

LIGHT RAIL : WHAT RELEVANCE
FOR DOCKLANDS, LONDON?

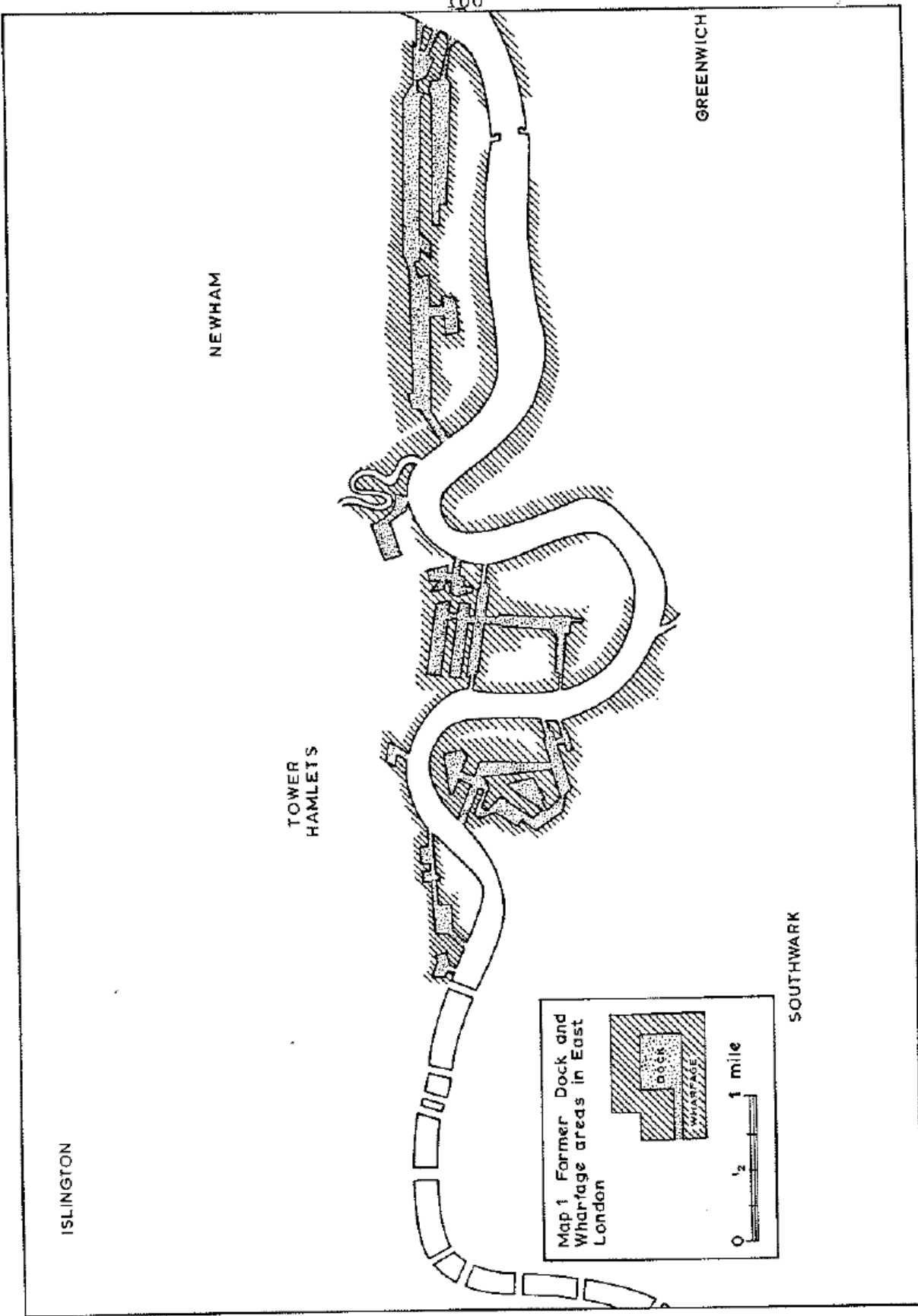
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IN THE BEGINNING...

London's Docklands Map 1 have been in decline since the 1920s, firstly in terms of market share of British coastal and overseas trade when new ports such as Southampton opened, and secondly in terms of total throughput as structural changes in shipping freight and industrial location have emerged in the post-war decades. The Port of London Authority - which previously controlled docks upstream to Tower Bridge - could nowadays just as well be called the Port of Tilbury Authority, so far as its port activities are concerned.

On the housing and employment front there was a knock-on effect as riverside activity decreased, with growing unemployment as jobs directly and indirectly dependent on the Docklands economy were depleted. In parallel moves, population levels reduced as slum housing densities were slimmed by municipal replanning and rehousing schemes, with the County of London Plan 1943 preferring densities in the range of 100-200 persons per acre. Docklands housing would be in the upper 100s. The County of London planners hoped to rebuild riverside industries into neater blocks and allow riverside access also for other uses. Like most such extravagant plans, it did not materialise, especially due to Britain's urgent post-war financial difficulties.

The area generally was zoned for existing industrial and municipal housing uses in the *Administrative County of London Development Plan 1951*; there were no 'Action Areas' (as they would be called nowadays) dealing specifically with Docklands, where industrial employment was presumed to carry on much as before. There were further local authority rehousing projects, not only reflecting the



bomb damage of the 1940s but also continuing the municipal outlook prevalent pre-war. With few commuter railways, and industrial zoning, Docklands did not experience the traditional middle class commuters, and in practice persisted as a declining industrial village shunned by most of London.

It is also true to say that Docklands, as a unitary concept centred on the river, was not in political or planning minds at this date. There were the boroughs of Stepney, Poplar, West Ham, and East Ham on the north bank of the Thames; Southwark, Bermondsey, Deptford, Greenwich, and Woolwich on the south bank. Transport and land use problems were viewed largely as accommodating the growth of radial commuter traffic on the roads and improving the lot of those on the trains, and catering for the growth in orbital road traffic.

Map 2 shows the main radial transport and the few cross-river links. Both main roads and passenger railways largely omitted the docks areas and the cross-river links. The latter served to emphasise the lack of identification of Docklands as a unitary focus. Cross-river facilities at this stage were:

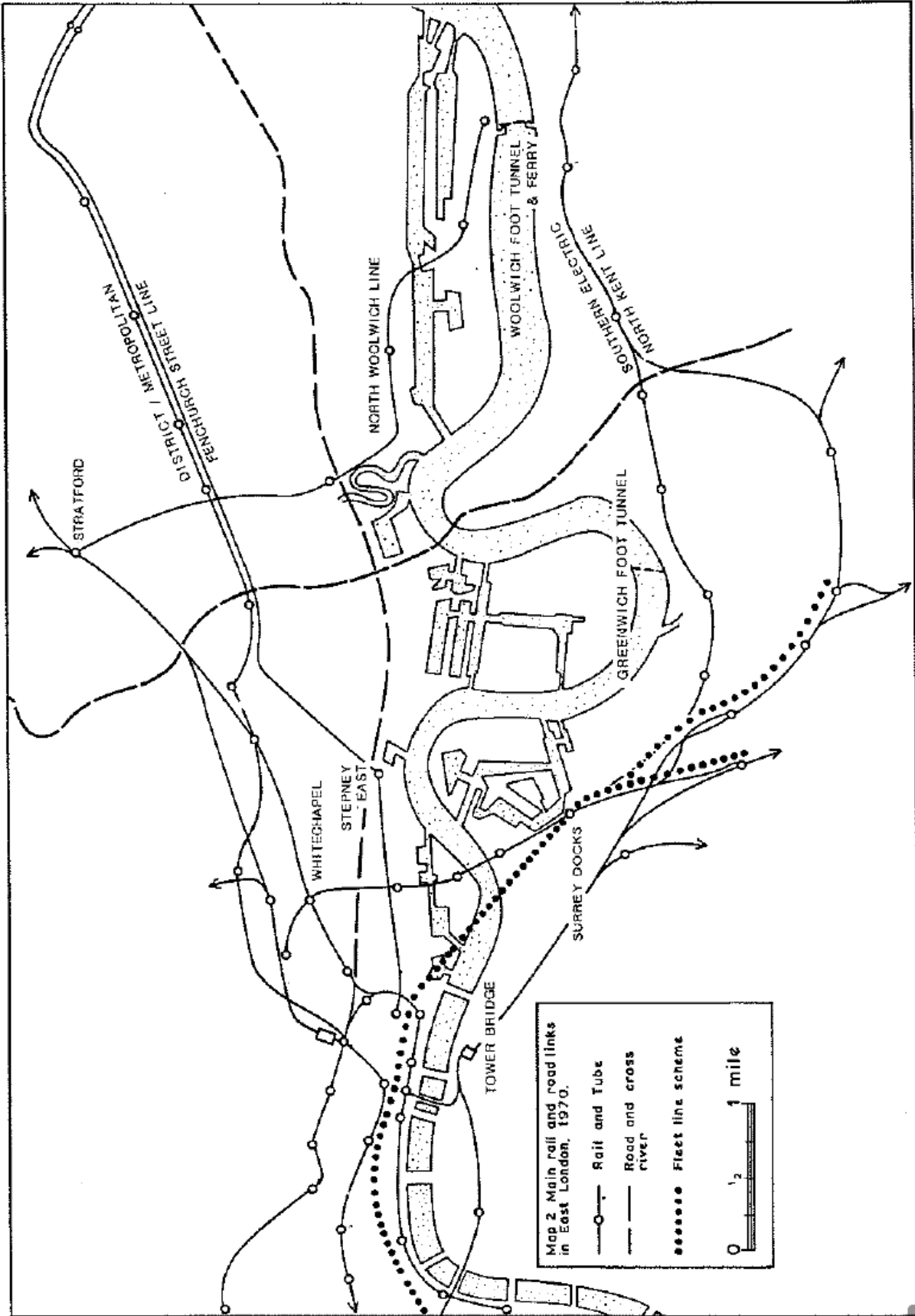
- (i) the Dartford road tunnel, opened in 1963;
- (ii) one free car and pedestrian ferry at Woolwich, which was modernised in the 1960s;
- (iii) a foot tunnel also at Woolwich;
- (iv) the Blackwall Road Tunnel at Greenwich/Poplar, which was a sub-standard single carriageway, and carried one London Transport bus route; the tunnel was duplicated, and new approach roads built, as part of the London Motorway Box proposals in the 1960s;
- (v) a foot tunnel at Greenwich/Isle of Dogs;

- (vi) the Rotherhithe road tunnel, similar to Blackwell, which carried one bus route withdrawn in the 1960s;
- (vii) the East London railway tunnel, which used the original Thames Tunnel built by the Brunels, and carried a peripheral railway, the East London Line shuttle from New Cross, Surrey Docks and Rotherhithe under the river to Wapping, Shadwell, Whitechapel and Shoreditch. Through trains to the City had been withdrawn from this line in 1941. To make use of this line for more than local journeys, passengers had to change at least once or twice, at Whitechapel or New Cross/ New Cross Gate. (Notional plans existed for a 'Pool of London' road tunnel downstream of and to replace the road links offered by Tower Bridge.)

It would be fair to conclude that with the decline in local activity, by the 1960s, Docklands was over-capitalised in transport infrastructure for *immediate local needs*, but that regional pressures such as the apparently inexorable growth of travel in the suburbs meant that cross-river infrastructure was seen as inadequate for the *future needs of London* - and possibly Docklands.

DOCKLANDS RAIL - THE 1960s AND THE FLEET LINE SCHEME

The Port of London Authority withdrew its railway goods links by 1965, leaving a large acreage of former railway alignment. By then, local passenger services consisted of: (i) the electrified East London Line (which offered useful local links in upstream Docklands, and a good range of links to other destinations but with the penalty of interchanging); (ii) the electrified Fenchurch Street to Tilbury and Southend line serving Stepney East (a station marginal to Docklands and of more immediate use for East Londoners seeking employment at



Dagenham and Tilbury); (iii) the North Woolwich Line from Stratford and Tottenham, serving the Royal Docks area: Canning Town, Custom House, Silvertown and North Woolwich. (This line had offered through trains to the City pre-war, and connections via Stratford to North and North East London, but was not electrified. Services deteriorated in volume and hours of operation as docks and other local industrial activities declined, to the point that by 1970 there was merely a 20-30 minute peak frequency, and an hourly daytime off-peak service.)

On the south bank, Southern Electric provided electrified suburban services following the periphery of the Docklands area. Redevelopment of the Woolwich Arsenal/Thamesmead area in this period caused an increase in demand for radial commuting as there were insufficient local jobs to absorb the new population. Buses provided the main means of getting about by public transport, both locally and as feeder services to main radial routes. Only two direct public transport links existed across the river: bus through Blackwall Tunnel, and rail through the East London Line tunnel.

For the future, British Rail was engaged in proposals for slimming down or withdrawing marginal or unprofitable railways. The unpublished '*Railway Plan for London*' (1965) attempted to bloody the Beeching Axe in the flesh of London's suburban lines: Stratford to North Woolwich was a candidate for closure. However, major political protests halted for the time being this general policy within the London commuting area.

The focus for new London tube railways was directed to the North-West to South-East corridor, with a Fleet Line proposed by 1965 to run from Baker Street to the West End, Fleet Street, Fenchurch Street, and thence under river to Surrey Docks, New Cross and Lewisham (Map 2).

Following the financing issues faced with the Victoria Line, this tube was clearly to be justified on transport improvement and land use planning grounds, rather than a commercial basis. There was clear justification for the north-west sector, because of overcrowding, but the *raison d'être* for the City and South-East London sections was not so clear, not least because the financial and cost-benefit case for the line was not proven.

This provoked an early conceptual assessment (by London Transport) of redevelopment possibilities related to heavy rapid transit in South-East London. This was published as '*SE London and The Fleet Line*' by Llewelyn-Davies and London Transport in July 1973. This assumed the SW section opening by 1981, and related this to population and employment predictions, and a land use pattern preferred by LT (and desired to give adequate train loadings). Unsurprisingly this favoured intensive development and a high density of activity within the walking catchment of the tube stations, 500m, and medium scale densities within 1000m.

London Transport had acquired powers for the South-East London section of the line in 1971, to include also a new station at St. Katharine's Docks, an 'up market' Dock redevelopment just east of the City boundary.

In abstract, though, once justification for a tube was inseparably entangled from extensive replanning of the area, there was no absolute reason why the detailed alignment or general routeing should be that originally proposed by the railway engineers - this was the cart before the horse. To build a tube, or any major transport link, should be viewed not just as a cause, but also a consequence, of that area's needs. For this reason, and for the

reason also that BR had invested substantial sums in rebuilding the London Bridge approaches inwards from Lewisham (so not strictly requiring relief by the Fleet Line); and because by this time Docklands replanning as a whole was becoming a live issue, the Fleet Line link to Surrey Docks became increasingly a lost cause. In the 1976/77 outline public inquiry for Liverpool Street terminus redevelopment, the East London Line was instead to be extended west from Shoreditch into Liverpool Street, to provide a radial link from Surrey Docks and New Cross, and possibly Lewisham, as a substitute for the Fleet Line.

In practice, none of the tube schemes went forward.

DOCKLANDS REPLANNING

The creation of the Greater London Council with effect from 1965, with strategic planning powers extending over most of the London built-up area (plus the amalgamation of the small London boroughs into larger authorities administering population numbers the size of cities such as Bradford or Cardiff) provided a major institutional impetus to seeing the problems and opportunities in Docklands as a common issue whether north or south of the river. The change in outlook was not immediate, but took five years before the *Greater London Development Plan* (draft; para.5.9.9 in the finally agreed version of 1976) that:

"the replanning of Docklands provides the opportunity for the retention of some of the existing water areas which together with an improved transport infrastructure would create new and imaginative combinations of residential, commercial and recreational development".

Stated in these general terms, the GLDP view on Docklands is a question looking for an answer, which is not really the purpose of

structure planning. By inference, "improved transport infrastructure" was to be an enabling tool to reshape the role of Docklands, presumably with less emphasis on the 'industrial village'. Unanswered were the intertwined issues of: *Which sort of transport?* and *What sort of land use?* A tube line might be inappropriate for the intended land uses.

