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The property development process: a Scottish case

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Abstract

An existing model of the commercial property development process was applied to a mixed use redevelopment site.

The case studied was the redevelopment of 7.7 hectares of previously developed land in central Edinburgh containing nine listed buildings. 158,000 square metres of accommodation are planned, 65% of which will be residential and 25% offices. The site was first marketed in 2000, construction began in 2005 and approximately 40% of the project was completed by the spring of 2009.

The single case study was investigated by inspection of documents and plans, site visits and semi-structured interviews with senior executives representing all the companies and organisations that were influential in decision making.

It was found that the commercial model was able to represent the reality of the project environment reasonably well; however adjustments were required to cope with mixed-use redevelopment. The overall fate of the site was determined by the interplay of market forces and state policy, yet the detailed evolution of the project was dependent upon the organisations and individuals that became involved. Questions of design and the architect played an important role in decision making. 'Place making' was found to be fundamental in both planning and financial terms. It was confirmed that a genuine mixed-use environment that is well conceived and managed can be very attractive to the public, residents, businesses and investors. While some listed buildings were sacrificed, involving controversy and delay, conversions of others made a significant contribution both environmentally and financially. These results contribute to the literature of detailed property development cases while refining the model used.

Introduction

The aim of this project was to contribute to uncovering the nature of the property development process; that is the way combinations of circumstances and actors lead to decisions that transform a site in a particular way. An existing model of the United Kingdom commercial property development process (Fisher 2005, see Figure 1.) was applied it to a contemporary mixed-use redevelopment. The objective was to see how far the model fitted. A single case study was carried out in order to focus, in as much detail as possible, on the circumstances, interactions and decisions that caused the project to evolve.

"The central tendency among all types of case study, is that it tries to illuminate a decision or set of decisions, why they were taken, how they were implemented and with what result" (Yin 2003 p12).

The Edinburgh Royal Infirmary site was selected for its central position, large size, long development period and diversity of land uses, including conversions. The sensitive site purchase and planning stages were largely complete meaning that information was reasonably accessible. The site was 7.7 hectares of city centre previously developed land containing 9 listed buildings. 158,000 square metres of accommodation are planned; 57% private residential, 8% affordable housing, 25% offices and 10% leisure / retail. The site was marketed in 2000-01, construction began in 2005 and approximately 40% of the project was completed by the spring of 2009.

Documents and plans were inspected and site visits held. Eleven 11 semi-structured interviews were[1] held with senior executives representing all the companies and organisations that were influential in decision making. A draft of the paper was sent to the interviewees for factual checking.

Literature review

The property development process

Property development may be represented as a sequence of events or activities, though most authors point out that they are interlinked and that in practice circumstances, timing and tactics combine to create complexity (Healey 1991; Birrell and Gao 1997; Roulac et al 2006). It is widely held that events-sequence models are narrow and developer-centric and that a comprehensive analysis must cover other agencies and institutional behaviour (Ball 1998; D'Arcy & Keogh 2002; Guy & Henneberry 2000). Doak and Karadimitriou (2007) argue that property development displays the hall marks of a 'complex adaptive system', in particular that it comprises many different parts, connected in multiple ways, interacting serially and in parallel. Actors operate on the basis of established norms and practices that provide stability, yet are sufficiently flexible to adapt to change. The model adopted for this case study shows 'events' flowing from decisions made by 'actors' or 'government' under the influence of forces classified as either 'long term trends', 'the economy', 'property markets' or 'the site' (Fisher 2005; Figure 1). These factors interact in space and time within a system that is undoubtedly complex. The model comprises 7 major and 51 sub-elements and 284 functional linkages.

Mixed-use development

The concept of mixed-use development evolved during the 1990s, for example, through revised planning guidance for town centres (DOE 1996) and the Report of the Urban Task Force (DETR 1999). Mixed-use is advocated as reducing travel and promoting sustainability. Uses may be mixed horizontally and / or vertically within one building (CBRE 2006). Places with individuality often possess a mix of uses creating vitality and attractiveness. Success

[1] One telephone interview was held since the respondent was currently working in Australia.

factors include an integrated strategy, transport provision, a strong brand, involving stakeholders and a sustainable future (Dixon and Marston 2003). A useful distinction can be made between the physical environment (output) and social interaction (outcome) (DTLR 2002 p75).

A number of perceived barriers to the provision of mixed-use development have been identified including the funders' preference for single-use, the shortage of large sites in good locations and requirements for affordable housing on-site (Rowley 1996; Fulford 1996 p130). Institutional funding was difficult to obtain though bridging finance was available. Mixed-use tended to produce lower site values particularly when residential was a major element (DTLR 2002 p65).

