Part Three

CHOICES

Table 7.1
Area Developed Per Decade, by Land Use Category

	(hectares per decade)			Relevant Land Market	
	1934-95	1995-2005	1934-2005	Primary	Secondary
Employment Categories					
Quarrying	7	17	9	Greenfield	
Oil Refinery & Storage of oil and gas	9	0	8	Greenfield	Reclaimed
Heavy Industry (ship access)	14	0	12	Brownfield	Reclaimed
Boat Building & Repair	1	1	1	Brownfield	Reclaimed
Pharmachem/Biopharm	10	25	12	Greenfield	
Other Light Industry	12	78	21	Greenfield	
Power Generation	7	0	6	Greenfield	
Sewage Treatment Works	0	10	1	Greenfield	
Commercial	4	33	8	Greenfield	Brownfield
Port Handling, storage, quays	19	5	17	Reclaimed	Brownfield
Other Wholesailing & storage	2	6	2	Greenfield	
Defence, naval	0	0	0	Brownfield	
Third Level	0	4	1	Greenfield	
Other Employment	0	1	0	Greenfield	
Main Roads	11	18	12	Greenfield	Reclaimed
Residential Categories					
Suburban	76	165	88	Greenfield	
Oneoff	19	33	21	Greenfield	
Apartments	0	6	1	Brownfield	Greenfield
Schools	3	2	3	Greenfield	
Recreational categories					
Golf courses	32	5	28	Greenfield	
Pitches	3	1	3	Greenfield	
Parks	5	4	5	Greenfield	
Courts (tennis)	0	0	0	Greenfield	
Marinas (onshore)	0	1	0	Reclaimed	
Marinas (offshore)	1	3	1		
Footpaths (recreational use)	1	0	1	Brownfield	
General Tourism Accommodation	0	8	1	Greenfield	
Total	236	428	263		

Chapter 7 Market Assessment

The Harbour and areas surrounding it provide a mix of location-specific facilities – ship berths, industrial buildings, leisure boat moorings, dwellings and so on. Most of these facilities are traded in some form of market: they have a supplier, a price, and competing substitutes, which may be in other parts of Cork Harbour, or inland, or in another harbour or coastal area. Within some of these markets, demand is expanding and values rising, while in others, the reverse may apply. Their growth or decline is likely to be reflected in changing amounts of land or water used for each purpose.

Chapter 2 outlined the aggregate growth of development around Cork Harbour over the last ¾ century, and chapters 3-6 surveyed smaller sub areas around the Harbour in more detail, highlighting constraints and opportunities, how they evolved in the past, and what changes or options might arise in the future. To take this material further, we need some sense of what the future might hold, in terms of these markets and land uses.

The difficulties of forecasting the medium term future with any degree of accuracy are acknowledged, but proposals and options are inevitably tested against expected future conditions, and it is better to do this explicitly rather than implicitly. The following method has been used in this chapter:

(a) aggregate data on development on the Harbour in Chapter 2 is analysed further, to give recent (1995-2005) and longer term (1934-95) trends in what uses Harbour side land is being developed for. These trends measure the aggregate outcomes of market forces – ie the interaction of supply, effective demand, and policy based market interventions by the public sector. For uses which were expanding in the 1995-2005 period, account is taken of longer run trends, to avoid projections being biased by a particular phase in the economic cycle

(b) Harbour side land is not uniform, and different types of area have varying suitability for different uses. In some cases, the supply of the types of Harbour side land most suitable for particular types of development may be becoming depleted, and this may limit how far established patterns of demand can continue there. In other categories of land, availability may exceed likely demand, perhaps leading to underuse or vacancy, but possibly also offering new opportunities

This chapter is organised around this 2 step approach. It is recognised that reliance on longer term past trends and use of longer future projection periods make it easier to average out cyclical fluctuations, but may also mask more fundamental shifts in one or more of the forces shaping market outcomes. These may include public policy, consumer preferences, input prices and technical change. However, such shifts are not always easily predicted in advance. To get round this difficulty, the concept of 'grouped shifts' - whereby several factors promote change in broadly the same direction – is used in Chapter 8 to explore the effects and policy consequences of some more fundamental shifts that could occur.