The GLDP indicated that it saw an industrial focus still for the Royal Docks, the Blackwall area and from Woolwich Ferry to Lovell's Wharf; but that there was greater 'opportunity' for other uses upstream: at St. Katherine's Dock, London Docks, East India Dock, and the Surrey Commercial Docks. The GLDP also defined 'Action Areas' where the GLC wished to be responsible for preparing and adopting schemes, because of their London-wide implications. Beckton, East India Dock and the London Docks area were amongst those defined as Action Areas, but 'Docklands' as a whole was not yet viewed in this way. In the event, Docklands as a unitary concept overtook the GLDP Action Area proposals. By spring 1971, with the GLDP still awaiting the results of the Public Inquiry let alone agreement with central government, the then-Conservative GLC commissioned a consultancy report on redevelopment possibilities in the docks area of East London. This created an initial definition of the area referred to colloquially as *Docklands* (see Map 3).

ATTEMPTS AT A DOCKLANDS 'SPINE'

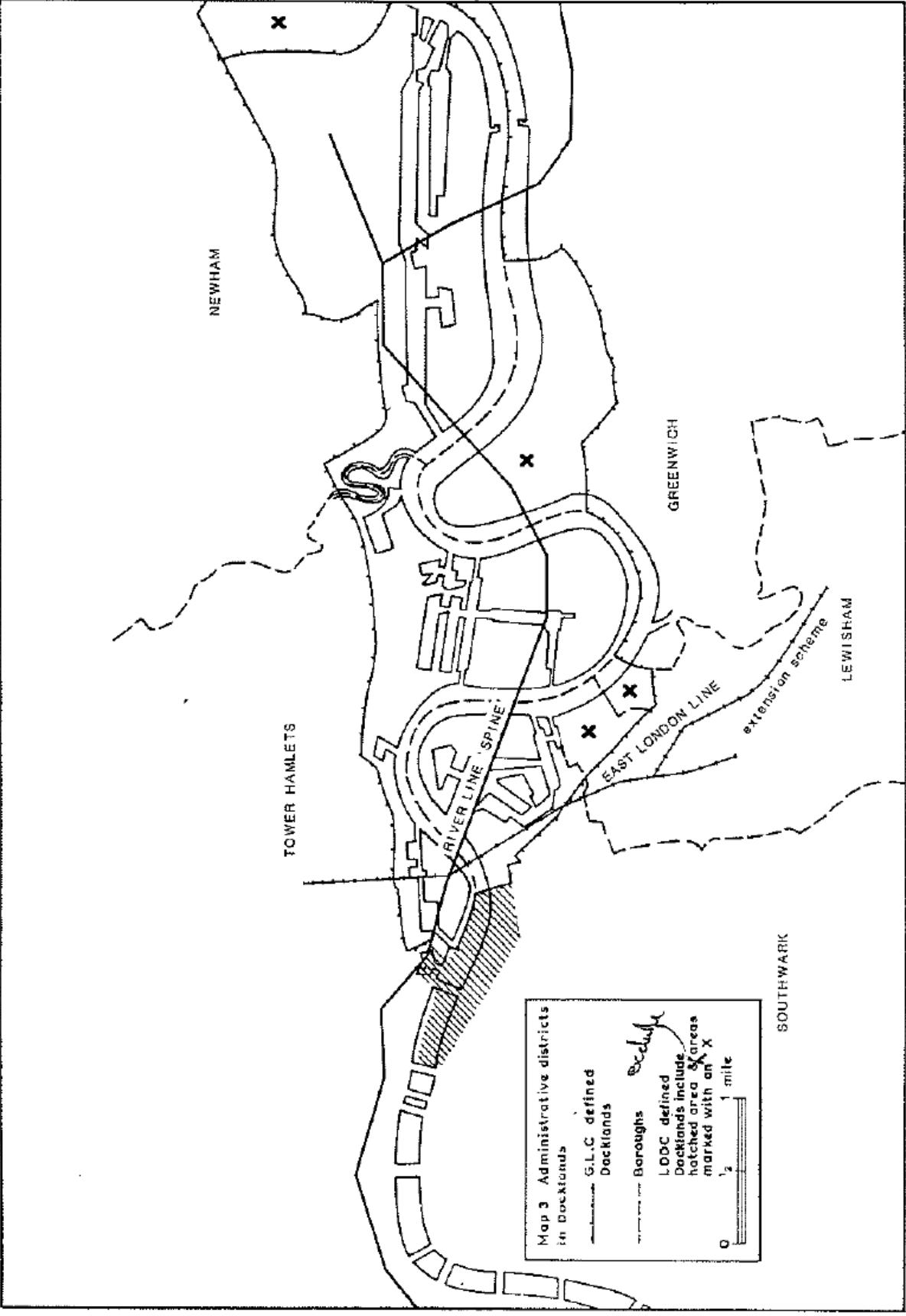
Hard at work with plot ratios, the consultants also received a great deal of interested advice from campaigning, political and academic bodies. A *Docklands Spine* was frequently canvassed, to implant a new land use theme and a common focus for these land uses - and possibly provide the "improved transport infrastructure" desired

in the GLDP. This spine would involve a number of new cross-river links if it was to serve all the Action Areas and 'opportunity' areas, because of the local topography. Examples of ideas from outside sources include *'London's Flight East: Maplin City'* by the Conservative Political Centre - proposing to locate an access corridor to the (Maplin) Third London Airport, via Docklands; and Professor Peter Hall's new town ideas reported in *New Society* in 1971.

'Docklands' was published just before the 1973 GLC elections which returned a Labour GLC. The consultants' report suggested different treatments for the 5 sq. miles likely to be available for rebuilding by 1991. Job losses, they felt, would reduce employment levels to 30,000 in the area from 68,000 in 1966 and 53,000 in 1971, if no positive action was taken. Future prospects ranged from a low-density suburban scheme largely self-sufficient with new factory and office jobs encouraged, to high-density public housing with industry, to a high-density 'new town'. 'Spine' facilities were offered in the higher-activity options, including a 'minitrans' linking the City with the new development areas, via St. Katherine's Dock, Surrey Docks, Isle of Dogs and Poplar to the Royal Docks.

The final GLDP had these comments to make on the desired relationship between transport proposals and new land uses:

"In planning new transport routes and services, the assistance transport can give to areas most in need of renewal will be a factor to be considered. New transport links should so far as possible be routed to provide improved communications for badly-served areas and should be co-ordinated with the plans for rehabilitation or redevelopment of those areas..."



Map 3 Administrative districts in Docklands

— G.L.C. defined Docklands
 - - - Boroughs
 [Hatched Area] L.D.C. defined Docklands include hatched area & areas marked with an 'X'

0 1/2 1 mile

"...housing development at higher densities than would otherwise be permitted may be suitable in areas most convenient to public transport facilities. The better the service...the more appropriate higher densities could be..."

"In grouping activities near rail and bus services the value to travellers of building along transport corridors, in terms of improved service, and to the operators, in terms of better use of track and vehicles, must be recognised..."

"...when redevelopment and new development take place care must be taken to improve access from rail and bus, where possible. This is especially important in Central London and town centres and other areas where public transport carries large numbers of people. It is also important that advantage should be taken of situations where existing rail facilities are under-utilized..."

The unitary concept had thus developed to the point where it was seen not just as an administrative focus but also as a possible solution to the problems of Docklands, exemplified by the transport 'Spine'. It is perhaps noteworthy, though, that in the lower activity options, including a traditional 'East End' style of land use redevelopment, a rapid transit link was not seen to be appropriate or necessary. Moreover, in all options even the existing rail links were seen as too generous - the North Woolwich Line could be replaced by a busway. The number of people anticipated in any proposal was "well below the capacity of a tube"; also the consultants felt that a cross-river tube would need to be below ground, at high cost. The

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minitram was preferred, connecting into a Fleet Line at Fenchurch Street, with the Fleet Line to Lewisham having lower priority. All the options for redevelopment had a high price tag, £650-950m at 1971 values.

The incoming administration at County Hall had noted considerable concern by local residents and boroughs about attempts to turn Docklands into classic suburbia or a New Town environment - the local constituencies predominantly returned a Labour majority, too. So the 'Docklands' plans were unceremoniously rejected. This was a notable contribution to an already burgeoning industry - the Great Docklands Paperchase.

