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Recouping public transport costs from gains in land values

Marcus Enoch examines the experiences of Hong Kong and Copenhagen where efforts have been made to exploit the windfall increase in land values related to transport developments. He asks whether this approach can be made to work in the UK.



The UK's attempt to go down this route was the Docklands Light Railway. This plan fell apart when the consortia lined up to develop the Royal Docks area pulled out to the economic downturn in the early 1990s.

A key element in all national and local transport policies addressing environmental goals is the development of attractive and popular public transport systems as an alternative to car travel. This often requires major investment when already stretched traditional public spending levels are equally needed by other sectors, and when electorates are reacting against paying higher taxes.

At the same time, it is widely accepted that property, or more accurately land values, rise when transport access to a site is improved. In theory therefore, perhaps the most obvious solution would be to have the beneficiaries – the landowners – return at least some of

that financial windfall to whoever provided it.

The idea of public transport operators recouping some of their costs from the value gained by landowners from improved access, is not new. Indeed, such a method was applied in London during the nineteenth century, when the Metropolitan Railway Company bought undeveloped land parcels alongside its planned extension into Buckinghamshire and developed them. When each section of the Metropolitan Line (now part of the London Underground system) was opened, the values of these land parcels increased and so were sold at a profit that part covered the cost of both building the railway

and developing the parcels.

But, this approach became less common once public money began to replace private capital as the major source of funding for new railway infrastructure. As a result, the linkage between the provision of transport infrastructure and land use development was largely broken. Currently the only mechanism that maintains this concept, albeit in a watered down form, is through developer agreements under Section 106 of the 1990 Town and Country Planning Act or Section 75 in the Town and Country Planning (Scotland) Act 1997. However, developer agreements are extremely limited in what they can recoup, and councils are only able to negotiate for money that will be directly used to mitigate adverse transport impacts imposed by the development.

There are, however, some public transport developments in the UK and abroad that maintain a more direct link between transport and land use. This article reviews some of these to indicate the sort of funding potential land use value capture can achieve.

RECOUPING COSTS ON THE DOCKLANDS LIGHT RAILWAY, LONDON, UK

One attempt in the UK to use the capture of land use values to fund public transport occurred in East London during the late 1980s and early 1990s. This was as part of the regeneration of the Royal Docks site owned by the London Docklands Development Corporation (LDDC). Under special urban development corporation powers, the LDDC

both provided infrastructure and serviced development land, selling off sites to private companies. These integrated land use/transport powers made possible the plan to fund the Beckton extension of the Docklands Light Railway (DLR) by the increases in land values anticipated in the development area. The sites, owned by the LDDC, could then be sold at a profit and so finance the railway.

Unfortunately, although the line was built, the three huge consortia lined up to develop the Royal Docks area pulled out due to the economic downturn of the early 1990s. As a result, virtually nothing was constructed until seven years after the line opened when the University of East London and the ExCel Exhibition Centre sites were finally developed. By then, the LDDC had ceased to exist and the DLR franchised. Land ownership and transport infrastructure development has been split apart and so the basis of capturing land value rises no longer existed. Overall, the DLR scheme illustrates the importance of timing when linking land values to financing public transport schemes. After all, the scheme may well have worked had it been implemented ten years earlier. But, such UK cases have proved the exception, and if one is really to see how such schemes might work in practice, one is forced to look abroad, where two schemes in particular, in Hong Kong and Copenhagen, stand out.

SELLING DEVELOPMENT RIGHTS, MTR, HONG KONG

Perhaps the most successful body at raising finance from capturing increases in land values in recent years, is the Mass Transit Railway (MTR) in Hong Kong. Between the establishment of the MTR in 1975 and 1986, three urban rail lines – Kun Tong, Tsuen Wan and Island – were built. These covered 43km and 38 stations and carried 2.3 million passengers in 1997. To this was added in July 1998, the 35km Lantau Airport Railway, linking Hong Kong Island and the international airport at Chek Lap Kok, while the 13km, six station Tseung Kwan O extension which opened in August 2002.

The Hong Kong MTR does not receive any subsidy from the Government, covering 80% of its operating costs from the farebox and the rest by profits from property development. This is possible because the Government owns all the land in Hong Kong which it leases for 50 or sometimes 70

years. Developers pay a premium for land for 50-year periods, based on a calculation that looks at the value of the land possible from future development, which may be paid up front or in instalments. Thus the Government can assign land next to and above stations and depots for the MTR to develop.

To do this, the corporation seeks to limit its risk by finding developer partners who pay for all the 'land premium charge' and construction costs. In return, MTR gives the developer permission to develop the site. Thus there is very little cash outlay required from the MTR, and profits are earned through sharing the development income, or else through receiving part of the assets in kind, for example a shopping centre. From this generated income, together with revenue from leasing and managing selected property, the construction costs for new metro extensions are covered.