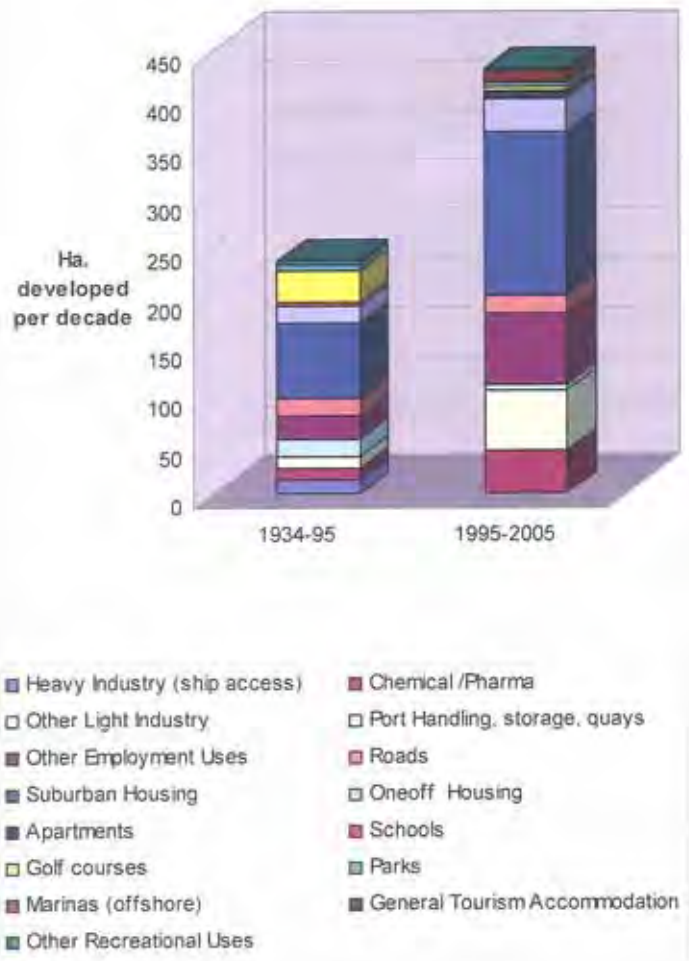


Figure 7.1 Principal Uses of Harbourside Development Land

A. Land Use Trends

Figure 7.1 and Table 7.1 summarise past trends, on a use by use basis. In Figure 7.1, employment uses are near at or near the base of the columns, with residential ones above, and recreational ones at the top. The single largest use in both columns is conventional suburban housing, and this accounted for nearly half the new development, in the 1995-2005 period as well as in earlier decades. Industrial uses also used substantial amounts of land during the boom, but had already been doing so before 1995, albeit on a smaller scale.

Figure 7.2 allocates the aggregate average development per decade implied by the 2 scenarios summarised in Figure 2.4 between individual land use categories, having regard to observed historical rates of development:

- The left hand column assumes that average development between 2015 and 2055 will be at the same rate as for the 1934-2015 period **in area terms, at around ¼ ha. per annum**. For individual uses, all values lie within the range of observed values per decade for the time periods for which we have data.

- The right hand column assumes that the average rate of increase in developed land between 2015 and 2055 will be the same as for the 1934-2015 period, **in percentage growth per annum terms**. Under this assumption, the projected average area of land to be developed per decade is 1/3rd greater than that for 1995-2005, and values for individual categories broadly reflect this.

Figure 7.2: Projected Composition of Development on Cork Harbour, per average decade for period 2015-55