Developers found mixed-use useful in diversifying risk but were not convinced of its superior financial returns. While the property industry was developing delivery strategies for mixed-use areas, mixed use buildings were more difficult. Problems included the complimentarity of uses, the intensity of management required and achieving coterminous tenure structures (BCO 2005). A theoretical valuation exercise found that a high mixed-use tower in central London produced a higher land value than a lower purely office building; whereas in Birmingham the reverse was true (CBRE 2006). Due to the immaturity of the market, the investment performance case for mixed-use is not proven. However, a review of eight case studies concluded that higher investment returns are likely where intelligent design and management create a place of complementary land uses (Knight Frank 2007).

Heritage led regeneration

Historic buildings provide authentic local identity to development schemes and their locales. People gravitate to areas containing historic buildings because they tend to provide a 'sense of place' made up of local character, historic association, variety, interest, beauty and human scale (Pickard R., De Thyse M. 2001 p277-278, English Heritage et al 2006, p6).

Commercial schemes reusing historic buildings can stimulate a local economy and often have higher values than new developments. Many towns have been regenerated through finding new uses for historic buildings (House of Commons 2004). Historic buildings can contribute direct and indirect economic value to a project or its surrounding neighbourhood. Direct value includes, for example, the high prices paid for flats or offices in converted former industrial buildings. Listed office buildings have been shown to perform well as property investments (Investment Property Databank 2006). Indirect value includes, for example, the retail and leisure spending of tourists drawn to historic sites and environments.

English Heritage and CABE (2001) set out criteria for new development within a historic context. Projects should relate well local geography, topography and history; complement the existing pattern of development and routes; respect important views and the scale of neighbouring buildings; use high quality materials and create new views and juxtapositions adding variety. The toolkit usefully provides a decision making framework within which matters requiring subjective judgement can be identified and discussed.

Scottish policy states that consideration of an application for the demolition of a listed building should be based upon the importance of the building, its condition, the adequacy of efforts made to retain it in use and the extent to which the community would benefit from redevelopment. Sustainable development must reconcile protecting the historic environment with opportunities for change that respect its character (Historic Scotland 1998, Scottish Government 1999).

Master planning

Where there is to be physical development of a large site over a lengthy period, a master plan is needed to set goals and coordinate activity leading to the creation of a vibrant and successful urban place. A successful master plan must be visionary, deliverable, integrated with statutory planning, flexible and participatory. A master plan is equally suitable for existing and new neighbourhoods (ODPM 1999). The master plan should be a three dimensional strategy for buildings, blocks, public spaces, streets and landscape. Variety and uniformity should be balanced and a framework set within which good architecture can flourish. Physical heritage should be viewed as an asset, celebrated and invested in. Equally, the master plan must be deliverable. The viability of scales, densities, uses and plots should be tested and practical funding and delivery vehicles examined. A marketing strategy should be framed and the scheme's brand established. Risks should be identified, analysed and managed (CABE 2004). The Urban Design Compendium provides guidance on the principles of urban design and the processes that should create successful places (English Partnerships 2007). Beaman (2008) provides a guide to the practical problems of delivering a master plan, including land ownership and values, funding, forecasting, time horizons and risk management.

Case Study

The site

Edinburgh has a population catchment in excess of 750,000 and when the site was marketed it was the 6th fastest growing city in Europe (Jones Lang LaSalle 2000). A factor in this growth was the re-establishment of the Scottish Parliament in 1999. Edinburgh was ranked as the second UK city for financial services and the 6th in Europe. The site was widely recognised in 2000 as a major development opportunity in terms of location, scale and potential (Figure 2.). To the South, the Meadows are a large area of open grass parkland likely to generate high property values. The suburbs of Marchmont and Bruntsfield create strong pedestrian and cycle flows along Middle Meadow Walk, the site's eastern boundary. To the north are tourist attractions, Edinburgh Castle, the Royal Mile and Holyrood Palace. Further north Princes' Street is the prime shopping street and George Street the traditional commercial area. To the West 'The Exchange', is a large 1990s office district, with further office development planned at Tollcross. Waverley station is about 15 minutes walk away. The distance of the site from established business centres raised a question mark in many minds. Having been a hospital, the site was absent from most 'mental maps' as a potential residential or business location.

The site measures 7.7 hectares (19 acres) and contained some 80,000 sq. m. of existing floor space (Jones Lang LaSalle 2000). Central Edinburgh was already built-up and largely designated as a Conservation Area or a World Heritage Site so this site represented a development opportunity of rare scale. The site was densely built up with buildings ranging from 1 to 7 stories, no through routes or open spaces (Figure 3.). The site contained nine listed buildings (see Table 1, Figure 4.) and many other structures of no reuse or architectural value. Site contamination concerns included asbestos, especially in the 20th century buildings, radioactive waste, the incinerator, boilers, fuel stores and faulty drains. Having been Edinburgh's place of birth and death, the site aroused personal sentiment for many people.

