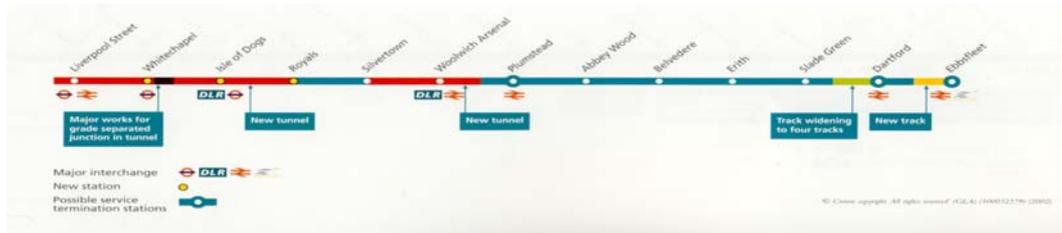




## Crossrail Link to the Royals



## London City Airport's Response to Crossrail Line 1 Consultation

July 2002



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## **1. EXECUTIVE SUMMARY**

- 1.1 In response to Cross London Rail Links' (CLRL) invitation to comment on the Crossrail Project Line 1, London City Airport wishes to express its support for the core route and to state its views on why Corridor 5a, via the Royal Docks, should be adopted in preference to Corridor 5b via Charlton.
- 1.2 London City Airport wholly supports the Crossrail Line 1 scheme as a project that will significantly boost London's position as a World City. It is vitally important that for a city to function effectively it must be able to transport its people quickly and efficiently from one side to another. For London to remain a competitive international city it must invest in this vital, and badly needed, piece of rail infrastructure. Crossrail 1 will provide new capacity to support the growth of London's population and stimulate regeneration in the more deprived areas of the city through which it passes. Crossrail will importantly link the city's premier airport of Heathrow with the primary employment and wealth generating parts of the capital, Westminster, the City of London and Docklands.
- 1.3 Crossrail presents a significant opportunity to redress the east-west imbalance in London by further encouraging growth at Canary Wharf and the Isle of Dogs. A route from the Isle of Dogs to the Royal Docks would support regeneration in the largest Opportunity Area identified in the East sub-region of the Mayor's draft London Plan, and the third largest area in London. The eastern region is expected to provide a third of London's total new housing requirement and 40% of all new jobs. The Royals is strategically placed to be able to contribute to this objective being the largest developable area of land in this region. Opting in favour of a station in Charlton would be shortsighted and jeopardise the maximum regeneration benefits to be gained from land available in the Royals.
- 1.4 Key businesses that already operate in the Royals include London City Airport and ExCel. Both already generate significant numbers of journeys to and from the Royals. Plans to develop two further sites around the docks (Royals Business Park and



Silvertown Quays) raise concerns that the proposed DLR extension will not provide sufficient capacity especially once the London Aquarium is complete. A Crossrail station in the Royals will support the further development and success of these businesses and generate significant full-fare revenues to offset cost.

- 1.5 Work commissioned by the Royal Docks Crossrail Group has shown that the impact of routing Crossrail through the Royals will be 31,500 net additional jobs to the area compared with no positive employment effect (under current planning rules) if the route serves Charlton. The London Development Agency (LDA) and London Borough of Newham's (LBN) commissioned report on the costs of various route options, either via the Royals or via Charlton, shows that the difference between two of the options reduces to only £87 million in favour of Greenwich.
- 1.6 London City Airport believes it is questionable whether it is technically possible for two Crossrail stations, each 300m in length to be sited in the Royals, at Custom House and at Silvertown and suggests instead that more benefits would arise from a single central station straddling the docks. A Connaught Station, shown to be technically feasible by Hyder Consulting Ltd (in a report commissioned by the LDA and the London Borough of Newham), would promote social inclusion by linking two communities currently isolated from one another, by means of walk and cycleways.
- 1.7 In considering options for the south-easterly corridor, London City Airport urges CLRL to opt in favour of Corridor 5a via the Royals because the regeneration benefits of this option are 10 times or more as great as can be achieved if the route goes via Charlton. The following table summarises why the Royals option meets all the objectives laid out for Crossrail (as set out in the consultation document) and importantly why Charlton does not.



Objectives for Crossrail	Corridor 5a  The Royals Option	Corridor 5b  The Charlton Option
<p><i>To Support wider transport, planning, social &amp; environmental objectives of the Government's 10 year plan, the Mayor's strategies for London, the Strategic Rail Authority's Strategic Plan and Regional Planning Guidance</i></p>	<p>Royal Docks featured in:</p> <ol style="list-style-type: none"> <li>1. Regional Planning Guidance for SE</li> <li>2. Mayor's draft London Plan as an Opportunity Area</li> <li>3. Newham's UDP as part of 'Arc of Opportunity' for future development</li> <li>4. London Development Agency's plans for large scale development</li> <li>5. Government's aviation consultation documents with respect to further development of London City Airport</li> </ol>	<p>Charlton is not an area identified in any government policy with scope for future development and regeneration.</p> <p>Charlton area is safeguarded in Greenwich's UDP and the draft London Plan as a manufacturing location</p>
<p><i>To facilitate the continued development of London's primary finance and business service activities, which are now located in both the City and Docklands</i></p>	<p>Business service activities present, or planned for the Royals are ExCeL, London City Airport, Royals Business Park and Silvertown Quays.</p> <p>If Canary Wharf is fully developed by 2007, attraction of land in the Royals will increase, as 'spill-over' development is accommodated.</p>	<p>Charlton is not a location for finance and business service activities. Majority of employment in the area is industrial.</p>



<b>Objectives for Crossrail</b>	<b>Corridor 5a  The Royals Option</b>	<b>Corridor 5b  The Charlton Option</b>
<i>To facilitate the improvement of London's international links, including Heathrow</i>	London City Airport is located in the Royals and is an important international link meeting the demand of European business travellers	There are no major international transport links or businesses located in Charlton that would contribute to improving London's overall international connections.
<i>To facilitate the regeneration of priority areas, such as the Thames Gateway and the Lea Valley</i>	The Royal Docks is the largest Opportunity Area identified in the East sub-region of the draft London Plan with 368 acres of land available for development, located just 2 miles from Canary Wharf. Crossrail would unlock the potential of this land.	Although Charlton is located in the Thames Gateway it is primarily a residential area and lacks brownfield development sites. Greenwich Council is keen to safeguard its existing industrial areas to ensure a range of employment opportunities in the Borough thereby making unlikely any change of land use to office uses (which would create more employment)
<i>To provide improved east-west rail access into and across London for the East and South East region</i>	Both routes would achieve this objective but the route <u>via</u> Charlton could potentially terminate <u>in</u> Charlton. The earliest termination point for a route via the Royals would be Woolwich Arsenal and that would ensure that a greater number of people would benefit from improved accessibility.	



## **2. INTRODUCTION AND CONTEXT**

- 2.1 In order to present London City Airport's response to the invitation to comment on Crossrail Line 1 this document will be structured as follows. This chapter briefly summarises London City Airport and its position in the aviation market. The third chapter places London City Airport within the vastly expanding area of East London. Chapter 4 outlines London City Airport's view on the entire Crossrail Line 1 route and the benefits that it will bring to the city. Chapters 5 and 6 consider the Corridor options proposed. Chapter 7 states how the route via the Royals meets objectives identified by Crossrail while Chapter 8 demonstrates why a route via Charlton would not meet these objectives. Further chapters confirm very convincingly why the Royals option is the logical route for Crossrail to take given the widespread economic benefits that will be generated by the line passing through the Royals rather than Charlton.
- 2.2 London City Airport is a member of the Royal Docks Crossrail Group, a group of private sector property owners and businesses all of which have major interests in the Royal Docks. The other members of the group are ExCeL (the exhibition centre), the Silvertown Consortium (appointed developers of Silvertown Dock and the new London Aquarium) and Development Securities (developers of the Royals Business Park). The group has been formed to lobby for the Royals option for Crossrail's routing east of the Isle of Dogs. To reinforce its case it has commissioned two pieces of research by GLE Strategies and Hyder Consulting, results of which are presented in this paper. The group has also cooperated with the LBN and the LDA on other studies that have been undertaken.
- 2.3 London City Airport strongly believes that the decision on an eastward routing of Crossrail via the Royals is critical to maximise the future growth and prosperity of East London and the Thames Gateway. This is a once in a lifetime opportunity to generate significant change. The consequences of making the wrong decision on a scheme of such importance become extremely obvious once the scale of planned development for East London is taken into account. The costs of rectifying the situation at a later date are likely to be considerable.