Fresh endeavours by the new GLC focused on reactivating established industrial land and on devising new schemes likely to gain the active support of the various local boroughs and communities. This was a worthy exercise in consultation, but regrettably turned into local government back-scratching. Each borough (Tower Hamlets, Newham, Southwark, Lewisham and Greenwich) had a major input in the ideas for its own territory within the boundary defining Docklands, and was happy to support the others' proposals providing its own was also supported in turn. It was the GLC's sisyphian responsibility to reconcile the impossible, by making a coherent and plausible whole of what were, in effect, five different bids for housing, transport, employment, shopping, new education facilities, and so forth. The task was devolved to a councillor and officer-level working party which formally brought together the GLC and the boroughs. The working party's names included, at various dates, 'Docklands Joint Committee' and 'Docklands Development Team' - the latter a somewhat unfortunate acronym.

A 'RIVER LINE' SPINE

All agreed it was vital to provide a degree of overall cohesion. The two obvious ways of glueing the area, the planning and the politicking together were to go for a Docklands Spine, which would wander through the areas suitable for redevelopment, and a rapid transit link. Urban motorways and new high-quality radial roads were now out of political and planning favour within London, where the Motorway Box and other road schemes had been a major political plank at the 1973 elections and had brought the anti-motorways party to power. Thus the rapid transit link assumed a primacy which was out of proportion to its practical advantages - and out of proportion to the likely passenger traffic levels having regard to the various borough's proposals for new land uses.

The *London Rail Study* (1974) reported on the problems and prospects for London's passenger railways during the next generation of rail investment. Part of their remit had been to identify areas lacking adequate railway facilities and propose appropriate schemes. Serving Docklands redevelopment was one idea taken on board and reissued in the shape of a proposed 'River Line' tube. This would diverge from the Fleet Line at Fenchurch Street and serve parts of the Docklands area before reaching Woolwich and Thamesmead. Once again, the LRS had been intended as a political animal; this time by the Conservative GLC who had hoped the study team would report in time for the 1973 elections. The River Line now fulfilled Labour's political requirements of a Spine and a high-quality public transport input. The Docklands Joint Committee rejected busways as untried in London, light rail because it was £2m more costly than minitram, and minitram because it too was untried in London. The River Line

was more desirable than buses.

Bidding by boroughs began early. For example, Tower Hamlets (*Docklands in Tower Hamlets*, October 1973) sought a new tube line surfacing beyond Fenchurch Street and following established, under-used railway alignment to Limehouse and Poplar, thence into the Royal Docks where it would again follow under-used railway routes. The borough also sought improved orbital public transport facilities as an alternative to motorway projects and tied to intensive land uses focused on public transport interchanges - a "RingRail" or Outer Circle service based on routes such as the Stratford-North Woolwich line.

Greenwich wanted the tube (in the Blackwall peninsula) rather than in the busier Poplar; Newham wanted the tube to run to Thamesmead via Beckton rather than via Woolwich Town Centre, and so on. In the event the Dockland Joint Committee's preferred routeing for the 'River Line' Spine (Map 3) represented political aspirations rather than just relative traffic demands and would serve four of the five boroughs, via St. Katherine's Dock and Wapping (Tower Hamlets), Rotherhithe and northern Surrey Docks (Southwark), Isle of Dogs (Tower Hamlets), Blackwall Peninsula (Greenwich), Custom House, a branch to Beckton, and Silvertown (all in Newham), and Woolwich and Thamesmead (Greenwich). Lewisham Council had to be content with a vague commitment to a long-term tube link: either the Fleet Line (for which parliamentary powers existed) or an East London Line extension.

In due course London Transport acquired parliamentary powers for the River Line tube; the Fleet Line scheme to South-East London was dropped quietly, and the Docklands proposal became the tube's

preferred eastern alignment beyond central London. As such, the route became known as the Jubilee Line, when that name was applied to the Fleet Line project in central London.

Any tube would be a loss-leader for Docklands; it would not pay for its operating costs, let alone repay directly the initial capital investment. London Transport only undertook to go ahead with construction work provided the operating costs were underwritten, and the capital costs paid for as supplementary funding, separate from the basic capital funding provided yearly for the Underground system.

REAPING THE WHIRLWIND

The GLC was not in a position to guarantee the tube's capital costs (about £325m at mid-1979 prices for the full line from Charing Cross to Beckton and Thamesmead). But regardless of the political differences about what to do with the land uses within Docklands, both main political parties at County Hall supported the tube extension as a means of providing a fresh stimulus to Docklands and in the absence of any other ideas directed to this objective. However, both main political parties over Westminster Bridge, in Parliament, were agreed that a Jubilee Line was very poor value for public money, and was exceedingly unlikely to get their backing for funding separately from LT's general investment programme. (A case, perhaps, of poor cross-river links!)

It was not just expenditure on a tube line which central government was being asked to back in Docklands - only 20-30% of new housing would be privately financed, there was dock infilling, new roads, drainage and sewerage, and projects to create new employment bases, such as the frequent GLC call for a Channel Tunnel terminal to be sited in Docklands. Financially, the solution to Docklands

was seen by London's local authorities as a major call on the national purse, for schemes which were in some respects their pet ideas all condensed into one geographical territory, convenient for bidding and hopefully supplementary to their basic budgets. The call was coming from a region of the country which had a declining population but still had, relatively, better infrastructure and a sounder economic outlook than many regions further afield whose representatives were also coming cap in hand to central government.

The foreign-exchange crises which affected the Labour Government's budgetting from 1976 did not help either Docklands' or the tube's chances. The then D.O.E. had the same attitude about the tube, with suitable civil service reservations. In evidence to the House of Commons' Expenditure Committee, in 1975, officials had commented:

"Strand to Fenchurch Street; it is particularly expensive - £50 million for 2.5 miles of tube... it comes out with a ratio of benefits to cost of about 0.3 to 1 for that 2.5 mile section. That means crudely that you spend £50 million on 2.5 miles of tube and at the end of the day you have a public asset worth £17.5 million..."

And, on the Docklands extension:

"One would want to see the development of this proposal carried a stage further before one could say there was a full commitment to it. I am not saying that it might in the end turn upon a positive cost-benefit result. One cannot exclude the possibility that the Government might as an act of faith, so to speak, say 'This is right; it will open up this area and to the extent that cost-benefit analysis does not carry the field it is

still right to do it against the prospect of future benefits which are not at this stage capable of analysis'".

The Expenditure Committee had concluded in 1975 that:

"River Line is foremost of the specific proposals dependent upon large scale public expenditure. We find little evidence that this proposal has been tested against a wide range of alternative public transport systems to ensure that the substantial investment needed is justified... We recommend that studies should be made of alternative proposals for a long-term dockland public transport system based upon existing surface lines and rights of way. We note that such facilities follow much of a possible alignment for the River Line..."

"...it appears that worthwhile improvements can be made to existing services at modest cost. We recommend that steps should be taken to secure the early provision of better bus and rail services and interchange facilities in order to improve access to employment".

Because the sheer volume of funding demanded by the tube project created so much uncertainty, the idea of a tube line also failed to generate much advance enthusiasm among potential investors in Docklands. Thus the loss-leader argument was stifled, and with it the case that in the long-run the costs of the line could be recovered by higher property values and rates within the redeveloped areas. The *London Docklands Strategic Plan* (the creation of the GLC and the local boroughs) which was finally published in 1978 thus emerged into an unpleasant world where its central proposals were being strangled at birth. And if the funding problems and central government reluctance

were not insuperable obstacles, there was another GLC election in 1977 which returned London to the Conservatives, who found perpetual municipalisation of the docks area anathema.

PALLIATIVES - OR REALITY?

But what to do with Docklands? *'If insufficient public funds exist or are unlikely to be provided, then conventional public expenditure themes are out'*, went the thinking. Neither did new town techniques of pre-constructed premises and guaranteed housing merge easily into an environment where there were already large numbers of industrial buildings available for refurbishment and a major housing shortage. Equally, the legacy of the docks left an unsavoury taste in the minds of prospective developers - Docklands had a bad public image in spite of its proximity to the highly-priced and highly-rated property in the City of London. Bright and dim ideas still came forward. Less sensitive to major road projects, the new GLC proposed a 'Docklands Southern Relief Road' cutting across Surrey Docks and the Isle of Dogs - effectively a new Docklands Spine, and another loss-leader. Another brainchild was to stage the 1988 Olympics in London - in Docklands. But the Labour Government which existed until 1979 was unlikely to be very favourable disposed to expensive projects promoted by a Conservative council, quite apart from straightforward critical analysis of such schemes which might also show them in a bad light.

