmental performance. By stipulating a rising emissions standard for boats, the service can expand and become greener over time.

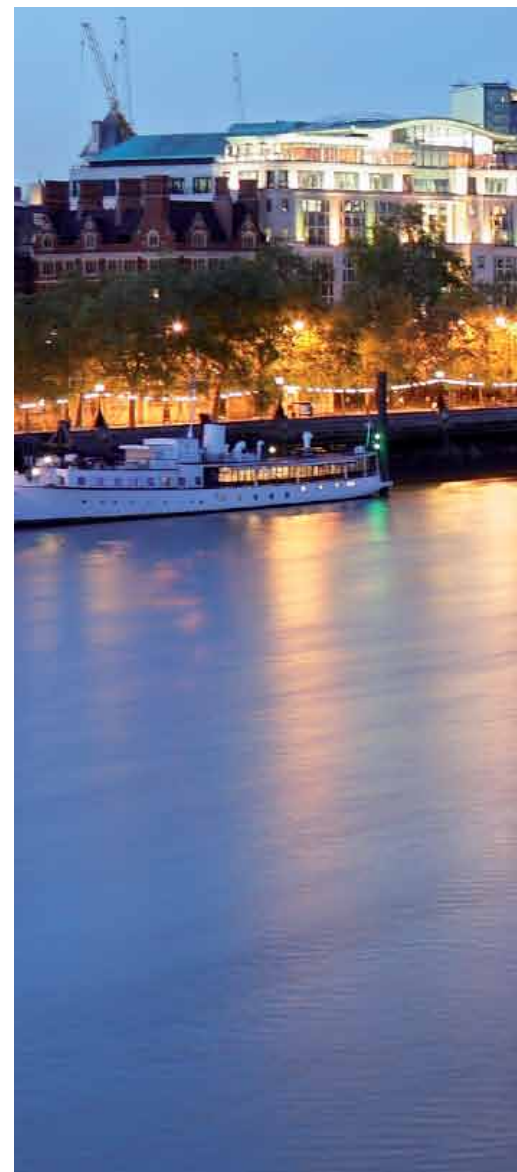
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The Thames is London's historic highway, yet it is virtually invisible when looking at London's transport network. A combination of bureaucratic inertia and lack of leadership have combined to prevent those who care about the river being able to offer the sort of services it could provide.

Several small changes could make a massive difference. This report outlines how integration into the rest of the network combined with a fairly small investment in upgrading key piers in Central London could unleash the full potential of the river. Even at a conservative estimate, there could be four times as many journeys on the Thames in the next decades than now, and possibly more.



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