### **LONDON CITY AIRPORT**

- 2.4 London City Airport is located in Royal Docks just 6 miles east of the City of London, Europe's major financial district and two miles east of Canary Wharf, London's new business centre located in the Docklands. The airport which opened in



1987 now serves 25 European and domestic cities and in 2001 handled 1.6 million passengers. The top five city destinations in 2001 were Dublin, Edinburgh, Zurich, Amsterdam and Paris. Approximately 1,700 people are employed at the airport.

- 2.5 The unique location of London City Airport has meant that it has successfully positioned itself as an airport primarily used by business travellers. Market research shows that two thirds of passengers are travelling for business, the majority (60%) being employed in the financial and business services industries. The airport's primary catchment area in its early days was the City of London. Today, in line with the growth of Canary Wharf and the Isle of Dogs and improved public transport via the Jubilee Line to central London, two other significant catchment areas, Docklands and the borough of Westminster, have emerged. Half of all passengers are same-day or overnight travellers and movements peak between 7.15am and 9.30am and between 5.30pm and 7.30 pm, currently reaching 1,000 passengers per hour. According to CAA 2000 data, London City Airport has a 42% market share in its immediate Docklands catchment area. This equivalent market share figure for the City of London is 32%.
- 2.6 Using London City Airport arguably generates savings for employees and employers as well as boosting GDP. On the basis that two-thirds of passengers travelling through London City Airport are business passengers and there is a 2-hour saving per round trip, London City Airport currently saves business travellers a million hours a year or saves 600 man-years of business travellers' time each year. This translates to savings of around £70 million in staff related costs for employers. If half of these staff are employed in the UK, the additional UK GDP contribution from using London City Airport could be up to £50 million a year.
- 2.7 Leisure travellers are catered for too at London City Airport. Much domestic leisure travel is passengers visiting friends and relatives in the regions, however tailored city or skiing breaks to European cities are increasingly popular particularly with the growing local residential population.
- 2.8 Currently access to the airport for all passengers is by road with 46% using taxis, 25% using cars and the remainder using buses and coaches. Airport shuttle buses connect the terminal building with Canning Town, Canary Wharf and Liverpool Street for connection to public transport.
- 2.9 The airport is growing rapidly and has permission for 73,000 scheduled air movements per year. It is estimated that this will allow the airport to handle at least 3



million passengers per annum by 2012. In 2001, the airport received planning permission to increase the number of aircraft parking stands and runway capacity. The scheme allows for the building of five new aircraft stands in the King George V Dock and a hold point for aircraft at the east end of the existing runway. Work has yet to start on this scheme.

- 2.10 The Government has recently published a consultation document on airport capacity in the UK. This paper proposes a planning policy that actively encourages airports to maximise the capacity and utilisation of existing runways before constructing a number of new runways. Although it is unlikely that an additional runway could be provided at London City Airport, it is probable that additional capacity could be developed beyond the current planning approvals. The consultation paper suggests that the airport could reach 5 million passengers per annum by 2030. London City Airport believes that, subject to securing planning approval for increases in aircraft movements, with Crossrail it is probable that development to 5 million passengers would come much earlier (perhaps 2015) and by 2030 10 million passengers per annum would be likely.



### 3. GROWTH OF LONDON AND THE THAMES GATEWAY

3.1 The release of the draft London Plan in June 2002 by the GLA, was a timely document to further inform debate on the merits of the different onward corridors proposed for Crossrail Line 1. The plan provides the economic, social and environmental framework to guide London’s future development until 2020. A key finding of the document, which sets the framework for all subsequent policies, is the extent to which the population of London is predicted to rise. London’s population showed a decreasing trend until the mid 1980s but over the next two decades London’s population is expected to grow by 700,000 people from an estimated 7.4 million today to 8.1 million by 2016. Alongside population growth it is predicted that 600,000 new jobs are likely to be created over the life of the plan, driven, but not confined to the business and financial services sector.

3.2 The plan identifies six main spatial priorities, one of which is: ‘Major development in East London along the Thames Gateway with an expansion of economic activities to the east, into the City fringe, Isle of Dogs and Stratford.’ This priority is reflected in the targets for the provision of new housing and new jobs as shown:

**Table 2.1 Minimum homes and jobs targets for London’s sub-regions to 2016**

Sub-Region	Housing Allocation	Proportion of Total (%)	Jobs Allocation	Proportion of Total (%)
Central London	140,000	30.5	216,000	34
<b>East London</b>	<b>142,000</b>	<b>31</b>	<b>255,000</b>	<b>40</b>
West London	60,000	13	89,000	14
North London	60,000	13	25,000	4
South London	57,000	12.5	51,000	8
<b>TOTAL</b>	<b>MIN OF 459,000</b>	<b>100</b>	<b>MIN OF 636,000</b>	<b>100</b>

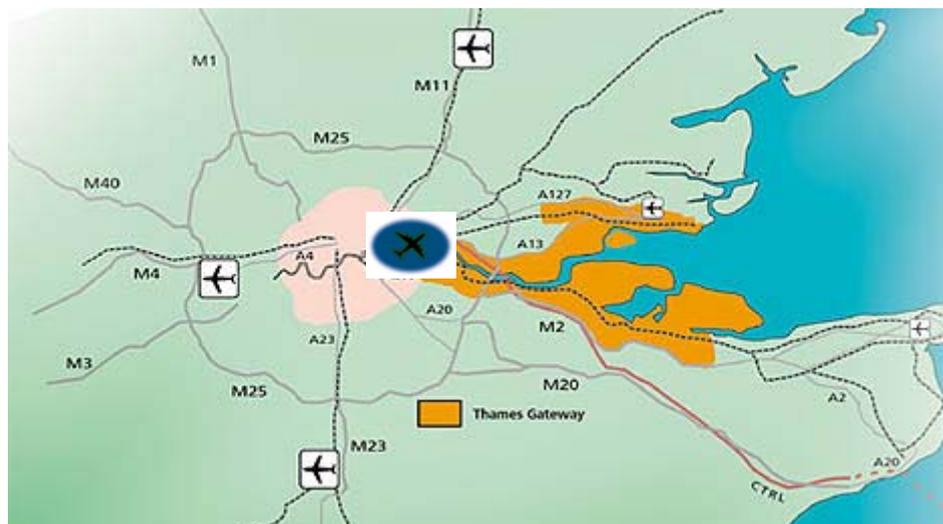
Source: The Draft London Plan GLA 2002

3.3 In order to determine the spatial implications of accommodating this growth, London has been divided into five distinct sub-regions, West, North, Central, South and East.



The Eastern sub-region is the largest of all the regions covering 10 boroughs on either side of the Thames, an area in fact very similar to the Thames Gateway, a region identified in Regional Planning Guidance in 1995 as being a national priority for regeneration.

- 3.4 The map below shows the Thames Gateway area and the location of London City Airport at its western end in the heart of the Docklands.



Source: [www.thamesgatewaysouthessex.com](http://www.thamesgatewaysouthessex.com)

- 3.5 In order to identify within each region areas with scope for the most significant change, development and regeneration, three area types are identified: Opportunity Areas, Areas for Intensification and Areas for Regeneration. Opportunity Areas, defined as “brownfield sites with potential for increases in density that can typically accommodate at least 5,000 jobs or 2,500 homes or a mix of the two”, are predominantly located in the East sub-region.
- 3.6 Within the East sub-region, the five sites with the largest amount of available developable land are shown in table 2.2. The Royal Docks, followed by the Lower Lea Valley, geographically adjacent to the Royals, head this table. Although the Greenwich Peninsula is earmarked for considerable growth it is acknowledged the Jubilee Line at North Greenwich can adequately service the development in terms of transport.



**Table 2.2 Top 5 Opportunity Areas identified in East sub-region of draft London Plan**

Rank	Opportunity Area	Area (ha)
1	Royal Docks	368
2	Lower Lee Valley	250
3	Belvedere / Erith	242
4	Barking Reach	210
5	Greenwich Peninsula	104

- 3.7 Not surprisingly, the Opportunity Area which is predicted can support the greatest amount of new jobs is the Isle of Dogs supported not least by the further growth of the Canary Wharf estate, making it clear to see why the core route of Crossrail must serve this district.
- 3.8 Canary Wharf, located just 2 miles from London City Airport at the neck of the Isle of Dogs, is a major business centre and today consists of approximately 7 million net square feet of office and retail space. Another 7 million sq ft is still under construction. The tenants of Canary Wharf mainly comprise banks, legal firms and media organisations that make frequent use of air services from London City Airport. In 1993 the working population stood at 7,000, today the equivalent figure is in excess of 42,000. This figure is expected to rise to approximately 100,000 when the estate is fully developed around 2007.
- 3.9 Significant further development of other areas on the Isle of Dogs is planned, the most noteworthy of which is the Millennium Quarter, a 50 acre site to the south of Canary Wharf. The key development on this site will be a World Trade Centre consisting of offices, hotels, apartments and retail outlets. The mission of World Trade Centres around the world is to develop and facilitate international trade and undoubtedly future tenants of such a centre will make use of air services provided at London City Airport. It is expected that by 2010, 20,000 people will work in the Millennium Quarter.