Site acquisition 2000-01

The land was owned by the Lothian University Hospitals NHS Trust. From 1989 acute hospital services were reviewed and a new hospital constructed on the city's southern by-pass. It was planned to relocate the Royal Infirmary in 2003 and give vacant possession of the site.

The Lothian University Hospitals NHS Trust initially negotiated to sell the site to New Lauriston Ltd, a public-private partnership between the EDI Group and Morrison Development. The site was identified as a 'major development opportunity' in the Central Edinburgh Local Plan (C.E.C 1997a) and a Planning Brief was published for housing-led mixed use regeneration (C.E.C 1997b).

Due to high site costs, uncertainty over listed buildings and the lengthy development period, the value of the site could not be agreed, so in 1999 the NHS Trust appointed Jones Lang LaSalle to manage the disposal of the site by competitive tender. The marketing campaign, during summer 2000, was followed by expressions of interest and a pre-qualification questionnaire. Ten bidders were selected to submit at stage two in autumn 2000. Bids included the track record of the developer and their professional team, financial resources and outline proposals. The Trust wanted deliverable realistic plans that would achieve planning permission; in part so it could assess the risk and value of probable overage payments.

Three bidders were short-listed to submit at stage three in spring 2001[2]. During this stage informal workshops were held with Edinburgh City Planning Department and Historic Scotland. These bids were for an initial unconditional sum plus overage payments relating to both planning permission and sales prices. The overage offers were risk adjusted and the cash flows from each bid were compared via their net present value.

In June 2001, Southside Capital Ltd was selected as the preferred developer. Southside Capital was a joint-venture between Taylor Woodrow Development Capital (50%), Bank of Scotland Corporate (30%) and Kilmartin, a Scottish based commercial developer (20%). The Southside Capital bid with an unconditional element in excess of £30m was the clear financial winner (Estates Gazette 2001). Their offer of sales overage was based on an auditable formula. Prices achieved above stated per square metre values would be adjusted using a building cost index and 40% paid to the vendor. An overage payment could also be triggered if a part of the site was sold before development. The bid, including the overage provisions, was underwritten by a first ranking security from the Bank. Taylor Woodrow claimed a track record of delivering design-led schemes producing market leading prices. This was supported by a Design Statement from Foster and Partners, who had an international reputation for delivering new design within historic environments. Specialist Scottish architects were appointed for the conservation projects.

The first master plan 2001-04

The character of the retained listed buildings established the context for the master plan (Figure 5.). This was a design challenge, within a World Heritage Site, to find new uses for historic buildings within a townscape of new buildings. It was also a rare commercial opportunity to redevelop 7.7 hectares in the centre of a European capital city.

A maze of minor buildings, extensions and links were unsuitable for retention. Surveys demonstrated that the Florence Nightingale Nurses Home and the Simpson Memorial Maternity Pavilion were structurally beyond repair and that 27 to 33 Chalmers Street had been greatly altered internally. Listed Building consent was sought to demolish these.

It was proposed dispose of the Surgical Hospital for conversion into a five star hotel. Originally the George Watson's Hospital, designed by William Adam, was to be linked via an atrium; however surveys revealed very little of the original fabric. The removal of this building would open up an important pedestrian access from Middle Meadow Walk increasing permeability and commercial success. It was thus proposed to demolish George Watson's Hospital and infill the rear of the Surgical Hospital to accommodate the hotel's major space users. The potential for apartments of the Medical Hospital pavilions and the Jubilee Pavilion overlooking the Meadows was self evident. The former E.N.T. and Ophthalmology buildings were proposed to be converted into retail and leisure uses.

[2] The bidders at the final stage in 2001 were Southside Capital, Morrison with the Edinburgh Development Initiative ("New Lauriston") and Miller Group with the Royal Bank of Scotland (Estates Gazette 2000)

The architect and the developer wanted to demolish the Red Home to provide space for a vibrant public square at the heart of the site. The developer and Historic Scotland disagreed over the merits of the building and its contribution to the site. Facing probable refusal, the developer proposed to convert this building into a restaurant.

Though contextual architecture in stone was common in the City, the developer felt the market favoured uncompromisingly modern buildings. Foster and Partners' designs were in steel and glass intended to simply frame the historic structures without competing and this found favour with the Planning Authority.