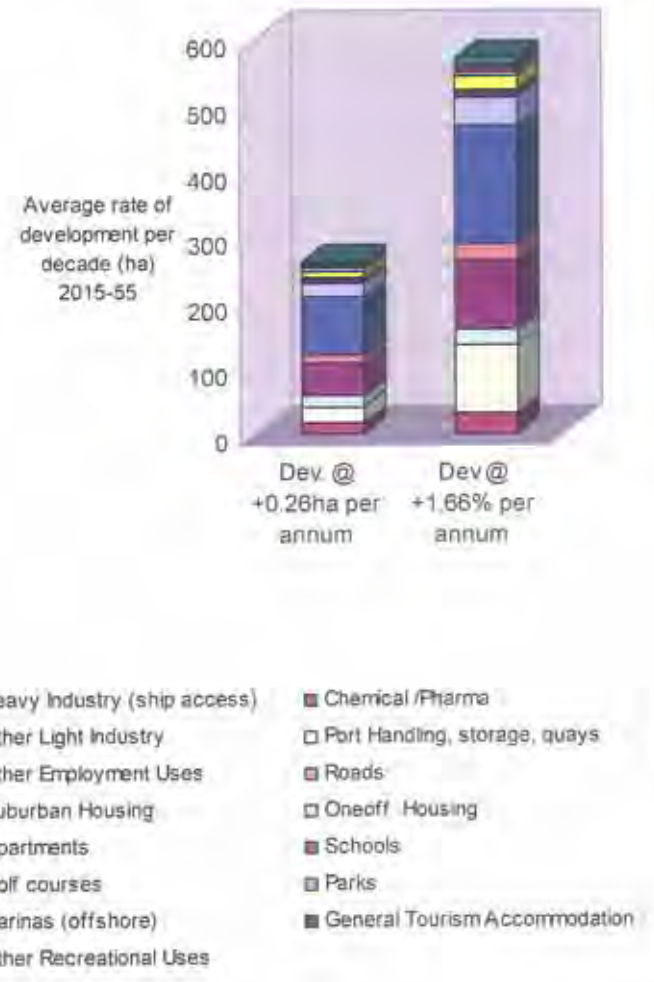


Table 7.2 classifies land on the basis of features which make it more likely to be used for particular types of development. For instance, disused land and land regarded as obsolescent are classified separately from other developed land, because they are more likely to be regarded as suitable for apartments and offices, being often fairly centrally located, with high land values and decontamination costs which may preclude lower density new development. Some land – such as 70 ha in the City Docklands, and the Tivoli Industrial Estate - has been classified as obsolescent because this is how they are viewed by the City Council and Port of Cork

Similarly, steep and level greenfield land are shown separately, because there are uses likely to prefer the latter, such as industrial estates, shopping centres, playing fields, and to a lesser extent, large conventional suburban housing estates. The E-W sandstone ridges running through the Harbour area result in extensive steep areas - typically 1 in 9 or steeper - which saw substantial terraced development in the 19th century, but have been used more for lower density and one-off housing since.

Three large blocks of level land associated with resource based economic activities:- Fota Island, Rostellan Wood, and the coastal area between Fota and Ballyannan on the N. side of the N. Channel – are also shown separately from other level land, as they are at a distance from the main urban areas on the Harbour, and it is not easy to see them being used for normal residential or industrial development.

Table 7.2 Projections of Development of Land to 2055

Status of Land in 2010:		Amount of land in each category, 2010	Projected developed area in 2055 with development rate @:	
Developed/ Greenfield:	**Use/Type:**		**+2.6km2/ decade.**	**+1.66% p.a.**
Land Already Developed (in 2010)[1]	In use in 2005[2]	24.4	27.5	26.4
	Developed 2005-10	2.0		
	Obsolescent areas	1.5		
	Disused land	0.5		
	Redeveloped 2015-55	–	0.9	2.0
	Sub-Total	*28.4*	*28.4*	*28.4*
Greenfield Land (in 2010)	Major blocks with resource based role[3]	8.2	0.9	1.9
	Other lower, more level areas	17.9	6.5	14.8
	Steep Land[4]	18.5	0.7	1.4
	Plateau areas	1.5	0.6	1.4
	Sub-Total	*46.1*	*8.7*	*19.5*
Total land in Inner Study Area, 2010		74.5		
Land Reclamation 2010-55			0.8	1.1
Land Developed/In use in 2055[5]			38.4	49.5

[1] Including land reclaimed 1934-2010
[2] Excluding land in use but classified as 'obsolescent'
[3] i.e. undeveloped land in 3 large blocks, at Fota, Rostellan Wood, and in coastal area between Fota and Ballyannan on N. side of N. Channel.
[4] 1 in 9 or steeper
[5] Includes 0.5km2 development projected for 2010-15

Projected development for the period 2015-55 is allocated under both the scenarios outlined in Figures 7.2-3 to these different types of land adjoining the Harbour, on the basis of experience on the types of land and development normally regarded as most suitable for each other. The large amounts of development allocated to relatively level greenfield land reflect the dominance of light industry, service employment and suburban housing estates in the projected development mix.