## 4. THE NEED FOR CROSSRAIL

- 4.1 London City Airport wholeheartedly welcomes the East-West Crossrail Line 1 proposal as a project that will significantly benefit London in its position as a major World City. The principal reasons for the airport's support of this project are given below.

*Crossrail will increase badly needed rail capacity*

- 4.2 It is clear from numerous studies on the existing rail network in London that the current network is operating close to its maximum capacity. It became clear by the late 1980s that the options to run more trains over existing tracks were reaching the limits of capacity. Crossrail can provide twenty-four 12 carriage trains per hour in each direction, which is the equivalent of 15% more seats to all existing rail arrivals in central London.
- 4.3 It is wholly evident to rail users in London that existing networks are straining to cope with current levels of demand. The results are over-crowded trains and platforms, frequent delays and a deteriorating passenger experience. If the Government's forecast of peak hour passenger growth of 15% over the next 20 years and off-peak travel growth of 100% transpires and extra capacity is not provided, these symptoms can only become more acute.
- 4.4 Crossrail will help relieve overcrowding on certain lines of the London Underground system, principally the Central, Bakerloo, Piccadilly and Jubilee Lines and make existing journeys less tortuous. Additional reduction in congestion at Paddington and Liverpool Street mainline stations, as the need to interchange is removed, is another key benefit from Crossrail.
- 4.5 Crossrail is an opportunity to bring to London a brand new service that can meet the not unreasonable expectations of travellers in the 21<sup>st</sup> century: a railway that is fast, frequent, efficient, reliable, clean and safe. Journey times slashed by as much as a third (e.g. Ilford to Bond Street in 20 minutes) would contribute to increased productivity in the London workforce as onerous journeys to and from work would be reduced.



*Crossrail is needed to support London's future growth*

- 4.6 Economic growth fuels demand for travel by all different modes: rail, road, and air yet there is already evidence that discomfort caused by overcrowding is already limiting the numbers of journeys made to work using the rail network. This suppression of demand, unless addressed, will act as a brake on the continued economic growth of London.
- 4.7 London City Airport wholly supports the case for Crossrail Line 1 that in its proposed core route will link the capital's premier airport of Heathrow with the primary employment and wealth generating areas of the capital, Westminster, the City of London and Docklands. London thrives as a World City because of the vast number of worldwide connections available from Heathrow. London must be able to continue to improve its attractiveness as an international destination. Crossrail will be an important element in achieving this.
- 4.8 London must maintain its competitive edge in comparison with other European cities. Failure to invest in much needed rail capacity may encourage existing companies to consider relocating their businesses outside London. As concerning would be a trend for international companies to dismiss London as a potential location because travel around the city proved to be so difficult.
- 4.9 It is encouraging that the consultation document shows that the core route for Crossrail Line 1 now serves the Isle of Dogs. Canary Wharf and the Isle of Dogs have until recently been under-recognised as key employment and wealth producing areas of the capital. The DLR and the Jubilee Line struggle to cope with today's demand at peak travel times and without significant increases in train length or frequency, it is unclear how Canary Wharf and the Isle of Dogs will be able to grow to twice today's size by 2007 without Crossrail.
- 4.10 Growth in London has for the past 30 years been unevenly distributed in favour of west London, perhaps in part because east London is relatively under-served with direct Underground connections. Crossrail Line 1 presents a significant opportunity to further encourage growth at Canary Wharf, the Isle of Dogs and the Royal Docks. Existing or proposed developments in the Royals, in addition to London City Airport, include ExCeL, the Royals Business Park, Silvertown Quay including a new aquarium for London and Peruvian Wharf. It should be noted that even now when Excel is hosting a large exhibition, the DLR and Jubilee Line is full to capacity at peak travel times. Crossrail is needed not only to provide extra capacity into the



Royals but also to provide credibility to public transport provision in the area. If operational difficulties arise on the DLR or Jubilee Line, Crossrail will provide an alternative means of access to the Royals.

*Crossrail to boost the development of an integrated transport network*

- 4.11 The tube system, in many places a relic of the 19<sup>th</sup> century, cannot and should not be relied upon to connect central London as exclusively as at present. Crossrail is needed to provide a new backbone to transport infrastructure in the capital.
- 4.12 For too long London has had to function with a transport system based on a hub and spoke principle with regional rail lines terminating at one of five or six mainline stations. The location of these terminal stations around the periphery of Central London requires passengers to interchange onto the Underground or other modes to get to their final destination. These changes create inconvenience and lengthen journey times.
- 4.13 To maximise the benefits of Crossrail, proposals to extend westwards and eastwards from the core line, are equally welcomed. The existing network discourages journeys across Central London and either constrains employment opportunities or encourages people to travel by car on the north and south circulars or the M25. Crossrail will give Londoners access from the east and west to jobs and services in the centre.
- 4.14 More than simply serving Central London from the east and from the west, Crossrail Line 1 will link the whole of Greater London together bringing some of its key town centres, such as Stratford and Ealing, within manageable journey times of one another.

*Crossrail to relieve road congestion*

- 4.15 Fast, reliable and comfortable trains will be able to offer an alternative to the motorist and therefore encourage a modal shift to take place. The policy of introducing congestion charging in Central London is currently contentious because of doubts that London's rail infrastructure can cope with extra demands placed upon it. Crossrail would provide extra capacity for that demand and allow other transport objectives to be met such as environmental ones.



*Crossrail to support projected population growth*

- 4.16 The draft London plan forecasts that London's population will rise by 700,000 people to more than 8.1 million by 2016. More people will generate more journeys and place more demand on the existing network. Crossrail can contribute to the extra capacity that will be required by this extra population particularly if it adequately serves East London where a third of the future population is forecast to live.

*Crossrail to stimulate regeneration in London*

- 4.17 Effective transport links are key reasons why some parts of the capital are more prosperous than others. It has been shown that good transport links are vital if regeneration of deprived areas of the city is to be successful. Crossrail Line 1 passes through key areas where regeneration opportunities exist, such as Park Royal, Lea Valley, Stratford and Hackney. The latter three areas, all located in East London, contain some of the most deprived wards in the country and experience high unemployment rates. A direct link to the city's centre will give greater access to jobs thereby helping to redress the wealth imbalance.

*Crossrail to help the environment*

- 4.18 Crossrail will generally promote a modal shift from car to rail and thus help reduce air pollution and road accidents.



## **5. CORRIDOR OPTIONS**

- 5.1 The consultation document invites comment on five corridors, that branch from the core Crossrail route. Three of these routes continue west from the core route while two advance eastwards. London City Airport does not wish to express an opinion on the merits or otherwise of the western corridor options.
- 5.2 London City Airport believes that one of the previously considered eastern corridor options to Tilbury via the Royal Docks, has been discounted too readily without a closer look at the vast regeneration benefits that would have resulted from a scheme passing through Barking and Dagenham, two areas of the capital highlighted as having significant land available for future development. Barking Reach alone has a target to accommodate 10,000 new homes by 2016.
- 5.3 London City Airport supports both extensions to the core route, north-eastwards to Shenfield and south-eastwards to Ebbsfleet. The consultation document does not suggest that there is a choice to be made between the two. One of the current barriers to further development of East London is the lack of high quality, fast and regular transport links from the east to the centre of London. The Thames Gateway is projected to receive almost a third of London's total new housing development and expected to provide 40% of all new jobs in London to 2016. Significant private sector development in the Thames Gateway will only come if investment in public transport occurs. Unless both these Crossrail routes are implemented, it must be questionable whether the high plot ratios muted in the London Plan can be achieved. Both of the proposed eastern corridor routes for Crossrail will support regeneration.
- 5.4 London City Airport supports Corridor 4, the Great Eastern Line that extends from Stratford to Shenfield. An extension east of Stratford will support the town as an area of regeneration adjacent to the Lea Valley and will provide a valuable interchange to the Channel Tunnel Eurostar services to mainland Europe. As an GLA identified Opportunity Area, the case for further investment in Stratford will be stronger if it has a Crossrail service both to the east and the west of it. In addition, the link to Stratford will ease congestion on one of the busiest demand corridors in the whole of London.
- 5.5 Access to Canary Wharf and London City Airport from Essex would be vastly improved by Crossrail serving Stratford, allowing connections to be made via the DLR or the Jubilee Line. This will not only improve access to passengers wishing to



travel from London City Airport but it will allow employees, many of whom already live in this part of London, to travel by public transport to work.