Since much of the site was taken up with listed buildings, car parking was placed underground to increase density, which was desirable in both design and commercial terms. The adopted grid pattern enabled the first office building to face Lauriston Place, which was necessary to establish the new business location. The proportion of offices was increased to achieve the critical mass needed for a prime business location. Office workers were seen as vital to vibrant mixed-use, helping to attract retail and leisure businesses and apartment purchasers.

Following a number of design iterations, residential 'lantern towers' were introduced between the northern ends of the Medical Hospital pavilions. The height of these, visible from the Castle and Meadows, caused objections but they were popular with purchasers. Further new build residential blocks were included on the eastern boundary and in the south west corner of the site. All the affordable housing was grouped in one block facing west onto Chalmers Street.

Due to the listed buildings it was decided to apply for full rather than outline planning permission in May 2002. Separate applications were made for listed building consent as necessary. In April 2003 the Planning Sub-Committee received a report recommending approval, however it decided to 'continue' the application (City of Edinburgh Council 2003). The changes resulting were a reduction in the scale and height of the first office building and a recalculation of the affordable housing. On other design issues, including heights, the applicant was merely asked to 'examine' and report back, which they did not find too difficult. Planning permission was granted in July 2004, subject to a legal agreement covering planning obligations.

A second planning application was submitted in September 2004. This covered the detailed design of the residential block facing Middle Meadow Walk and the first two 'lantern towers'. The number of apartments was increased by 28 and the mix amended to meet demand. The 637 car parking spaces were redistributed between the two basement areas. A revised permission was granted in April 2005.

Changes to the joint venture 2004-5

During 2004, Taylor Woodrow's business model changed to focus on volume house building so complex redevelopment projects such as Quartermile did not fit. The group adopted a regional structure and Quartermile was too big for the Scottish subsidiary. In January 2005 Taylor Woodrow sold their 50% stake in Southside Capital. The purchaser was Gladedale a volume house builder which was keen to engage in city centre regeneration. At the same time Kilmartin withdrew, leaving Gladedale and HBOS as 50:50 partners in the new Gladedale Capital Ltd.

The fuehold of the site had been acquired in 2003, subject to a Development Agreement with the NHS Trust including provisions for overage payments. In the context of rigorous planning controls, Gladedale found the Agreement unwieldy, restrictive and risky. It was concerned that the sales-based overage payments, and in particular the low construction cost base used in the formula, would reduce profitability. Following negotiation with the Trust they paid a single overage payment to terminate the Agreement.

Revised master plan 2005-07

In July 2005 construction began in the north on an office block (Q2 see Figure 6), in the east on a residential block (Q4, see Figure 6) and in the south east corner on two residential towers (Q12, Q14) and the conversion of part of the Medical Hospital (Q13, Q15).

Market and developer changes now prompted a commercial review of the master plan. The Surgery Building (Q1) was to have been sold for an expensive conversion into a five star hotel, however the international tourism market was depressed following 9/11 and no buyer could be found. It was therefore proposed to convert this building into apartments. The revised design of the south side, with two new wings above a gymnasium, will provide a better rear elevation than the previously proposed hotel infilling. As a consequence, the former E.N.T. (Q7) and Ophthalmology (Q8) blocks, which had permission for retail/ leisure uses, were now proposed to be converted into a 'boutique' hotel.

For commercial reasons the office block (Q5) south of the Surgical Building was to be the final office block yet its construction would have caused nuisance for the residents of surrounding new apartments. It was proposed to move this building west (Q6) to frame a new square. The space left was proposed to be filled by three new residential blocks (Q5a,b,c) with car parking beneath. As a consequence the affordable housing block (Q10) was enlarged and redesigned.

The master planners and the developer had always hoped, for both design and commercial reasons, to demolish the Red Home to create a vibrant public square at the heart of the site. Permission had been granted to convert this building into a restaurant but no viable commercial conversion had been found. A new master plan was drawn up and a third full planning application made in November 2005 (CEC 2005). The proposed demolition of another listed building again aroused opposition including from Historic Scotland and Edinburgh World Heritage. By now however, the developer had clearly invested a large sum of money on site preparation and had begun construction. As a result of this and continued liaison with the same professional team, the Council now had increased confidence in the developers. The application was approved by Committee in January 2007 (City of Edinburgh Council 2007).

Construction and marketing 2005-09

Housing

The location of the site is ideal for city living with workplaces and amenities within easy walking distance and views over the Meadows. Edinburgh has a history of city centre tenement living however in 2005 there was a shortage of modern stock available. In 2006 and early 2007 the housing market was strong and most purchasers were motivated by the prospect of capital appreciation. Typical buyers were ex-patriot Scots, second home owners and the parents of university students. Few purchasers initially intended to let but during 2008 the proportion of let flats increased with strong interest from tenants.