However, by 1977 there was now official concern in the D.o.E. and other ministries about the down-at-heel state of much of Britain's inner cities, not just Docklands. So far as initiatives were concerned, therefore, the new GLC could call on some national funding. It chose to use its transport powers to make modest improvements to

Docklands infrastructure, believing transport still to be the best 'enabling tool'. Local road improvements went ahead, and on the public transport front certain bus routes were introduced, the East London Line refurbished, and the Stratford-North Woolwich Line authorised for upgrading with new and rebuilt stations and linked to the North London Line to form an orbital railway across North and East London. (This latter project, supported in the *London Rail Study* as a more modest version of an Outer Circle service, had been held up due to funding problems; the only initiatives the previous Labour GLC had felt able to make on the North Woolwich Line was to support the existing service levels which BR had proposed cutting in 1976).

The North Woolwich service was seen as spearheading a fresh GLC approach, the idea being to build an under-river single-track rail tunnel for local passenger services between North London, Stratford, the Royal Docks and Woolwich Town Centre. Ultimately, the tunnel would form part of the Jubilee Line when and if that got the go-ahead. This was a relatively cheap project (29m in mid 1979 prices for the tunnel, £6m for the other elements). However, authorisation for major initiatives still rested with central government, which changed colour in 1979. A potentially favourable climate for funding now existed - a Conservative-GLC and a Conservative Government.

Horace Cutler, the GLC Leader, went to see Normal Fowler, the Transport Minister. National funding was restricted, as ever, but agreement was reached in June 1979 for central government to earmark funds for a specific programme of road and rail improvements in the Docklands area. There would be a pause, though, while options for public transport investment costing less than the full Jubilee Line

were examined - a clear hint that that project was defunct.

A working party reported urgently, with '*A Study of Lower Cost Alternatives to the Jubilee Line in Docklands*'. Examined and rejected were: (i) through services from District/Hammersmith lines to the East London Line (operational problems, low benefits); (ii) a new branch from the District/Hammersmith lines to the Isle of Dogs (construction costs, low benefits); (iii) a through service from the District/Hammersmith lines to the North Woolwich Line (construction costs, low benefits); (iv) a northern alignment for the Jubilee Line (lower benefits for small cost reduction).

Favoured in principle for further consideration, but outside the terms of reference, were various improved local links:

- *extension of the East London Line to Liverpool Street and/or Lewisham (£20m to Liverpool Street, 1979 prices)
- *Woolwich Rail Tunnel for a North London-Woolwich service (£35m)
- *service improvements on the East London Line, and improved cross-river bus services, through a new road crossing east of Woolwich (£2m).

Contrasted with the full Jubilee Line (£325m) were alternative 'spinal links':

- *a truncated Jubilee Line from Charing Cross to Beckton (£200m)
- *Automated light rail, notionally from Aldgate East to Beckton and the Isle of Dogs (£120m)
- *light rail with street running from Aldgate to East India Dock Road, thence segregated to Beckton and the Isle of Dogs (£40-60m)
- *two busway options for the same route, varying in degrees of segregation from ordinary traffic (£15-24m). The same study noted that revenue generated by any alternative option, including the

truncated Jubilee Line, would more than cover costs, providing parallel bus and rail services were reduced to match. Estimated peak passenger flows were broadly similar for each option. Busways, light rail with street running, and a truncated Jubilee Line would all carry 2700-3800 passengers in the peak hour, automated light rail 3400-4300. In net present value, the following results emerged:

	<i>Net present cost of options (spread over 60 years)</i>	<i>Of which NOT covered by commuter time savings (to Central London)</i>
<i>Busways</i>	£28-35m	£25-32m
<i>Street light rail</i>	£47m (midpoint)	£43m
<i>Automated lt. rail</i>	£90m	£83m
<i>short Jubilee Line</i>	£155m	£146m

The costs not covered by commuter time-savings would have to be set against local travel benefits within Docklands, and against changes in land values. They largely represented the loss-leader elements of any Docklands public transport scheme and were the figures needed to quantify the political 'act of faith' in giving a go-ahead.

Examples of possible transport 'packages' were also given in the report:

Cost (£m)	<i>Busway</i>	<i>Auto. light rail</i>	<i>Short Jubilee Line</i>	<i>Full Jubilee Line</i>	<i>Other public transpt</i>	<i>Local roads</i>	<i>Nthn. Relief Road</i>	<i>Stkn. Relief Road</i>
OVER 7 YEARS								
£50m	*	*	.	.
£100m	*	.	.	.	*	.	.	.
OVER 10 YEARS								
£200m	.	*	.	.	*	*	*	.
£290m	.	.	*	.	*	*	*	.
£300m	*	.	.	.	*	*	.	.
£390m	.	*	.	.	*	*	.	.
£410m	.	.	.	*	*	*	.	.

Armed with these estimates, and following high-level negotiations, the Minister (Norman Fowler) announced in June 1980 that he would allocate £100m over 15 years. This was not the £500m+ extravaganza originally

sought by the GLC and the other local authorities, who had wanted the £410m package plus the Southern Relief Road. Government views about the value of loss-leader projects were sharply in contrast with the GLC's, and the emphasis was also directed to roads schemes, with the Docklands Northern Relief Road and local road schemes getting the go-ahead, but no firm commitment to any form of rapid transit system for Docklands.

Noteworthy, too, was the lack of government commitment to a Docklands Spine, the absence of new cross-river links within the docks area, and the reliance placed on Docklands regeneration by improved road access to and from points beyond Greater London, with the D.o.T. intending to go ahead with long-noted schemes for a radial motorway-standard road from the M11 to Hackney, and a new orbital motorway from South Woodford to Barking and over the Thames (the East London River Crossing) - effectively the continuation of the North Circular Road. The Minister had decided that policies and practices common to other depressed areas of Britain were more likely to assist Docklands than the GLC's home-grown schemes.

MAMMON IN THE SERVICE OF THE COMMUNITY?

These projects made no general assumptions about likely changes in land use; so to that extent any regeneration was expected to be led by external influences, attracted to Docklands by easier access. The authorisation signalled a substantial shift away from a policy of regenerating Docklands through projects dovetailing with the local community which, for all its detailed defects, was the sense of direction offered by the *London Docklands Strategic Plan*. A more profound objection by central government to the GLC's scheme was that although County Hall was the strategic planning authority for

London it had signally failed over 10-15 years to devise a strategy acceptable *both* to other local authorities in the area *and* to Whitehall and Parliament. The ultimate prerogative was Parliament's. The alternative method of administering Docklands, which had been canvassed at the time of the Expenditure Committee's questioning in 1975, had been a New Town Corporation. The Conservative Government now determined (with Michael Heseltine at the D.o.E.) that the time had come to adopt this more aggressive brand of local management than established local government.

From early 1981 in practice, and with formal effect from July 1981, Docklands along the northern bank of the Thames was defined as the territory of the London Docklands Development Corporation (LDDC). Docklands south of the river, in Greenwich and Lewisham, were left to the riparian responsibilities of the local councillors. Docklands within Southwark, (including the commercially-attractive area upstream to Tower Bridge and London Bridge) was, however, placed within LDDC's control. Southwark already had four cross-river links: London Bridge, Tower Bridge, the East London Line and the Rotherhithe Tunnel. So at a stroke, more or less, the perceived need for 'strategic' new cross-river links were severed (the LDDC currently support instead the idea of local ferries linking the south bank with favoured locations on the north bank). A Docklands Spine, to the extent that any spine was really justified, would be focused only on the north bank of the river. The philosophy determined for the LDDC was one of attracting private finance, to stand Docklands 'on its two feet': '*We have no problems, only opportunities*', was the new theme.

Assets which the LDDC could exploit were the dock waterfrontages - which could be used as a focus for environmental amenities rather

then be expensively filled in - and Docklands' proximity to the city of London. It was indeed remarkable that property values could plummet so rapidly within so few miles of the centre of a capital city. The potential was there, if only enthusiasm could be converted into hard cash. The *theme* thus became the over-riding *method* of the LDDC. Breaking the log-jam was LDDC's key concern; a glance at other parts of central and inner London, such as Covent Garden and Chelsea, suggested what possible scale of returns were in activities and finance.