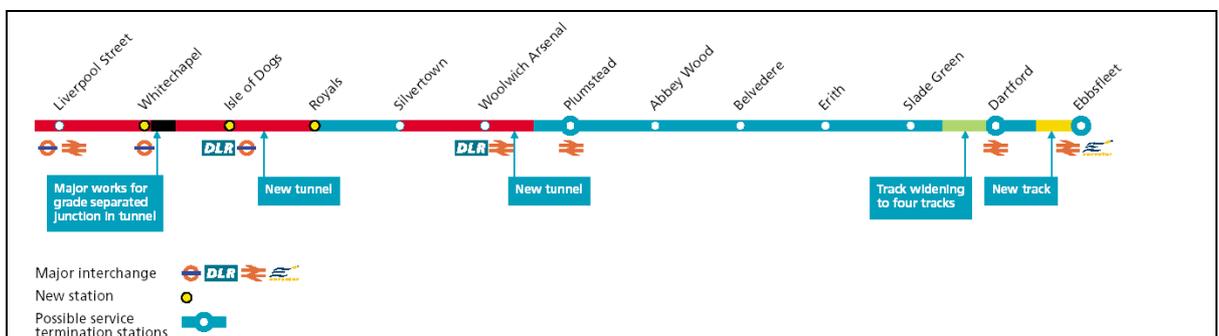
## 6. OPTIONS FOR CORRIDOR 5 (NORTH KENT)

6.1 It is on Corridors 5a and 5b that London City Airport wishes to concentrate its comments. To summarise, two alternative routes are proposed eastwards of the Isle of Dogs with options for the line to terminate at either Charlton (in the case of route 5b), Plumstead, Dartford or Ebbsfleet:



- (i) Route 5a remains north of the river to pass through the Royals and Silvertown, before reaching Plumstead and possibly serving other stations to Ebbsfleet on the North Kent lines.

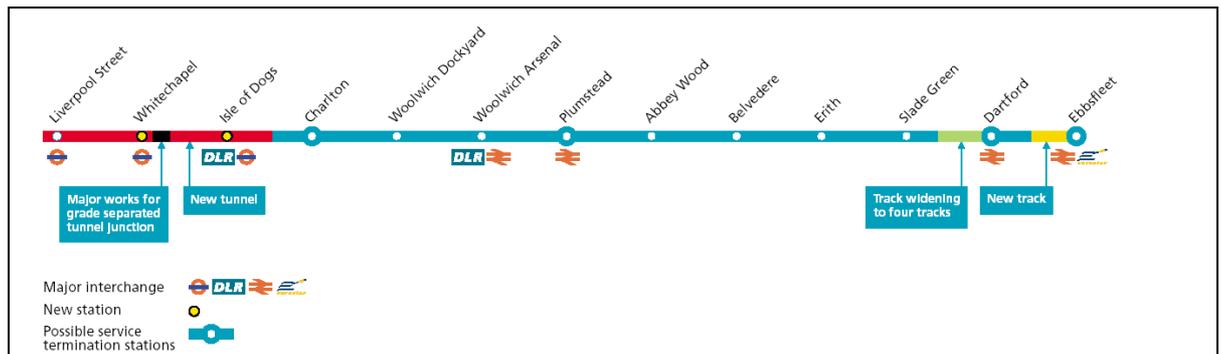
**Diagram 5.1 - Corridor 5a: North Kent Line via the Royal Docks**





- (ii) Route 5b branches underneath the river to serve Charlton and Woolwich Dockyard before reaching Woolwich Arsenal and possibly stations to Ebbsfleet.

**Diagram 5.2 – Corridor 5b: North Kent Line via Charlton**



- 6.2 London City Airport strongly believes that a choice in favour of Corridor 5a via the Royals should be made because the positive regeneration benefits of this route far outweigh any benefits arising from the route serving Charlton.
- 6.3 The Royal Docks Crossrail Group commissioned GLE Strategies to assess the likely regenerative impact of the Crossrail scheme on the two locations.
- 6.4 GLE Strategies has used an industry standard measure to identify a given radius around each proposed station, referred to as a ‘zone of influence’, a distance of 800m. This distance is seen as reasonable walking distance from a station where positive impacts on the local economy will be the greatest.
- 6.5 GLE Strategies has shown that the impact of routing Crossrail through the Royals will be 31,500 net additional jobs to the area compared with no positive employment effect if the route serves Charlton.
- 6.6 Key points arising from the options 5a and 5b as presented are:
- It is questionable whether it is technically possible for two Crossrail stations, each 300m in length, to be accommodated both in the Royals (Custom House) and at Silvertown. Hyder Consulting Ltd has investigated the feasibility of locating one Crossrail station in the Royals/Silvertown area. The precise location, and benefits, of such a station will be considered later in this paper.



- There is an option for the 5b route to Charlton to actually terminate in Charlton. Only the route via the Royals guarantees that Crossrail will serve Woolwich too, an area currently undergoing major re-development.
- In order to make a credible comparison of the two routes in terms of costs and benefits it is necessary to compare ‘apples with apples’. An approach that compares the cost of route 5b terminating in Charlton versus route 5a terminating in Plumstead is clearly flawed. In order to accurately and fairly compare the costs of the two options an assumption needs to be made that both routes terminate in the same place, whether that is at Plumstead, Dartford or Ebbsfleet.

6.7 The case for routing Corridor 5 via the Royals is presented in Chapter 7 by showing how the Royals fulfils objectives set out for Crossrail. Chapter 8 shows why a route via Charlton does not meet the objectives for Crossrail agreed between the Minister, the Mayor and the Chairman of the Strategic Rail Authority. Chapter 9 details the estimated regeneration benefits that would accrue to the Royals if Crossrail served this area. For comparison, in Chapter 10, the impact of a station in Charlton is set out. Chapter 11 compares the findings of the previous two chapters. Chapter 12 sets out the benefits of one central station in the Royals while the final chapter discusses the cost comparison work that has been undertaken and draws conclusions from this.



## 7. CROSSRAIL VIA THE ROYALS – FULFILLING OBJECTIVES



7.1 Six objectives for Crossrail are identified in the consultation document. A route through the Royals will meet all these objectives:

<p><i>1. Support the transport, planning and environmental objectives of the Government's 10 year Transport Plan, the Mayor's Strategies for London, the Strategic Rail Authority's Strategic Plan and Regional Planning Guidance</i></p>
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7.2 Regional Planning Guidance for the South East' (RPG9) identifies the Thames Gateway as representing the major growth opportunity in the region. The 'Thames Gateway Planning Framework' (RPG9A 1995) identifies Stratford and **The Royal Docks** as the western focus for regeneration and development in the Thames Gateway area.

7.3 The Mayor's draft London Plan identifies **The Royal Docks** as one of East London's opportunity areas. The Plan supports the continuing development of the Royal Docks and acknowledges that Crossrail 1 could "help sustain further housing and economic development".

7.4 The objectives of the Strategic Rail Authority are to meet the Government's targets for rail included in the Ten Year Transport Plan, namely to increase rail use by 50% and reduce overcrowding by providing more capacity. Crossrail will obviously support these objectives, and more specifically if a station is provided in **The Royals** will ensure that current rail infrastructure to the area is not over-loaded once key



developments ear-marked for the area, such as the London Aquarium, Silvertown Quays and the Royals Business Park are complete.

- 7.5 A station in the Royals in addition to fulfilling the objectives of those bodies listed in objective one, would also contribute to the objectives of the London Borough of Newham as outlined in their UDP. **The Royals** form part of the ‘Arc of Opportunity’ identified in the plan and also include Stratford, the Lower Lea Valley and Beckton. The plan identifies fifteen major opportunity zones in the Borough of which six are in the Royals and a further three sites are in neighbouring Beckton. The vision for the Royals within the ‘Arc’ is to provide “.....prestigious office and leisure facilities and thousands of new homes in an unparalleled new urban setting.”
- 7.6 **The Royals** is also a priority location for the London Development Agency as demonstrated by its investment in the preparation of two of the sites in the Royals of which it retains ownership.
- 7.7 A Royals Crossrail station will also support the Government’s recently published consultation document on airport capacity in the UK. This paper proposes a planning policy that actively encourages airports to maximise the capacity and utilisation of existing runways before constructing a number of new runways. Although it is unlikely that an additional runway could be provided at London City Airport, located in the **Royal Docks**, it is probable that additional capacity could be developed beyond the current planning approvals. The consultation paper suggests that the airport could reach 5 million passengers per annum by 2030. The airport believes that, subject to securing planning approval for increases in aircraft movements, with Crossrail it is probable that development to 5 million passengers would come much earlier perhaps by 2015.