Some purchasers were purely interested in a new flat or in a converted apartment. The first phase included one new block (Q4 'Veridian'), two new towers (Q12, Q14 'High Meadows') and two converted blocks (Q11 'Ferguson Hall', Q13 'Simpson Hall'). Having this variety of apartments to sell maximised the site's appeal and rate of sales. The developer had claimed in its bid that it would deliver a design-led scheme with premium prices. Purchasers were attracted by the prospect of a vibrant mixed-use environment leading to faster sales rates and higher prices.

Rettie and Co the estate agents, using the site's web-site, assembled a list of 9,000 expressions of interest and aimed to set the asking prices to match the top 10% of these. On payment of a fee, purchasers acquired an option-to-buy on an apartment of their choice within a given price range. If the developer moved the flat out of the agreed price range and the purchaser withdrew, the fee was returned. The average sale price per square metre/ foot moved up sharply from the launch and by spring 2008 was one third higher than equivalent city centre developments.

Most of the conversions did not provide very efficient space and sold on average for less per square metre than the new units. While some were spectacular split level apartments with south facing views over the Meadows, others were awkwardly shaped or rather dark resulting in a wider price range.

Following the start of the 'credit crunch' the housing market in Edinburgh had come to a halt by spring 2008 and price falls were expected. In spring 2009 the construction programme includes four new build residential blocks (Q5b, Q5c, Q16, and Q18) and two conversions (Q15, Q17). There is likely to be a pause before the remainder of the housing programme starts.

Offices

In 2005 much of the office stock in central Edinburgh was outdated or inconvenient. However many perceived the Quartermile site to be remote from George Street and the Exchange. The developer felt that firms would be prepared to relocate to achieve a better standard of accommodation. The second master plan contained four office buildings totalling 39,000 square metres.

The first office building, Q2 ('Quartermile One') faces north onto Lauriston Place. The building is steel framed with a fully glazed exterior. This comprises 10,200 net sq. m. (110,000 net sq. ft.) office space on six levels with one retail floor below. The high standard of specification features flexibility with column free space suitable for any office layout and one or more tenants. In February 2007 McLay Murray and Spens solicitors agreed to pre-let 4,872 sq. m. (52,442 sq. ft.) on the top three floors of the building. They were persuaded that walking distances to the two main rail stations were the same as from their existing premises in the New Town. They also occupied a Fosters designed office in London. The developer agreed a substantial incentives package to secure this first letting at a reported rent of £296 per sq. m. (£27.50 per sq. ft.) (Estates Gazette 2007). This pre-letting to a strong covenant was crucial in establishing the new location. Demand for prime property investments was very strong in summer 2007 and the partial pre-letting further improved the purchase price of £60 million paid by Morley Fund Management in July 2007, just as the term 'credit crunch' was being coined (Morrison 2007).

The second office building Q6 ('Quartermile Two') will frame the new the central square. There will be 4,890 net sq. m. (52,600 net sq. ft.) of office space on six floors with retail space below. In May 2008 lawyers Morton Fraser pre-let 3,360 net sq. m. (36,150 net sq. ft.) being the top four floors. The incentives agreed were less than previously and the rental value increased to £321 per sq. m. (£30 per sq. ft.) (Doyle 2008).

Hotel

The impact of 9/11 on the project was severe, preventing the conversion of the Surgery Building (Q1) into a five star hotel and denying the developer an early capital receipt it had built into its financial plan and site purchase price. As a result, planning permission was obtained to convert this building into flats. The developer had previously hoped to include serviced apartments within the hotel. Building Q5a, which had planning permission as a seven storey residential block, was pre-sold in July 2007 to the Singapore based Ascott Group for £21m to become an 'apart-hotel' known as 'Citadines Edinburgh Quartermile' (Citadines 2008). This one-off sale achieved a higher than residential price and removed risk from the project. The listed former Ophthalmology and ENT buildings, (Q7, Q8) were re-designated and marketed as a linked 'boutique' hotel, but have yet to be sold.

Retail
Q4 facing Middle Meadow Walk, the second building to be completed, has three retail units on the ground floor which exploit the existing strong pedestrian flow. In November 2007 'Peter's Yard' an independent Swedish bakery/ café opened, followed in 2008 by Sainsbury and Starbucks providing an attractive frontage for the whole scheme. These units were sold as a single investment in May 2008 for £3.3m. When complete the buildings around the central square will be the hub of retail and leisure activity.

Discussion

Space in this paper does not permit an exhaustive discussion of all the interactions of the development system in this case. Three major aspects have been selected and their role and impact traced via the elements of the model (Fisher 2005).