The LDDC prospectus dwelt on the idea of Docklands offering a new location for activities traditionally centred on the City of London and the West End - the front office might still need to have a W, WC or EC postcode, but the ancillary jobs and premises could be sited with advantage (lower land and labour costs) a few miles downstream. An added fillip was the prospect (subsequently adopted) of the Isle of Dogs becoming an Enterprise Zone, with no rates to pay until 1997.

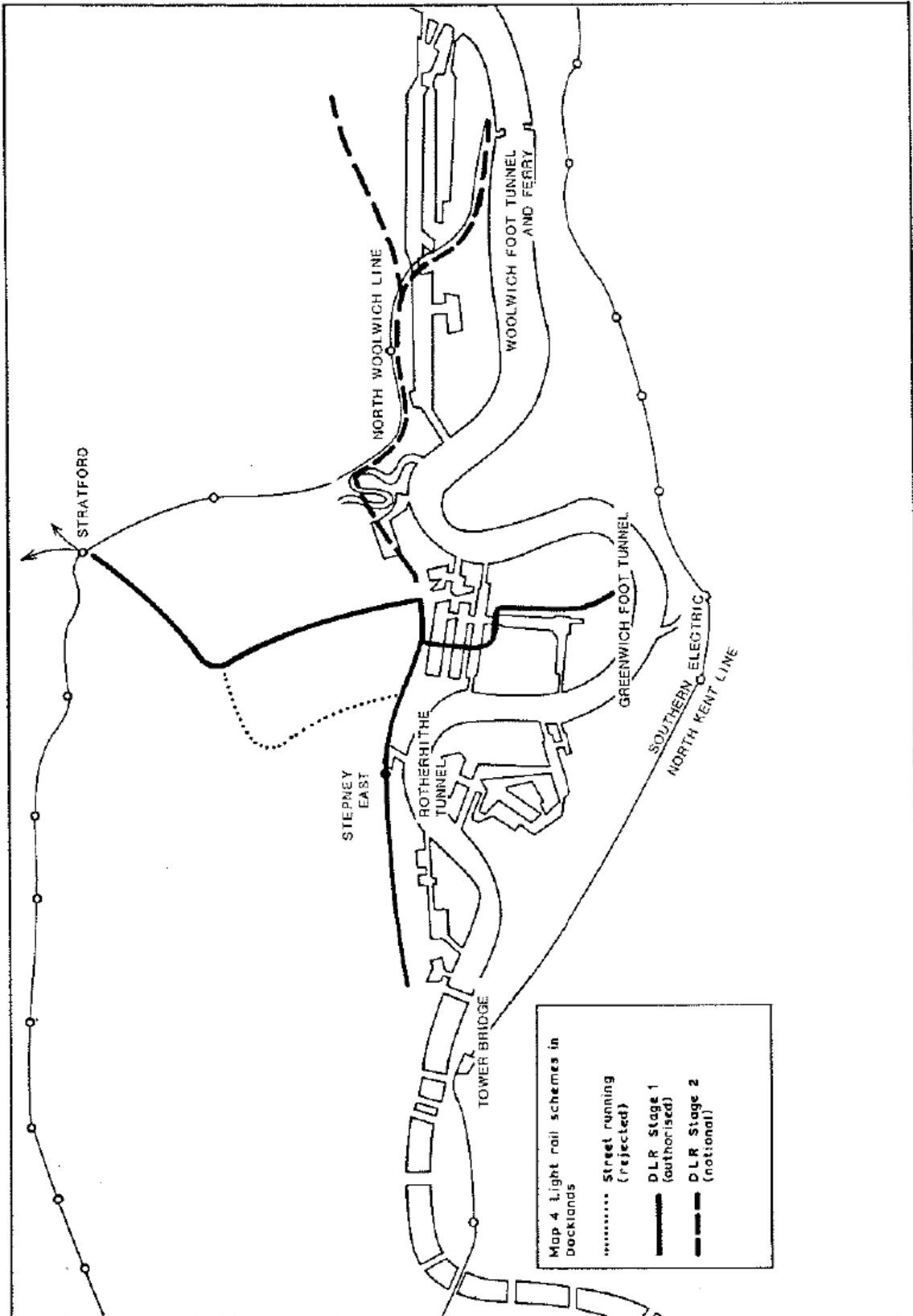
LIGHT RAIL IN THE SERVICE OF MAMMON

Land and labour costs might well be lower just east of the City; the obvious bottleneck was the lack of a *visible* link plugging in Docklands to the heart of London. Passenger flows might be low in practice, but the need was there for a 'high profile' stimulus. A busway was off-key, a tube line far too expensive. Importantly too, the rapid timescale required from the LDDC by central government demanded that the passenger link should stimulate investment while it was still in the planning stage, and while under construction. So the link had to be credible from the very beginning, credible both financially and in geographical coverage.

LDDC urgently requested a review of low-cost rail link options

for that part of Docklands closest to central London, where political and investment attention was strongest (at this stage it was understood that the Royal Docks would continue operating for some years). Fortunately London Transport had already undertaken some long-range projections for 'intermediate capacity guided transport systems' during 1980, following the study of alternatives to the Jubilee Line, and was therefore able to capitalise on this work. LT reported back to LDDC in three months, in September 1981. The happy medium between the two operational extremes of buses and tubes was light rail, which also had politically tolerable capital and revenue cost implications. LT recommended light rail options centred on existing under-used British Rail and Port of London Authority infrastructure. (Other options for branches from the East London Line were rejected due to high cost and low benefits).

A north-south feeder tram was favoured, incorporating street running from Mile End Underground Underground interchange to Limehouse, thence to the Isle of Dogs, as was a railway viaduct route from the City via Stepney East to Limehouse and the Isle of Dogs. Various detailed routings through the Isle of Dogs were assessed, but these did not affect the basic outcome of the study. Peak flows were expected to be about 2400 passengers per hour with either route, based on certain rosy assumptions about employment levels supplied by LDDC (but any light rail scheme was hoped to help stimulate these jobs - a chicken-or-egg problem). Capital costs were estimated as £23m (mid-1981 prices) for a N-S scheme and £45m for a basic E-W scheme (£50m combined N-S and E-W), using conventional, continental light rail systems, with add-on costs of £12m for a more convenient City terminus than Minories, and a further £12m for automated light rail



which was, however, relatively unproven.

No scheme produced a positive net present value - a typical percentage of capital cost covered annually by net benefits was 18% and 22% for the E-W and N-S schemes respectively (17% for a combined scheme), and 14-15% for automated light rail. London Transport comment that "this is not surprising considering that LT's appraisal deliberately did not attempt to assess or value the impact of any of the options in actually stimulating development". Once again, the key *political* issue was whether this was a reasonable price to pay for a loss-leader which would hopefully repay its investment in terms of land values and general economic activity.

A notional timescale for a light rail scheme was to see planning complete within 18 months (the principles and general routeing being decided early on), parliamentary approval taking 1 year, then a go-ahead with construction starting in 5 months, and opening in stages within 2-3 years (3-4 years with the more convenient but more complicated and expensive City terminus). From beginning to end of the project, this would be less than 7 years, preferably fewer than 6. The LDDC wanted at least part of the scheme open by Autumn 1986, which would require a very hectic schedule indeed, agreed to and adhered to by all, especially during the phases of planning and political authorisation.

The scheme in principle for a combined N-S and E-W light rail network was adopted with characteristic vigour by the LDDC. The obstacle was Whitehall, concerned by the risks of high-speed decision-making on backs of (large) envelopes which might subsequently rebound with calls for extra capital and subsidies. The Minister of Transport (by then, David Howell) was also more sceptical than Michael Heseltine,

in Environment, about the merits of light rail.

It took LDDC to organise a helicopter ride around Docklands to convince the Minister of Transport of the virtues of the scheme. "Land values" was the objective stated when the go-ahead was announced at the 1982 Conservative party conference. The full project was authorised, cash-limited to £77m in out-turn prices with cash drying up in 1987, and with an implied requirement for Docklands Light Rail to cover its operating costs with fares and other commercial revenue. DLR was to be formally independent of London Transport for managing purposes, but for the time being a separate (seconded) DLR team would be chaired by an LTE Board Member.