<p>2. <i>To relieve congestion and overcrowding on the existing National Rail and Underground networks and support the development of a network of strategic interchanges</i></p>
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- 7.8 The price of NOT providing a station in the Royals must be clearly understood. The Mayor in his draft London Plan acknowledges the recent additions to public transport capacity in East London such as the DLR extension to Lewisham and the Jubilee Line extension from Stratford to Waterloo. However, he goes on to say that this capacity, mainly on the inner part of the sub-region, particularly the Isle of Dogs and Greenwich, is only adequate to support the current level of population and employment.



- 7.9 London City Airport argues that the strategy for the Royals, outlined in the draft London Plan, would be in danger of not being realised if a Crossrail station in the Royals is not built. In addition to existing developments in The Royals (detailed below) the future plans for the area amount to 11,000 new jobs (arguably a very conservative figure as detailed later) and 5,500 new homes by 2016. In addition to the extra living and working population that these plans will bring, a further 1.7 million visitors a year are projected to visit the new London Aquarium planned for the south side of Royal Victoria Dock. 1.7 million visitors to the aquarium will potentially generate 3.4 million journeys since visitors will need to make return journeys. Even with the extension of the DLR to the airport by 2005, there will be insufficient transport capacity to the Royals to support the development vision.
- 7.10 An example of the DLR and Jubilee Line operating to capacity can already be seen on days that ExCeL is hosting major exhibitions. Around 75% of visitors use public transport to get to ExCeL. Passenger movements peak between 9.30-10.30 am and 4.30-5.30pm at which times the DLR is full even at the highest frequency (a train every two minutes). This equates to 11,400 passengers per hour (380 people per train) to Canning Town for transfers to the Jubilee Line. This is not sufficient to clear ExCeL in an hour and causes considerable platform and train congestion.
- 7.11 A Crossrail route through the Royals offers the potential to link with the proposed East London Transit, a scheme that has received Mayoral approval; the first phase of which is due to be completed by 2006. Phase two see this busway serving Gallions Reach, a short distance from a Crossrail station in the Royals.

<p>3. <i>Facilitate the continued development of London's primary finance and business service activities</i></p>
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- 7.12 The Canary Wharf estate is expected to be fully developed by around 2007. It is inevitable that as this happens, developers will need to look for alternative sites. The availability of land in the adjacent Royals will become increasingly attractive, a reason why the Royals is identified in both the draft London Plan and Newham's UDP. A Crossrail station in the Royals will ensure that the area benefits from the 'spill-over effects' that will inevitably occur.
- 7.13 Within The Royals four main sites surrounding the docks, all of which either are, or will be, business service activities: ExCeL, London City Airport, Silvertown Quays and the Royals Business Park. A Crossrail station sited between these four sites would



considerably support the further development of all four businesses in addition to other businesses sited in close proximity.

- ExCeL, the exhibition centre for London, covers a site of 40 hectares with phase one of the development containing nearly 100,000m<sup>2</sup> of exhibition space. ExCeL expects 1 million visitors in 2004. While approximately 200 people work at Excel, numbers are considerably swollen by those employed to erect or dismantle an exhibition. Other economic benefits of ExCeL derive from spending by each visitor, estimated to be £15 per person.
- Silvertown Quays is the name of the consortium selected to redevelop a large brownfield site to the south of Royal Victoria Dock. The proposals are for a mixed-use urban district combining an aquarium with a town centre, hotels, residential development and some commercial space. It is hoped that the aquarium, which is expected to see 1.7 million visitors per annum, will be complete by 2006 with the remaining site built out by 2008. This number of visitors would put the London Aquarium on a par with the Natural History Museum and Chessington World of Adventures. The aquarium is backed by Mayor Livingston who stated at the launch event: “As well as contributing to the local community and to education, science and conservation schemes, an international standard aquarium.....will provide a boost to the whole Thames Gateway and signal our confidence in the future development of East London”. Forecast total employment for the site is 4,800 jobs with 3,000 new homes.
- The Royals Business Park, a site on the north side of Royal Albert Dock covers 21 hectares and has outline consent for 150,000m<sup>2</sup> office space and 9,000m<sup>2</sup> retail and leisure. Depending on market conditions, the site is likely to be fully developed by 2016 providing employment for around 10,000 people.

7.14 In addition to the sites immediately surrounding the Docks, there are other development opportunities in the wider Royal Docks area stretching from the Silvertown Viaduct in the West to the Albert Basin in the East. At present there are a 188 firms located within this area, employing nearly 4,500 people<sup>1</sup>. However, many of these sites are reaching the end of their lives as industrial employment locations and offer the potential for significant redevelopment. This will almost certainly increase densities.

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<sup>1</sup> Dun & Bradstreet



- 7.15 In particular, the Thameside Estate, due south of the Connaught Bridge that runs through the centre of the Royals and within the 800m zone of influence, has considerable opportunity to be redeveloped at significantly higher density with offices if Crossrail goes through the Royals. At present there are approximately 431 people employed there with 15 companies. The estate covers 32ha, and has recently been bought in order to develop an urban business park.
- 7.16 Part of the Albert Basin also falls within the Zone of Influence and is therefore suitable for significant increases in plot ratio. The Basin is the subject of a forthcoming Area Development Framework that constitutes supplementary planning guidance from Newham Council. At present the land is primarily under the control of the London Development Agency and has little economic use with only 6 firms located there, employing 52 people.<sup>2</sup> The guidance requires a mixed-use development of residential, employment, retail, leisure and commercial use of the basin itself.

<p>4. <i>Facilitate the improvement of London's international links including Heathrow</i></p>
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- 7.17 London City Airport is an important international link in its own right, linking London with the UK regions and a host of European cities. Other international destinations, including long-haul ones can be accessed via European hub airports such as Paris, Amsterdam and Frankfurt. A Crossrail station in the Royals would widen the catchment area of the airport. A list of destinations served from London City Airport can be found in Appendix A.
- 7.18 The airport is currently the only London airport not served by a fixed rail link. This will be addressed when the DLR extension to the airport is completed in 2005. The airport is concerned however that much of the DLR capacity provided by this extension will be taken up by 1.7 million visitors expected to visit the aquarium per annum. Crossrail in the Royals will be needed to ensure there is sufficient transport capacity to/from central London.
- 7.19 The DLR is a local rail network that once complete, without the aquarium generating 10,000 or more trips per day, can serve those airport passengers that have journey origins or destinations in Canary Wharf or the City of London. The DLR will not serve the airport's other prime catchment area of the Borough of Westminster. Only a

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<sup>2</sup> *ibid*



Royals Crossrail station can link passengers swiftly to the heart of the capital at Tottenham Court Road and Bond Street.

5. *Crossrail to facilitate the regeneration of priority areas such as the Thames Valley and the Lea Valley.*

7.20 The Royal Docks is located *within* the Thames Gateway and *adjacent to* the Lea Valley and a Crossrail station in the Royals would undoubtedly stimulate further regeneration in the area. The Royal Docks is geographically the largest opportunity area identified in the East sub-region of the draft London Plan having 368 acres of land available for development. It is also the third largest opportunity area in the whole of London. Crossrail serving the Royals is the key to unlocking the potential of these 368 acres.

7.21 GLE Strategies has undertaken a comprehensive assessment of employment generated in the Royals with and without a Crossrail station. The findings show that 31,500 net additional jobs will be created in the Royals if a Crossrail station is sited there. A breakdown of the findings is presented in Chapter 9.

6. *Provide improved east-west rail access into and across London from the East and South-East regions*

7.22 If Crossrail is to achieve the above objective then it cannot terminate at Stratford and the Isle of Dogs. It must continue along the proposed easterly lines to Shenfield and Ebbsfleet, both north and south of the Thames.