Mixed-use development
This case amply demonstrates the sea change in urban regeneration that mixed use development has been. In 2000 planning policy favoured mixed-use development, though this was originally housing dominated, and in this case policy was well aligned with market forces. An integrated system of work, living and leisure had been evolving within the city centre, particularly amongst younger professionals, creating demand for a range of uses on the site. Responding to the mixed use opportunity actors bidding for the site grouped themselves into consortia and professionals were willing to engage with a range of markets. Having a variety of products to let and sell was an advantage for the developer in terms of the risk management and speed of development. The mixed-use nature of the master-plan meant that marketing success, rents and prices were mutually supportive. It can be said that for this site mixed-use added value.

Considerations of mixed-use development thus permeated the development process, relating for example to, Long term trends (social), Site (location), Economy (business sectors), Property markets (letting, investment), Actors (occupiers, developer), Government (public agency, planning authority) and Events (site purchase, feasibility, design, planning application)

Heritage led regeneration
The presence of nine listed buildings on the site presented both a challenge and an opportunity. There was great interest in the site within a World Heritage Site. While some buildings were known to be structurally unsound, the retention of the remainder in the planning brief presented a risk for the developer. Could new uses be found; would there be sufficient land for new buildings; would the retention of buildings compromise overall layout. Would these controversial issues lead to the planning application being delayed or even rejected?

Planning guidance covering development in the context of historic buildings had turned in favour of modern rather than contextual designs and this influenced the choice of architect. The conversion of buildings however presented an opportunity to enrich the mix of development types adding visual appeal and a sense of place which had a positive impact on marketing and sales in all property sectors. The large scale and thus cost of the site meant that the listed Surgery Building was earmarked for immediate sale to a hotel operator or developer. This did not happen due in part to 9/11/2001 which compromised the viability of the scheme in the short term and the Surgery Building is yet to be restored. The listed 'Red Home' was a building for which a new use was not easy to find and which stood in the dead centre of the site. This highly controversial issue had to balance the heritage value of

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the building against the overall design of the project and thus its viability and practical delivery.

Heritage led conservation has thus been a major theme of this development process relating for example to Site (physical characteristics), Long term trends (environment), Economy (business cycles), Property markets (land, hotel, residential), Actors (occupiers, developer, site owner) Government (Historic Scotland, Local Planning Authority) and Events (design feasibility, planning application).

Master planning

The scale of the site at 7.7 hectares (19 acres) in single ownership had repercussions in all aspects of the development system. The size of the site presented design flexibility to create an exciting new place through master planning. As owner of the site the NHS Trust were required to obtain the highest price available not least to help fund the new hospital. However leading decision makers within the Trust were aware of the need to promote a successful redevelopment. Rather than merely focussing on the highest initial bid, the selection of the developer and its advisors also turned on ability to achieve planning permission and deliver the project, including overage payments.

The appointment of Foster and Partners at the bid stage was crucial. The developer correctly judged that, in addition to Fosters' international reputation, their modernist style was in tune with current urban design thinking for this site. Fosters' designs and presentations impressed the site vendor and were a major factor in winning the bid. Similarly the planning authority felt that the appointment was in tune with Edinburgh's role as a European capital city. Fosters worked closely with local conservation architects and Montague Evans the as planning consultants. Overall the role of the particular architect / master planner was more significant than normal.

The evolving master plan(s) proved to be a key tool in negotiating the project and achieving a balance between heritage/ design/ planning aims and market forces/ commercial deliverability. The master planning approach helped to promote consensus among the various actors.

Master planning has thus been central to this development process relating for example to Site (location, physical characteristics), Long term trends (social, environmental), Economy (business cycles), Property markets (letting, investment, hotel, residential), Actors (occupiers, developer, architect), Government (NHS Trust, Local Planning Authority) and Events (design, feasibility, planning application).

Conclusion

The case study has been considered using an existing model of the property development process. Most of the commercial property model was found to be applicable to mixed-use development however it should be amended to include the residential property market and its actors; tenants, owners and investors.

Mixed-use development was found to be the highest and best use for this city centre site which indicates that the residential boom made the previous literature out of date. Interviewees agreed that the closely aligned property types reinforced each other's functions in terms of human activity and that this was matched by property market demand and prices. While some heritage buildings were lost, notably the Red Home, and many such buildings are yet to be restored; the conversion of the Medical Hospital ward blocks contributed massively to the project's sense of place and commercial success in terms of speed of sales and prices achieved. The claims made for 'heritage-led regeneration' thus receive support from this case. Due to the conservation issues, the architect and developer could not achieve the central square that the site needed in the first master plan and planning permission. Subsequently due to the confidence generated this was achieved. Had it not been for the world recession, more of the project would have been built out by now. The master plan served the project well as a tool for mediating between the demands architecture, town planning and development feasibility.