This funding mechanism is central to the whole planning process of new metro lines. When assessing a new rail line, MTR expects to make a return of 10%-11%. This 'hurdle rate' is the required or expected rate of return needed to cover the cost of capital, and to give profit to MTR's shareholders. The level of risk and the profit margin are also taken into account.

Firstly, a feasibility study is conducted. This calculates the project cost, and the patronage and revenue, and then addresses any 'financial shortfall' by suggesting suitable sites for property developments that the Government could hand over to MTR. Once the potential of the line has been assessed, and the route agreed with Government, MTR produces plans for the development – siting where necessary services are to be built, such as schools, hospitals etc – before they are submitted to the usual planning approval process.

With the Government's backing secured, the engineers build foundations for the stations along the route. At the same time the approvals, generally airspace development rights, are divided into financially and technically feasible packages, at sizes affordable to property developers and financiers and offered to the market through a tendering process. Expressions of interest are then requested and the 'best fit' developer is selected, who then must pay a down payment to cover up front costs (eg foundations for property above a station). MTR meanwhile negotiates a 50-year lease. The developer then constructs the building and sells it. After the sale, 20-25% of any profit is taken by MTR. If there is a loss, this is all borne by the

developer. MTR takes no risk.

One further aspect is that while the railway must be completed to the timetable set by Government, MTR retains the right to decide when to negotiate with the private developers. This flexibility allows MTR to maximise its potential return by choosing to go ahead when economic conditions are at their most favourable. As a rule, the new developments have tended to open two to three years after the railway line.

Where there are developments above stations, MTR also helps manage the property. For example, the shops above MTR's first development, Telford Plaza at Kowloon Tong station, are owned and managed by MTR. As well as providing a significant revenue stream, this allows a continuing co-ordinated management of the railway operation – property development interface.

From the three urban lines, 18 property sites were developed, consisting of 28,000 apartments in ten estates, 150,500 square metres of retail in three shopping centres (each located above a train depot), and 128,500 square metres of office space. MTR retains the management of all of this development. Financially, the profits from the sites totalled \$HK4bn (£336m), approximately 18% of the cost of the three lines. In 1998, the rental and fees from the managed properties was \$HK697m (£59m) – approximately 10% of the MTR's total revenue.

With the Airport Railway, the scope for development was drastically increased. Five development sites at Hong Kong, Kowloon, Olympic, Tsing Yi and Tung Chung stations are being developed, amounting to 25,000 apartments, 11 office towers, six shopping centres and nine hotels. These developments were split into 15 separate packages, and are being completed progressively between 1998 and 2005. It is predicted that between \$HK15bn and \$HK20bn (£1.3bn-£1.7bn) will be raised from developers, contributing over half of the

The Mass Transit Railway in Hong Kong has successfully raised finance from capturing increases in land values in recent years. It receives no subsidy from the Government.



The first section of the Ørestadsbanen automated light rail system in Copenhagen is expected to open in October 2002. The scheme is currently being funded through Government and other loans.

\$HK35.1bn (£2.9bn) construction cost.

Meanwhile the \$HK26bn (£2.2bn) Tseung Kwan O extension is to serve a new town of 500,000 people, and include 28,000 apartments, 100,000 square metres of office space and 132,000 square metres of local and district shopping centres, as well as schools, open space and other community facilities. Altogether, the property development fees for the extension are estimated to represent an investment cost of \$HK80bn (£6.7n).

Planning is also taking place for other extensions to the railway in East Kowloon and Hong Kong Island which all include significant elements of property development.

In conclusion, there are a number of reasons behind the success of the financing route.

The first is that new lines are only funded through highly populated areas where existing demand is enough to guarantee that the line will be well used. In other words, new lines are only considered if they are almost guaranteed not to make a loss. This was not the case in East London, nor is it true in Copenhagen, where the building of a new line is primarily aimed at kick starting economic regeneration. In Hong Kong, any regeneration benefits are seen as being positive spin offs rather than a core objective.

Secondly, the assumptions made when calculating the financial returns from the project are extremely conservative and err heavily towards the worst case situation, and thirdly the contracts issued by the MTR passes all the risk to its private developer partners while maintaining a share in any profits.

On top of these reasons, Hong Kong is obviously a special case. A relatively tiny land area coupled with a rapidly growing economy and population, has led to a massive demand for land, which even remained, albeit a slower rate, during the recent Asian economic downturn.

USING LAND VALUE TAXES TO FUND THE ØRESTADSBANEN, COPENHAGEN, DENMARK

The second example is where land sales and a land value tax are to be used to capture benefits arising from the Ørestadsbanen automated light rail system in the Ørestad area to the south of Copenhagen in Denmark.