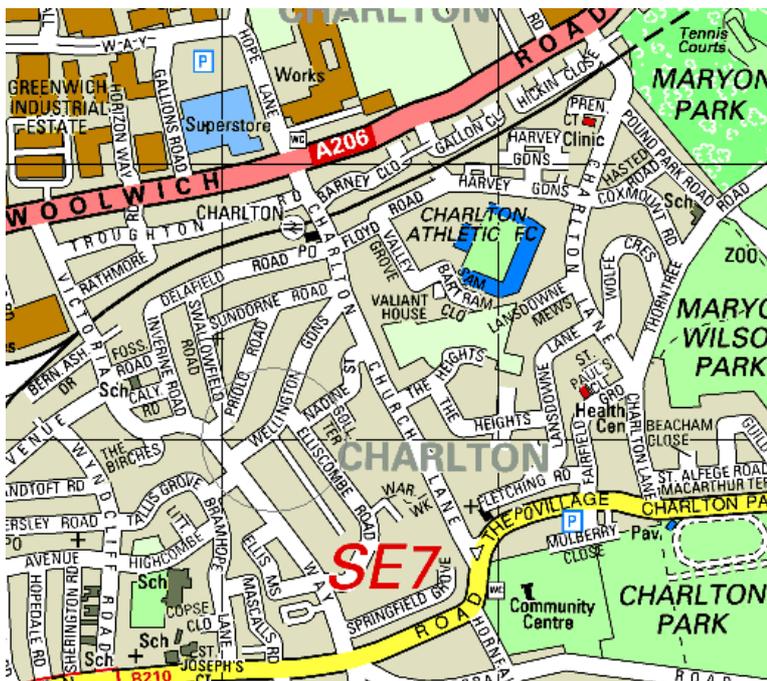
7.23 A link south of the river will obviously necessitate a new river crossing, something that is in short supply in East London, allowing North Kent Rail Lines to feed directly into a growing part of London. The Woolwich Ferry, a limited service, is currently the only way of accessing the Docklands from north-east Kent. The north-easterly route is badly needed in order to release capacity on existing lines into Liverpool Street from the east. The further development of much needed services from the Upper Lea Valley and Stansted area into Stratford and Liverpool Street will be possible.

7.24 Crossrail routed through the Royals instead of Charlton will improve access into central London for the new population that is forecast to live in the Royals, centred around the new proposed town district of Silvertown Quays.



## 8. CROSSRAIL VIA CHARLTON – OBJECTIVES NOT MET

- 8.1 The following map shows the location of the current Charlton BR station located to the north west of Charlton Athletic Football ground. It is here that a proposed Crossrail station would be sited. As can be seen the area is largely residential.



- 8.2 A Crossrail route via Charlton DOES NOT satisfy five of the six objectives identified for the Crossrail project:

*1. Support the transport, planning and environmental objectives of the Government's 10 year Transport Plan, the Mayor's Strategies for London, the Strategic Rail Authority's Strategic Plan and Regional Planning Guidance*

- 8.3 Charlton is not an area identified in policy with significant scope for future development. Charlton is a mixed, established neighbourhood served by a heavy rail link to London Bridge. To the south of the BR station the area is largely residential with little potential for new development. To the north between the station and the river are sites used mainly for employment purposes including a number of industrial estates, aggregates and scrap uses and two small retail parks.



- 8.4 Charlton, although located in the Thames Gateway is not identified in the draft London Plan as either an Opportunity Area or an Area for Intensification.
- 8.5 In fact, the whole of the area is designated as a “Defined Industrial Area” in Greenwich’s Draft Deposit Unitary Development Plan. Within this there are a number of specific site designations including:
- Charlton Riverside Aggregates Zone and Railhead – both safeguarded uses which form a buffer between the developments on the Greenwich Peninsula and the main industrial area
  - Charlton Business Park – which is identified as a “mixed use area” – the mix of uses being retail and commercial (but not B1 offices unless ancillary)
  - Riverside Walk and Public Open Space
- 8.6 The current employment uses are further safeguarded by their designation in the Mayor’s draft London Plan as a Strategic Employment Location. These locations are regarded as providing a vital strategic role in London’s manufacturing economy. In these areas the Mayor will “promote and manage the varied industrial offer.... as London’s strategic reservoir of industrial capacity”.

*2. To relieve congestion and overcrowding on the existing National Rail and Underground networks and support the development of a network of strategic interchanges*

- 8.7 Charlton station has a heavy rail service into Central London, running six trains an hour to and from London Bridge in the morning and evening peaks (over half of which continue to Waterloo East and Charing Cross). The journey time is 14 - 20 minutes and offers interchange to the DLR at Greenwich that operates an 11-minute service to Canary Wharf with 15 trains an hour. Crossrail would not therefore make a significant impact, even within the zone of influence of the station. Beyond that, the station has even less impact as it is located just 2.5km away from the Jubilee line station at North Greenwich and 1.8km away from Woolwich Arsenal, which will also take Crossrail trains and has existing heavy rail services into Central London.

*3. Facilitate the continued development of London’s primary finance and business service activities*

- 8.8 Charlton is not a location for finance and business service activities. The majority of employment in the area is industrial. Industrial sites are those least influenced by



passenger rail services – strategic road access is of far greater significance. Most industrial uses are accommodated in large single storey buildings resulting in little scope for intensification.

4. *Facilitate the improvement of London's international links including Heathrow*

8.9 There are no major international transport links or businesses located within Charlton that would particularly contribute to improving London's overall international connections.

5. *Crossrail to facilitate the regeneration of priority areas such as the Thames Valley and the Lea Valley.*

8.10 Charlton is located within the Thames Gateway and the current sites within the 800m zone of influence of the station provide employment for approximately 4,500 people and in the wider area there are another 600 making a total of 5,100 jobs. Greenwich Council regards its Industrial Areas as “an essential aspect in safeguarding and enhancing the quality and range of employment opportunities in the Borough to address problems of social exclusion, a requirement that takes on increased importance when set against pressures to release brownfield and riverside sites for housing.”

8.11 Under the current planning environment it is clear that there will be little or no impact in terms of employment within the vicinity of Charlton Station given the lack of development sites, limited scope for intensification of current uses and the likely limited impact of passenger rail (as opposed to road or rail freight) impact on B2 to B8 or “Retail Park” uses. GLE Strategies proposes that longer-term industrial trends suggest a small reduction over time in employment regardless of Crossrail due to productivity increases leading to increases in the floorspace to employee ratio in the distribution and manufacturing sectors.

8.12 GLE Strategies however acknowledges that local planning policy may change in the longer term thereby allowing change of use from B1/B2-8 to other uses. They suggest an alternative scenario that may develop over a 15-year timescale and have assumed the area could be redeveloped on a 40/60 split of current employment to housing/mixed use. For the mixed-use development they estimated a split of 80% housing, 10% retail and 10% employment (B1).



- 8.13 GLE Strategies calculates that there are currently 4,500 jobs in the 60ha to the north of Charlton station within the zone of influence. This equates to 55 jobs per hectare and 180m<sup>2</sup> per job. On the basis that 40% remained employment land at the same intensity as present, employment will fall by 60%. The residential component is likely to be built at a higher density, (possibly at a plot ratio of 2:1), on 60% of the land. This results in employment falling by 2,700 to 1,800 but that there is scope for around 3,500 housing units, assuming an average of 100m<sup>2</sup> per unit.

6. *Provide improved east-west rail access into and across London from the East and South-East regions*

- 8.14 Without doubt both routes 5a and 5b will both improve access into Central London from the South-East region particularly if Crossrail is extended as far as Ebbsfleet. However, the Charlton route, if chosen, could potentially terminate in Charlton and therefore improved access into central London would only benefit businesses and residents in Charlton. The earliest termination point for a route via the Royals would be Woolwich Arsenal and that would ensure a greater number of people would benefit from improved accessibility.



## **9. REGENERATION IMPACT OF A CROSSRAIL STATION IN THE ROYAL DOCKS**

9.1 A Crossrail station in the Royals will do two things:

- (i) It will secure current investment proposals for the Royals. Experience in other parts of London has demonstrated that even with well developed plans (e.g. Battersea Power Station), sites can remain underdeveloped if the transport infrastructure is insufficient
- (ii) It will ensure that not only do proposed developments go ahead but also that they are used intensively, especially the major visitor attractions of ExCeL and the London Aquarium.

### **The Core Sites**

9.2 GLE Strategies working with the London Borough of Newham estimates that Crossrail could increase densities at the core sites around the Royal Docks:

- The Royals Business Park has the potential to double in density. This would increase employment by eight to ten thousand to 15,000 – 20,000 jobs
- Silvertown Quays could see an increase in housing units on the development from 3,000 to 5,000.

9.3 In addition to stimulating plot densities, Crossrail in the Royals would increase potential visitor numbers to the London Aquarium, ExCeL and London City Airport. By 2012 it is estimated that both the London Aquarium and ExCeL could have 2 million visitors each a year, the majority of which are likely to make an outward and a return journey. London City Airport predicts that without Crossrail it would see 3.5 million passengers a year, but this could rise to 4.5 million by 2012 if Crossrail passes through the Royals.

9.4 As the table below shows there is a potential market of 12.5 million passengers a year to/from the Royals, the majority full fare paying passengers and not season ticket



holders. The revenues provided by this large pool of passengers will reduce the public sector cash requirement for the project.