DESIGN CONSTRAINTS

London Transport admit they were the most surprised of all to find a tentative idea burgeon into full-blooded authorisation well within 2 years, with an enjoinder to design, gain parliamentary approval and complete construction work before a further 5 years had elapsed. Normal planning processes would have taken far longer (the initial extension of the Piccadilly Line tube to Heathrow Central, for example, had taken 4 years to obtain authorisation even with an attractively commercial case). Perhaps unsurprisingly, the initial planning ideas did undergo modification - with segregated tracks throughout, high-level or old railway routing rather than a street-level profile, and a change of northern terminus from Mile End to Stratford (less convenient for local journeys, easier for long-distance access - see Map 4). This re-specification was adopted with the LDDC's and GLC's agreement, these being the client authorities to whom DLR had to report. LDDC still required a high-visibility railway, with all that this implied in thematic design.

The main effect of the changes, though, was to accentuate the

already tight limits to the authorised cash. A City terminus more convenient than Minories could not be afforded without separate funding, nor could all the potential stations be constructed, more frequent services operated, nor many useful features of station design adopted. For a transport project which will form a showpiece for British light rail engineering (a further reason for its authorisation by central government and the support of LDDC) it is remarkable that there will be no direct interchange in the City with the Underground, but rather a 150-metre walk from Tower Hill tube station to the light rail terminus at Minories in the centre of a busy one-way traffic system.

According to a GLC monitoring report on DLR construction, the cheapest (steel) structures are not 'intrinsically the quietest'. The timescale does not allow for extra facilities which would delay the main works, while the tendering process, geared to one package of proposals, makes it more difficult than in usual British planning procedure to modify a pre-determined specification. DLR *basic railway, key additions* and other *high priority* items current at December 1983 are listed in Table I. For *basic railway*, read 'affordable'; for *key additions*, read 'marginally affordable'; and for *high priority*, 'can someone stump up some more money?' Even a typical 5% contingency allowance has had to be excluded to force the estimates for the basic railway and key additions past the defined cash limit.

In January 1984 a Bill was proceeding through Parliament (delayed by the 1983 General Election) for the East-West light rail scheme from the City to the Isle of Dogs, and the 1984-85 parliamentary session will see the Bill for the North-South line to Stratford. The problems faced in detailed planning were defined clearly in GLC

Table I : DOCKLANDS LIGHT RAILWAY - SUMMARY OF OPTIONS*

<u>BASIC RAILWAY</u> (£166m out-turn)	<u>KEY ADDITIONS</u> (£10.4m out-turn) to form core railway	<u>HIGH PRIORITY ITEMS</u> (£5.5m out-turn) for decision and possible addition to core railway
Minimum level necessary to achieve an operating railway	Core necessary to provide worthwhile scheme, and basis for planning	
<u>D. Routeing</u>		
City (Minories), Limehouse, Isle of Dogs, & Stratford		
<u>1. Service Levels</u>		
2 routes x 6 trains per hour (10 trains)	6 trains per hour (14 trains)	Enhanced service level (16 trains)
<u>2. Structures</u>		
Surface railway assumed in Isle of Dogs	Elevated railway on Isle of Dogs	
Steel/concrete assumed all new viaducts		All concrete structure
<u>3. Remedial measures to track and property to reduce noise</u>		
	Noise reduction measures provided	
<u>4. Number of Stations</u>		
10 stations	Additional: - North Quay - South Quay - Millwall Park	Additional: - Devons Road
<u>5. Provision of Escalators</u>		
None included		7 escalators at 5 stations
<u>6. Environmental Works at Stations</u>		
None included	Environmental works provided	
<u>7. Passenger Communications</u>		
None included	Public address CCTV	Train Indicators
<u>8. Enhanced Terminal Stations</u>		
None included		Enhanced provision at Tower Hill
<u>9. Lifts at Stations</u>		
None included	Lifts/disabled/all stations	

*Source: GLC Report T1032, DLR - Progress to December 1983 (9/12/83)

report T1032 (December 1983): It pointed out that the previous Government had limited the project at a very early stage, when the railway specification was still rather general and the cost estimates only outline: "Further work has shown that these costings were reasonably accurate but that the railway specification did not allow for a number of features which both clients regard as essential to the achieving the standards of service and amenity that would enable it to meet its objective of providing a service attractive to all groups in the local community (including the disabled) and attracting new development to the Docklands area " (T1032/10.1). There was, this report continued, a case for reviewing the cash limits: an additional 5% on the cost "could almost double the service level", while "The case for reviewing the time limit for the project (inherent in the cash limit) would also be examined."

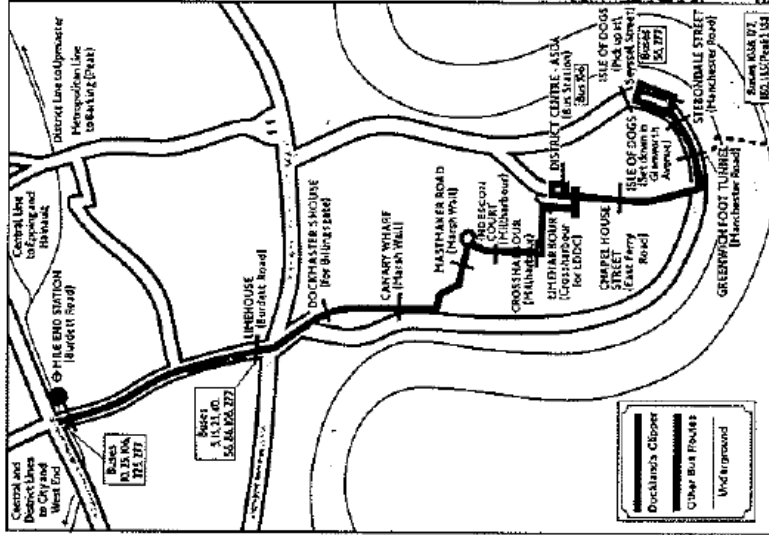
The priorities of LDDC remain to attract money, jobs and people to Docklands. With the closure of the Royal Docks, their problem now extends to Newham, and LDDC have sought extension of DLR to Beckton and North Woolwich, and in 1984 used other ploys of a satellite terminal and a short-take-off-and-landing airport (bitterly contested locally) to find new means of enticing activities to a location further removed from the traditional focus of London commerce. The authorised DLR (now regarded as Stage 1) has had to be designed also to allow for this possible Stage 2 extension to Newham. In planning terms it is very desirable to see the new high-activity developments focus on sites close to DLR stations, but the LDDC's more urgent task is simply to attract the companies into their area. The Corporation trust that the presence of DLR stations will prove a sufficient inducement in itself for companies to decide to locate near the light

**Welcome
Aboard the**

**Docklands
Clipper**

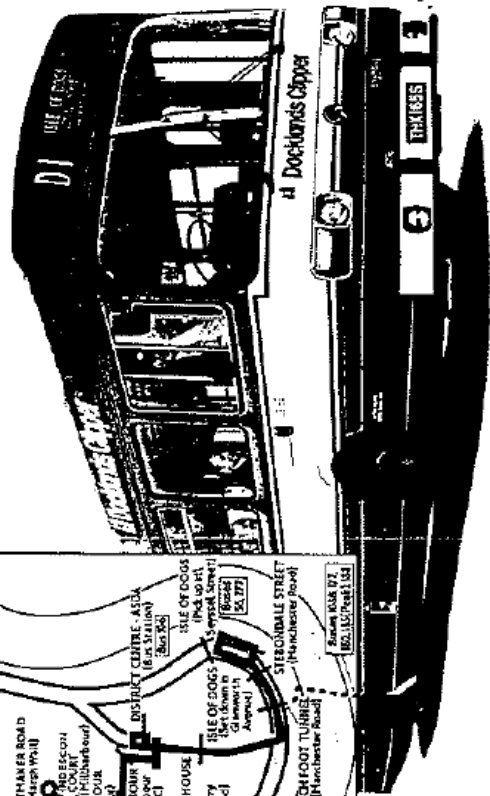
**Mile End to the
Isle of Dogs
straight through
the heart of
Dockland
Starts 3rd Jan.**

**Board the
Docklands Clipper**



Now you don't have to go round the houses to get into Dockland! The new Docklands Clipper service gets you straight there -- and back. Linking Mile End Station and Limehouse with the Isle of Dogs, Route D1, the Docklands Clipper service, runs every 15 minutes from around 7am to 7pm, Mondays to Saturdays. And it costs no more than the standard 30p fare -- 20p for a 'Short Hop'. You can also use your Travelcard or Bus Pass valid in the Inner Zone on this special new service. Interchanging with the Tube and bus routes serving Mile End Station and Limehouse, the introduction of the Docklands Clipper does not mean that any existing services will be reduced. At times outside those during which the Docklands Clipper operates, route 277 should be used. So whether getting to work in the Enterprise Zone or going shopping at the new ASDA Superstore, visiting friends or travelling to school, board the Docklands Clipper where you see the sign and cut straight through the heart of Dockland in just 15 minutes.