This project came about because in 1992 the City of Copenhagen was in recession and so it requested more money



from the National Government. However, instead of providing the City with more money, the Government handed over its share of a long thin 310-hectare site for development. The logic behind this was that this stretch of undeveloped land lies in a prime location but was almost inaccessible. By providing a high quality public transport link, the site could then be sold thus not only regenerating part of the city, but recapturing the development and construction costs too. Ironically, the concept for the scheme was developed from the experience of the development of the London Docklands area described earlier.

Co-owned by the City of Copenhagen (55%) and the Danish Government (45%) since 1963, the ownership of the Ørestad area was transferred to a new development agency/company called Ørestadsselskabet (OS) (Ørestad Development Corporation) in March 1993, and a plan for its development drawn up shortly after. When completed, it is intended that around 80,000 jobs would be created at a number of sites in a large shopping centre, several offices, and a number of public sector developments, including a university, Government offices, and a television station. In addition, it is planned that 20,000 people will live in the area.

Ultimately, the Ørestadsbanen automated LRT system will operate a three-minute frequency to the city-centre (built and managed by OS), while the other lines to Frederiksberg and the airport, will be developed by OS in partnership with the relevant local authorities. The 22km system will be operated as a single unit, with the operator selected by OS through competitive tendering. The first section is expected to open in October 2002, while the second phase (70% owned by OS and 30% by the Municipality of Fredriksberg), is set

to follow in May 2003. The third phase (owned 55% by OS and 45% by the City of Copenhagen) should open in 2005.

There has been a delay in opening the line and predicted costs have increased from around DKK6bn (£566m) in 1996 to DKK10.8bn (£1bn) now.

As noted earlier, the Ørestadsbanen automated light rail system project is to be financed by realising the increase in the value of land that the system will generate. This is to be done by selling the newly developed land and by collecting a land value tax, but to do this the scheme first had to be developed, meaning that the metro is currently being funded through Government and other loans.

Conditions for success

From the cases described, it is clear that there are several key factors that must be taken into account. The first major lesson is that somehow the public sector needs to own or somehow control the development land. In the Docklands, Hong Kong and Copenhagen situations, the land was Government owned and therefore it was possible to implement such a mechanism relatively easily. This may be problematic in other UK schemes, because while it is possible for Government agencies to compulsory purchase land needed for new infrastructure, it is less easy to obtain 'extra' land.

Secondly, the actual mechanism for capturing the benefits from the private sector needs to be in place. For example, both Hong Kong and Denmark have collected land value taxes for many years, which are able to capture any increases in value without any new legislation being necessary. In Britain, increases in value could only currently be collected from selling the newly developed land for a premium.

Thirdly, positive government involvement, with close co-ordination of policy-making, is another crucial element, while Governments also have an important role to play in establishing the legal framework for a smooth transfer of development benefits to the railway operator. This is evident in both the Danish and Hong Kong schemes.

Finally, the timing of the project is of the utmost importance. Specifically, problems can be encountered if development slows due to an economic recession. And, if a new metro system is being built it must be ready for when the new buildings open for business, but should not open too much before that happens.

Seemingly, this has not been the case in Copenhagen and was certainly not the case in Docklands. Bluntly, in the Docklands case, the planned route simply did not serve a large enough existing market so that when the recession hit, the line was not as successful as it should have been. In Copenhagen, while the line is due to open in October 2002, there is as yet very little development and consequently little existing demand. As a result, the system is highly dependent on the planned developments being built as quickly as possible – not an ideal situation given the experience in East London. Even in

a very densely populated city such as Hong Kong, the mechanism was not primarily used as an instrument to economically regenerate a deprived area. Indeed, policy makers there have taken a great deal of care to ensure that any new lines can already be financially justified by existing patronage levels. In addition, they use extremely conservative estimates about how patronage and property values will grow and then pass all the financial risk onto the developers.

Practically therefore, joint urban rail/land development schemes must be based on a long-term strategy to ensure that sufficient time is allowed so that a significant share of the external values generated by the improved rail service can be captured. This is recognised in Hong Kong, where MTR is given the flexibility to decide when exactly it should develop its land in order to get the best financial return.

PROSPECTS FOR PUBLIC TRANSPORT OPERATORS CAPTURING VALUE IN THE UK

The prospects for a land value capture mechanism being used in Britain in the

near future are not good. Although public private partnerships are politically very much in vogue, the complexity of the transport and land use 'providers' working together over several years without any real strategic framework presents a real barrier. And, when combined with the lack of a land value tax to capture any betterment and the difficulties in planning transport infrastructure even without the added problems of finding suitable sites to develop, the chances look even slimmer.

But, despite these pitfalls, in Edinburgh a private company called 'E-Rail' is currently in discussions with the local authority to part finance the reopening of the city's south suburban rail line to passenger traffic, through gains in land value made when the line opens. We can only wait and see as to whether the theory can work out in practice.

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