**Table 9.1 – Potential Journeys by Crossrail by 2012**

Attraction	Potential Journeys with Crossrail by 2012
Excel	4 million
London Aquarium	4 million
London City Airport	4.5 million
Total	12.5 million

- 9.5 Crossrail in the Royals will allow ExCeL to compete with big convention centres in mainland Europe thus attracting new and bigger events. A link to Heathrow and the West End would be key to this. More and bigger events would mean more visitors and more jobs, both on-site and indirectly around London, thereby boosting tourism revenues.
- 9.6 Crossrail would offer faster connections to the West End and so improve the accessibility of London City Airport. Improving the accessibility of London City Airport is likely to increase demand, so meaning that the airport will reach 3million passengers per annum sooner. Increased demand in turn increases the range and frequency of destinations that are economically viable and so further stimulates demand. It might also facilitate some interlining with Heathrow as the transfer time would be significantly reduced. London City Airport operates almost exclusively point-to-point services with very few transfer passengers and so could effectively act as a sixth terminal for Heathrow.
- 9.7 Table 9.2 below calculated by GLE Strategies, summarises the employment impact at the core sites in the Royals, based on higher densities and increased visitor numbers. These are based on floorspace ratios and ratios of visitors to employees. The bulk of the increased employment would be at the Royals Business Park but a total of 11,440 extra jobs will be created if a Crossrail station is located in the Royals.



**Table 9.2 – Employment at Core Sites in the Royal Docks**

Site	Jobs in 2010	Jobs in 2010	Difference
	Without Crossrail	With Crossrail	
London City Airport	2,500	3,650	1,150
ExCeL	2,000	2,500	500
Silvertown Quays	4,600	4,700	100
Royals Business Park	10,310	20,000	9,690
TOTAL	19,410	30,850	11,440

9.8 It should be notes that even without Crossrail, the numbers of jobs forecast for the Royals is well in excess of the employment forecast proposed in the draft London Plan. This forecasts only 11,000 jobs at the Royal Docks. The Royals will play a much more important role than the draft London Plan is forecasting and therefore merit greater transport improvement.

9.9 London City Airport believes that the GLE forecast for employment at the airport is rather conservative. The airport’s own forecasts for employment based on a widely used industry ratio of 1,000 full time jobs for every 1 million passengers, would suggest employment levels closer to 3,500 without Crossrail and up to 4,500 with Crossrail.

### **Wider Developments in the Royal Docks**

9.10 Several of the developments around the core Royals sites also offer the potential for re-development with newer uses and higher densities if Crossrail has a station in the Royals. Many of these sites are in current low-density employment uses but re-development on a number of sites is already underway and likely to intensify in the event of Crossrail running through the Royals.

9.11 The site with the greatest potential is the Thameside Estate for which GLE Strategies estimates a development potential for 207,000m<sup>2</sup> of floorspace to be redeveloped for B1, B2 and B8 uses. Without Crossrail the estate’s main transport link will be the



new DLR extension to London City Airport. This will allow some increase in density but is less likely to bring forward some change of use.

**Table 9.3 – Thameside Estate Employment Potential**

	Plot ratios	Net area (m <sup>2</sup> )	B1 (15%)	B2 (50%)	B8 (35%)	Jobs
Without Crossrail	0.75:1	201,000	30,150	100,500	70,350	4,449
With Crossrail	1:1 & 1.5:1	351,000	52,650	175,500	122,850	8,204

9.12 The impact of Crossrail is therefore to provide an additional 3,700 jobs at the Thameside Estate.

#### **Albert Basin**

9.13 The “Albert Basin” sites have been identified as having the potential to support mixed residential and employment uses. Higher density development would be facilitated if Crossrail goes through the Royals. GLE Strategies calculates that plot ratios can double the amount of employment generated from these sites and therefore Crossrail will create an additional 3,333 jobs.

#### **Other Sites in the Royal Docks**

9.14 Newham Council has assessed other locations in the Royal Docks, particularly to the south west of the Docks and produced likely allowable plot ratios on the basis of two scenarios, one with Crossrail and the other without. Most of the sites are zoned for employment uses and Newham has an ambition, set out in its ‘Arc of Opportunity’ document, to attract mixed-use developments, including high quality office developments and manufacturing/light industrial workspace. The planning policies are therefore in place to support a substantial development of B1 uses around the Royal Docks, and in particular in the sites to the south west of the Royals.

9.15 This re-development is likely to take some time and is unlikely to be complete by 2010. For these sites, GLE Strategies has assumed that they will be evenly split between B1 and B2 uses in 2010 and be entirely in B1 uses in 2015.



**Table 9.4 Employment Potential of Wider Royal Docks Sites with Crossrail**

Site	Size (m <sup>2</sup> )	Plot Ratio	Net Developable Floorspace (m <sup>2</sup> )	Jobs in 2010	Jobs in 2015
Akzo Nobel (part)	14,795	1:1	11,836	493	789
Brad Field (part)	116,832	1:1	93,466	3,894	6,231
Minoco Wharf	52,001	1.5:1	62,401	2,600	4,160
Carlsberg	51,656	2:1	82,650	3,444	5,510
Akzo Knoble (part)	36,104	2:1	57,766	2,407	3,851
Brad Field (part)	127,053	2:1	203,285	8,470	13,552
<b>TOTAL</b>	<b>398,441</b>		<b>511,404</b>	<b>21,309</b>	<b>34,093</b>

9.16 The alternative scenario without Crossrail has plot densities that are half those under the “with Crossrail” scenario. Job creation in 2010 would only be 10,655, rising to 17,047 in 2015; therefore a net additional 10,600 jobs would be created by Crossrail by 2010 rising to 17,000 jobs by 2015.

9.17 The overall impact of Crossrail on employment at the sites in the wider Royal Docks area is therefore:

**Table 9.5 – Overall Impact of Crossrail on Wider Sites**

Sites	Jobs in 2010 Without Crossrail	Jobs in 2010 With Crossrail	Difference
Thameside Estate	4,449	8,204	3,755
Albert Basin	3,333	6,666	3,333
Wider sites	10,655	21,309	10,655
<b>TOTAL</b>	<b>18,437</b>	<b>36,179</b>	<b>17,742</b>



- 9.18 The impact of Crossrail is therefore to provide an additional 17,742 jobs by 2010 at the sites in the wider Royal Docks Area. This is likely to rise to 24,134 by 2015 as more sites are developed for B1 uses.
- 9.19 The Crossrail route through the Royals offers the opportunity to achieve greatly increased densities both at the core sites immediately surrounding the Royal Docks and in the wider area that forms part of Newham's 'Arc of Opportunity'. GLE Strategies estimates that the overall impact on jobs to be:

**Table 9.6 – Overall Impact of Crossrail on the Royal Docks**

Site	Jobs in 2010		Difference
	Without Crossrail	With Crossrail	
Core Sites	19,410	30,850	11,440
Wider sites	18,437	36,179	17,742
TOTAL	37,847	67,029	29,182

- 9.20 The Crossrail route through the Royals will therefore provide an additional 29,000 jobs by 2010. This is likely to rise to 36,000 in 2015.



## 10. IMPACT OF A CROSSRAIL STATION AT CHARLTON

- 10.1 As stated earlier, the current planning policy for the Charlton area – both in the Borough’s deposit UDP and in the draft London Plan – is to retain, manage and improve the current industrial floorspace in the Charlton industrial area and adjacent sites. As shown on the map, the remainder of the Charlton area is largely residential with little scope for redevelopment or intensification of uses. If the current planning framework remains the same it is therefore unlikely that Crossrail will have any significant impact in terms of employment generation in the Charlton area.
- 10.2 Given however that the impact of transport schemes is long term, and that land-use and changes in planning policy may facilitate changes of use, GLE Strategies investigated the impact of a housing led mixed-use scenario that identifies the potential for development in the area. This is not a *forecast* of impact but an illustration of development *potential*. The following assumptions were made:
- A substantial proportion of current employment uses remain (40%), due to site safeguarding and the required scale of any development
  - That development in the area is likely to be housing led – following the trend set on the Greenwich Peninsula and in Woolwich
  - That over the whole re-development site (including roads and open space) there would be a plot ratio of 1.5 to 1 – in housing terms this would correspond with the recommended “urban” densities set out in the Mayor’s draft London Plan
  - That although housing led (80%), there would be the potential for small components of leisure and retail (10%) and small scale B1 employment uses (10%)
  - That the development period would be 15 to 20 years – including at least five years to see changes in planning policy. This would mean that developments would not be completed until 2015 to 2020
- 10.3 The table below sets out the impact, in terms of employment and residential development of the above scenario. The current jobs figures relate to the zone of impact; there are an additional 600 jobs located within the wider Charlton industrial area.