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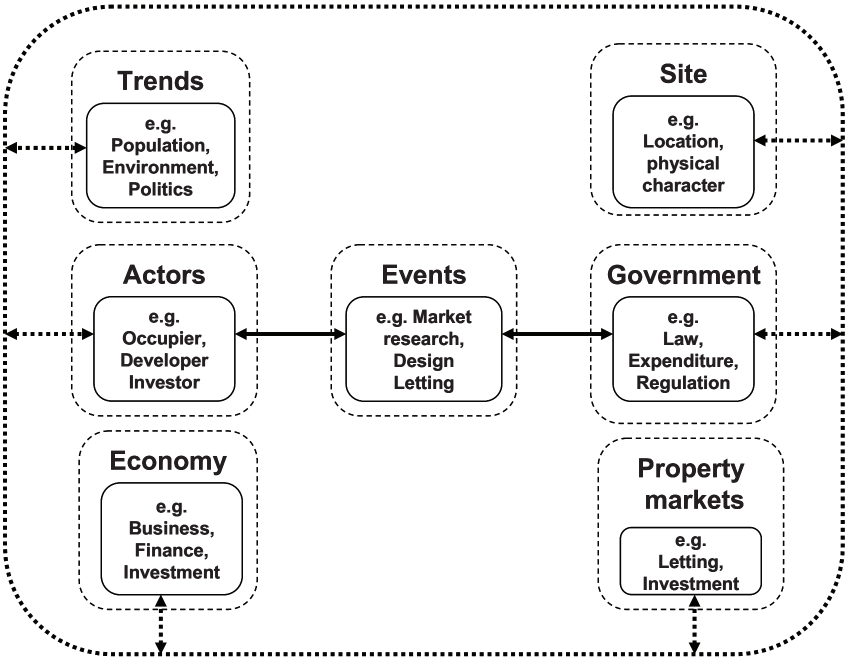
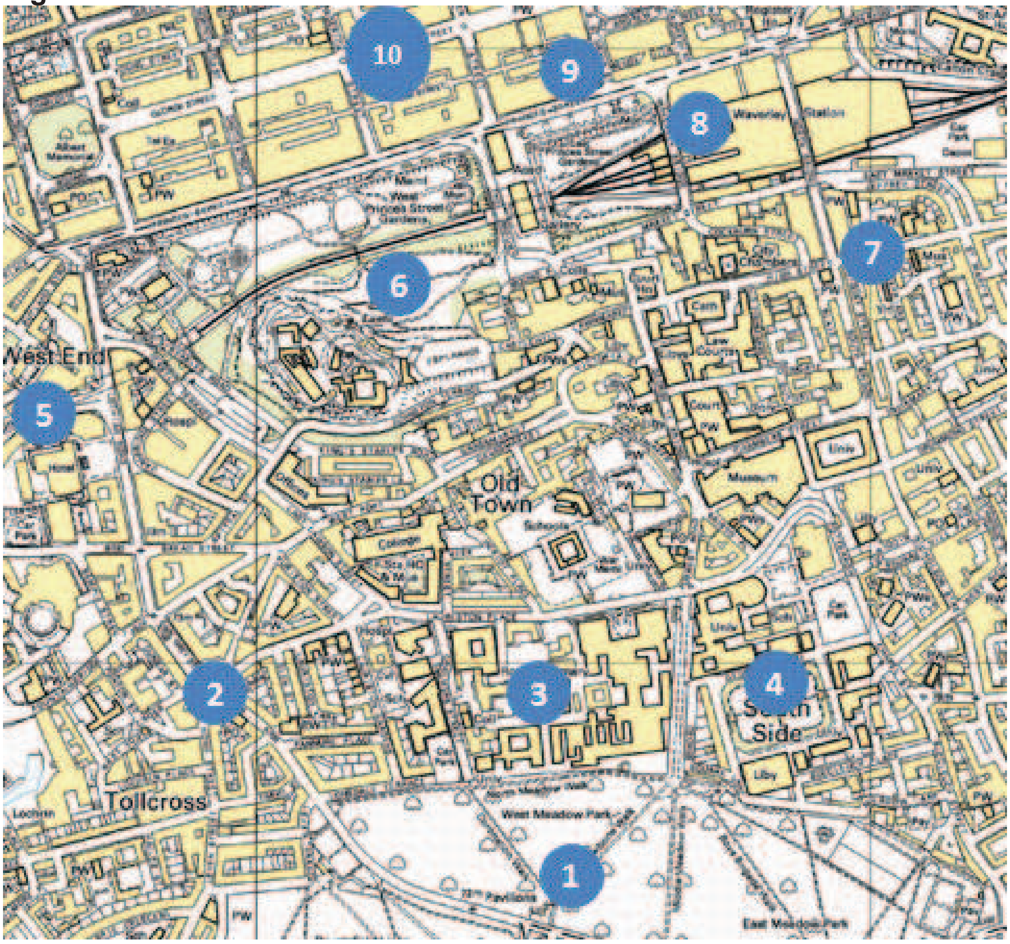
Figure 1. Property Development Process