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railway. LDDC wants the stations to have a high visibility image for precisely this reason, and to reinforce the perceived attractions of Docklands.

Currently there are pre-DLR bus services operated by LT and sponsored by the LDDC, such as the *Docklands Clipper* from Mile End tube station to Limehouse and the Isle of Dogs (Map 5). These fulfil the passenger demand for a loss-leader service before DLR opens. The services are also another way for LDDC to demonstrate visibly their commitment to Docklands and public transport - and, by extension, Docklands Light Rail and the financial and property benefits which are wanted from the scheme.

DOCKLANDS LIGHT RAIL: WHAT RELEVANCE?

If you decide you need a rapid transit link, against alternatives the scorecard for light rail is favourable within a tightly-knit built-up area:

- * lower financial outlay per £ net present benefit
- * similar *perceived* advantages as heavy rail (eg tube), for less cost
- * justified at lower passenger volumes, and operated more economically
- * if demand picks up, can still cope with passenger flows
- * with cash-limited outlay, a larger network and greater planning and passenger benefits than a tube
- * can be built more quickly than a tube
- * less dependent on large-scale land-use replanning, because of lower initial costs and ease of building in small stages
- * less enforced rebuilding required to generate adequate passenger flows, so less disturbance to established land uses

- *easier and cheaper to modify if planning is revised or new extensions required
- * easier to dovetail closely to existing and planned land uses, because of technical ability to work within tighter constraints - sharp curves, street running option, more frequent stations
- * enables fullest use to be made of established but under-used rights-of-way (favoured also in the Greater London Development Plan and by the House of Commons' Expenditure Committee)
- * greater opportunity to substitute for local bus services, provided that the routeing and stopping pattern is convenient, so minimising transport resources while retaining passenger benefits
- *more flexible service pattern than tube.

What this scorecard omits is the disposition of political objectives and influences, and the overall administrative and planning themes which may tend to favour or disadvantage any proposal for rapid transit. Any large-scale project needs an administrative and marketing framework, defining and publicising the nature of the scheme, before political *acknowledgement* is forthcoming... and political *authorisation* is another matter altogether! A light railway (or any major public transport project dependent on more than commercial income to justify its existence) is very reliant on support from external authorities. In the context of Docklands, estimated passenger flows and net benefits are low by rapid transit standards, in spite of low car ownership locally. So the financial case for any link is discouraging, whether as a feeder service or a

trunk route. Rapid transit had to await the concept of 'Docklands' as an area requiring special political consideration before any scheme was likely to be considered seriously. Once 'Docklands' was identified the arguments for *local* road and public transport improvements were generally without serious opposition, and many small-scale schemes have gone ahead, including electrification of the North London - North Woolwich line (to be complete by May 1985). The arguments for a *major* shift in accessibility, linking Docklands more easily with other areas, turned on the strength of support for new transport investment, and especially on the various political views on how a Docklands revival should be achieved and how far transport was seen as the vital 'enabling tool'.

London Labour local authorities were generally but not unanimously opposed to major urban road projects, and saw a Docklands revival best accomplished by proposals geared to established aspirations within the East London area. This required extensive public finance, available in sufficient quantity only from central government. Somewhat unharmoniously, their planning also required an expensive Docklands Spine, in the form of a new tube railway (the River/Jubilee Line), whose local land use implications might paradoxically undermine their planning ideals.

Conservative GLCs had to cope with potentially hostile local boroughs in the Docklands area, had a less inhibited attitude towards urban road building, and aspired towards more private involvement and a New Town style of development. This weakened the case for the Docklands Spine, which had been a convenient administrative and planning peg upon which Labour could hang its various proposals. So the strategic emphasis was directed towards easier road access

within and from outside London, and there was a less whole-hearted commitment to implementing the full Jubilee Line tube scheme.

National governments (both Left and Right) were perhaps slow in appreciating the scale of problems in the inner-cities, but saw no particular reason to single out London Docklands from the list of depressed regions and inner-city areas, saw no strong case for the volume of public expenditure sought by London authorities, and saw no case at all for the Docklands Spine in the scale or form proposed. In due course, transport projects similar to those in other depressed areas were advanced by central government for Docklands - these did not include rapid transit or any other form of Docklands Spine.

Failure to achieve much new economic activity in Docklands was the consequence of a decade of disagreement between central government initiative to instal a New Town Corporation to administer Docklands, whose objectives were to achieve results, quickly and at small public cost. With timescale and financing both very tight, the new London Docklands Development Corporation identified that a low-cost version of a Docklands Spine was vital, to improve the *perceived* accessibility of Docklands and turn the vacant acres into hard cash. This in turn required some form of rapid transit link.

Broadly speaking, most rapid transit options in Docklands (excepting the more grandiose schemes) can pay for their running costs under certain assumptions, but the increase in the 'heaviness' of the rapid transit design merely results in the increase in benefits pacing the increase in running costs. So there is no net advantage, in capital cost, in moving beyond a base level of accessibility. Unless, of course, it is seen as socially important (increasing the absolute volume of benefits locally), or as politically imperative

(buying voting affiliations prior to an election), or as a loss-leader paying for its higher capital costs through increases in property and rating values, and higher economic activity (which also leads to lower public support payments such as unemployment benefits).

A tube railway was too high a price for central government to pay for results in Docklands: light rail emerged as the politically appropriate trade-off between future land values and economic activity, and present-day public expenditure levels. The questions about how practical and convenient the light rail system will be for day-to-day users, how well the new high-density Docklands land-uses will focus around light rail stations, and what measure of passenger benefits will really be gained, were not seen as important in the decision process. *'Any rapid transit is better than none; if it succeeds we can always improve it later'* goes the argument. Passengers using Docklands Light Rail in years to come may, however, have cause to reflect that sophisticated planning and social-benefit optimisation techniques have not advanced far as political tools for public projects.

References

- 1943 County of London Plan : London County Council
- 1951 Administrative County of London Development Plan : London County Council
- 1965 Railway Plan for London (unpublished); British Railways Board.

- 1972 Public Transport in London: A Regional Approach ; Greater London Council.
- 1973 South East London and the Fleet Line ; London Transport Executive/Llewellyn-Davies
- 1973 Docklands: redevelopment proposals for East London ; Greater London Council/London Docklands Study Team.
- 1973 Docklands in Tower Hamlets ; London Borough of Tower Hamlets.
- 1974 London Rail Study ; Greater London Council/British Rail/London Transport Executive/Department of the Environment.
- 1975 Fifth Report, the House of Commons Expenditure Committee, Session 1974-75: Redevelopment of the London Docklands ; HMSO.
- 1975 Redevelopment of the London Docklands: Government Observations ; HMSO
- 1976 Greater London Development Plan ; Greater London Council.
- 1976 London Docklands Strategic Plan ; Greater London Council/Docklands Joint Committee.
- 1977 Policy for the Inner Cities ; HMSO
- 1980 A Study of Lower Cost Alternatives to the Jubilee Line in Docklands ; G.L.C./D.O.E./D.O.T./Docklands Development Organisation/London Transport Executive.
- 1980 Joint Statement by the Minister of Transport and the Leader of the Greater London Council , D.O.T. press release on Docklands schemes, June 30th.
- 1980 The Possible Future Role for Intermediate Capacity Guided Transport Systems in London ; London Transport Executive.
- 1981 Docklands Rail Study ; London Transport Executive.
- 1982-83 Various GLC Transport Committee reports on DLR, especially T1032, 9/12/83.