**Table 10.1 – Employment and Housing Potential of Charlton**

	Hectares	Plot ratio	Net Floorspace (m <sup>2</sup> )	m <sup>2</sup> per unit/job	Jobs
<b>Current</b>					
<b>(Industrial/ Retail)</b>	<b>80</b>	<b>N/a</b>	<b>N/a</b>		<b>4,500</b>
<b>Mixed Use Scenario</b>					
Residential	38.4	1.5	460,800	100	4,608 housing units
<b>Total Homes</b>					<b>4,608</b>
Retail	4.8	1.5	57,600	30	1,920
B1	4.8	1.5	57,600	15	3,840
B2/B8	32	As current			1,800
<b>Total Jobs</b>					<b>7,560</b>
<b>Net Impact</b>					
Additional Homes					<b>4,608</b>
Additional Jobs					<b>3,060</b>

10.4 The table illustrates that the “Regeneration” scenario – which would require significant changes in planning policy and probably public intervention to secure site packaging, remediation and preparation and support for affordable housing – could produce 4,500 additional homes and 3,060 additional jobs over a 20 year period.



## 11. COMPARISON OF IMPACTS – ROYAL DOCKS VERSUS CHARLTON

11.1 The table below sets out a comparison of impact, on the basis of the above assumptions, between the Royal Docks and Charlton.

**Table 11.1 – Comparison of Employment**

	Jobs in 2010 Without Crossrail	Jobs in 2010 With Crossrail	Difference
Royals	37,847	67,029	29,182
Charlton (current planning policies)	5,100	5,100	0
Charlton (changed planning policies)	5,100	8,160	3,060

11.2 The figures presented above for the Royals are for gross employment and to be truly representative need adjusting for displacement and multiplier effects.

11.3 Displacement is already included in the Charlton figures. Displacement for the Royals is estimated to be 500 jobs. A multiplier effect, which arises as a result of increased consumer spending and purchase of supplies by businesses locating in the Royals, has conservatively been estimated at 10%. These two factors combined increase the employment generated if a Crossrail station is located in the Royals to 31,500.

11.4 It is very clear to see therefore that by far the greatest benefits in terms of job creation arise if Crossrail is routed through the Royals rather than through Charlton. Ten times as many jobs are created if Corridor 5a is chosen instead of Corridor 5b.

11.5 Large scale infrastructure projects of this nature of course need to demonstrate value for money. The following chapter outlines the options for location, and cost, of stations in both the Royals and on the south side of the river.



## **12. A CROSSRAIL STATION IN THE ROYALS**

- 12.1 The LBN and the LDA jointly commissioned Hyder Consulting Ltd to undertake a feasibility study into the location of a single Crossrail station in the Royal Docks. The results of this study have been made available to the Royal Docks Crossrail Group. In addition, the LDA commissioned further work: a cost comparison between Corridor 5a via the Royals and Corridor 5b via Charlton (also undertaken by Hyder). These detailed reports are being submitted to Crossrail by LBN and the LDA separately and make very interesting reading. London City Airport however wishes to highlight a few points arising from these studies.
- 12.2 The Crossrail consultation document proposes two Crossrail stations within the Royal Docks area, one named 'Royals' located on the north side of Royal Victoria Dock, and the second named 'Silvertown' located close to the existing Silvertown BR station.
- 12.3 The Royal Docks Crossrail Group queried the choice of two stations in the Royal Docks within a short distance of one another, and proposes instead the option of a single station located between the two locations identified by CLRL. The location of the station that the Group proposes is an underground station at, or very close to, the current Connaught Railway Passage currently used by the North London Line railway service.
- 12.4 The primary reason for suggesting a station that straddled the docks was to maximise the station's access and egress points north and south to connect two communities currently isolated from one another by the existence of the docks. The community to the south of the docks in Silvertown is particularly cut-off, the area almost formed as an island sandwiched between the docks and the Thames. Appropriately placed exits from the station could serve ExCeL to the north-west, the business park to the north-east, the proposed London Aquarium to the south-west and City Airport to the south-east. Walkways and cycle ways would improve overall north-south circulation in this area.
- 12.5 Not only would a Connaught station knit together two communities and serve directly the four largest businesses and proposed new developments, it would also avoid problems that will arise if the Custom House and/or the Silvertown stations are chosen in preference. The provision of two stations provides access to both the north



and south sides of the docks. If only one station is provided then the efficiency of access becomes limited and additional transport connections are needed. A single Connaught station rather than stations at Custom House and Silvertown would also offer the benefit of reduced operating costs.

- 12.6 On the north side of the docks a Custom House station best serves ExCeL, with direct access for rail passengers. The Business Park would require a change over to the DLR, which can be achieved since the DLR and Crossrail stations would be side by side. On the south side Silvertown Quays and the Aquarium development lie outside reasonable walking distance from both the Custom House and Silvertown stations. London City Airport's terminal lies about 200m north of the Silvertown station and is therefore within walking reach. When compared to the provision of two stations, a single station location compromises the access to business north and south of the docks.
- 12.7 Hyder concluded that it is technically feasible to locate a station beneath the Connaught Passage providing that planning and engineering issues are appropriately addressed. Hyder proposes that such a solution will cost in the range of £250M to £290M plus, depending on the horizontal alignment adopted and other additional engineering options. This compares to Crossrail nominated proposed station locations of Custom House (surface) and Silvertown (sub-surface) with a cost of £285M.



## **13. COSTS AND CONCLUSION**

- 13.1 Hyder Consulting Ltd was also commissioned by the LDA to undertake a cost comparison between Corridors 5a via the Royals and 5b via Charlton. The cost comparison focussed on route options between the Isle of Dogs and Plumstead. The comparative costs of these two options is further complicated by alternative alignment options and alternative station options. For each corridor, three different options are proposed, although one of the Greenwich options is not a like for like comparison with the other options and this needs to be borne in mind.
- 13.2 In consultation with CLRL it was identified that two possible Thames crossings are under consideration for the Royal Docks option. The western one would make use of the existing Woolwich Arsenal station, whereas the eastern option would require a new station to be constructed underground at Royal Arsenal. The cost of the Royal Docks route between Isle of Dogs and Plumstead has been estimated to be between £565M to £704M depending on the option selected.
- 13.3 The Greenwich route between the Isle of Dogs and Plumstead makes greater use of existing stations, requiring only upgrades to accommodate longer (12 car) Crossrail trains. The estimated cost of this route is £302M. Through consultation with Crossrail, it is understood that a new station has been mooted for the Greenwich Peninsular. If this option is adopted, then the cost of this option increases to £478M to accommodate an additional underground station there.
- 13.4 The difference in cost therefore between the cheapest Royals route and a Charlton route with a station at Greenwich is only £87M in favour of the Greenwich option. If a Greenwich Peninsula station is not provided, the positive cost differential in favour of the Greenwich option increases to £263M.
- 13.5 The Hyder cost comparison report is being submitted to CLRL but in addition, the Royal Docks Crossrail Group is submitting a paper summarising these findings. One of the key findings of this report is the fact that the cost of the alignments either via the Royals to Woolwich, or via Charlton to Woolwich, vary very little. The variation in the cost of the different options is driven primarily by how many stations are built and whether the stations are surface or underground ones. The Royal Docks Crossrail Group noted, albeit at a late stage in the preparation of this report, that an option to route more westerly across the river, and therefore avoid the need for an underground



station in Woolwich, should be considered. A ballpark figure of the saving of not building an underground station at Woolwich, is thought to be around £100M.

- 13.6 It is clear from Hyder's work that the option to route Crossrail via the Royals is more costly than a route via Charlton. However, it is equally clear that the regeneration benefits of routing Crossrail via the Royals far exceeds those which could be achieved if the route went via Charlton, in fact employment generated in the Royals would be ten times or more than would be achieved in Charlton, and this is on the assumption that planning policies change for the area surrounding Charlton station. Employment generated as a result of a Crossrail station in Charlton could well be nil.
- 13.7 London City Airport believes that an infrastructure project of this magnitude that has such widespread implications for accessibility and employment creation in London, must receive the closest scrutiny. The cheapest option, as in all walks of life, is not necessarily the best course to take. It is the value for money equation that must be considered. Not only will a route via the Royals create far more employment but it also has the greatest potential to recoup its cost through revenues generated by the large volumes of people that would use a Royals Crossrail station.
- 13.8 The modest extra cost of the Royal option, when set in the context of the cost of the Crossrail project as a whole, is more than justified by the benefits it brings and London City Airport urges CLRL to make this choice.



## **APPENDIX A – DESTINATIONS SERVED FROM LONDON CITY AIRPORT**

Amsterdam	Frankfurt
Antwerp	Geneva
Basel	Hamburg
Belfast	Isle of Man
Berlin	Jersey
Brussels	Le Havre/Rennes/Deauville
Clermont Ferrand	Luxembourg
Dortmund	Manchester (from 9 <sup>th</sup> September 2002)
Dublin	Munich
Dundee	Paris
Dusseldorf	Rotterdam
Edinburgh	Zurich



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