7 major elements, 51 sub elements, 284 functional links (Fisher 2005)

Figure 2. Location



(1)Meadows (2) Tollcross (3) Royal Infirmary (4) University (5) Exchange (6) Castle (7) Royal Mile (8) Waverley station (9) Princes Street (10) New Town

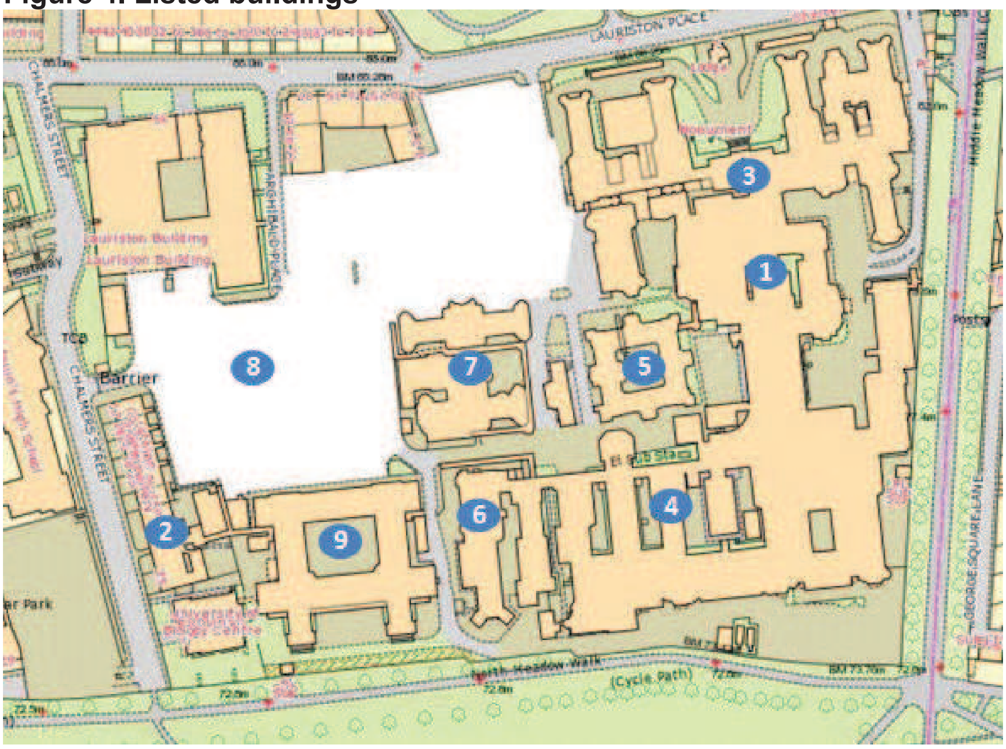
Figure 3, Royal Infirmary Site in 2000

Table 1. Listed buildings

Map No	Description	Dates	Architect	Grade	Stories
1	George Watson's Hospital; the oldest building on the site included a chapel.	1741	William Adam, John Lessels	A	4
2	29 to 33 Chalmers Street; terraced residential properties used as the Queen Mary Nursing Home.	1850	Unknown	B	3
3	Surgical Hospital; the signature building of the site, of sandstone in the Scots Baronial style with a prominent clock tower and six projecting ward pavilions.	1879	David Bryce	A	5
4	Medical Hospital; in Scots Barional style containing four pavilion blocks of sandstone set at right angles to the Meadows.	1879	David Bryce	B	5
5	Red Home; a former nurse's home in Queen Anne style in red brick at the the heart of the site	1892	Sydney Mitchell and Wilson	B	2
6	Jubilee Pavilion; in red sandstone at right angles to the Meadows.	1897	Sydney Mitchell and Wilson	B	5
7	Ophthalmology and Ear Nose and Throat blocks; two parallel pavilions of cream sandstone in 'Old Flemish' style at the heart of the site.	1900	Sydney Mitchell and Wilson	B	2 to 4
8	Florence Nightingale Nurses' Home; notable for its innovative concrete construction technology	1930	Thomas W Turnbull	A	7
9	Simpson Memorial Maternity Pavilion; notable for its innovative concrete construction technology	1930	Thomas W Turnbull	B	5

Refer to Figure 4

Figure 4. Listed buildings



Refer to Table 1.

Figure 5. First master plan

Figure 6. Second master plan