This matching of uses and land types is inevitably an inexact and broad-brush exercise, but nevertheless gives some indication of how supply and demand for particular types of land might interact

The main points that emerge form Table 7.2 are:

(a) There is **limited level undeveloped land around the Harbour**, and a significant proportion of what there is, is concentrated in 3 large blocks, at Fota, Rostellan Wood, and the coastal area with significant quarrying N. of the North Channel. If these areas are excluded, remaining reasonably level areas amount to c.18km2. Almost all of this would be used up by the middle of this century under the higher growth scenario.

(b) **Trend based projections do not allocate very much development to brownfield land** – perhaps no more than the would fill the main disused and obsolescent sites already identified in 2010. One major reason for this is that the most likely form of development for Harbour side brownfield land is apartments, but the relatively high density of apartment development means that large land areas are not required.

The prospect of an increasingly constrained supply of level greenfield land, and a possible surplus of brownfield land, raises the question of whether the land market will respond by diverting some development, either from greenfield to brownfield sites, or from the Harbour to areas further inland.

B. Scope for Increasing Role of Brownfield Land:

For the role of brownfield land to increase, there has to be both sufficient supply, and a sufficient range of viable redevelopment processes which can use this supply.

On the supply side, Table 7.3 summarises possible sources of brownfield land which may become available for redevelopment in the period up to 2055. The primary source of substantial blocks of brown field land, which can substitute for similar blocks of greenfield development land, is land originally developed for employment use. Land originally developed for housing typically becomes available in small plots within areas that are already developed. To the extent that small scale redevelopment on such sites has been happening in the recent past, it is already factored in to the observed rate of development, and observed greenfield development happens in addition to it. Some allowance could however be made for intensification of small scale redevelopment.

The supply estimates in Table 7.3 are consistent with full availability of land intended for redevelopment at the City Docklands and Tivoli, in which the net developable area is c.1.2 km2 (see Table 7.4).

Table 7.3 Projected supply of Brownfield Land to 2055

	Total Stock (km2)	Estimated % available up to 2055	Projected brownfield land (km2)
Empl. land developed 1934-95	4.8	65	3.1
Land developed pre 1934	7.6	20	1.5
Intensified redevelopment in housing areas developed 1934-95	6.0	10	0.6
Vacant brownfield land, 2005	1.3	100	1.3
Total	19.7		6.5

Table 7.4 Potential Sites for Dockland Type Redevelopment

	net area (ha)	Projected Capacity: Dwellings	Jobs
city docks	70	8750	27000
tivoli	50		
marino pt	35		
passage	4		
Total	160		

The estimate of brownfield land availability in Table 7.3 is clearly much higher than the trend based estimate of brownfield redevelopment in Table 7.2, or the most obvious possible Dockland redevelopment sites listed in Table 7.4. There are 3 main methods by which Harbour side brownfield land is recycled at present, and which might absorb more land in future. They are:

(1) Dockland type redevelopment for high density urban uses, such as apartments and offices. Recent completed examples, albeit on a small scale, include Rochestown (Harty's Quay), Passage, Bailick, Cobh, and Glounthaune.

(2) Redevelopment of pharmachem sites, for sub-division into industrial estates or business parks, or for new biopharm activities.

(3) Refurbishment of disused industrial complexes for less intensive lower end commercial, service and industrial businesses.

These possibilities are considered in turn below:

(1) Dockland Type Developments: The major use in dockland type redevelopments is apartments, but these use limited quantities of land even in large numbers. The 2006 Census showed that 4,550 apartments built between 1996 and 2006 were occupied in Cork City and County. If one

- adds 10% for non-responses to the Census question
- assumes a sustainable vacancy rate of 12%, and
- applies the assumption in the higher projection that volumes in an average decade between 2015 and 2055 will be 33% higher than in 1996-2006,

this would imply c.30,000 apartments would be built over that period in Cork City and County. If we go on to assume that half of these will be built on the Harbour, the resulting 15,000 units would occupy 1.5km2 at 100 units per ha, and 2km2 at 75 per ha. In practice, however, some apartments will be provided

on greenfield land, often as part of developments which are predominantly conventional houses, so the amount of brownfield land used would be less.

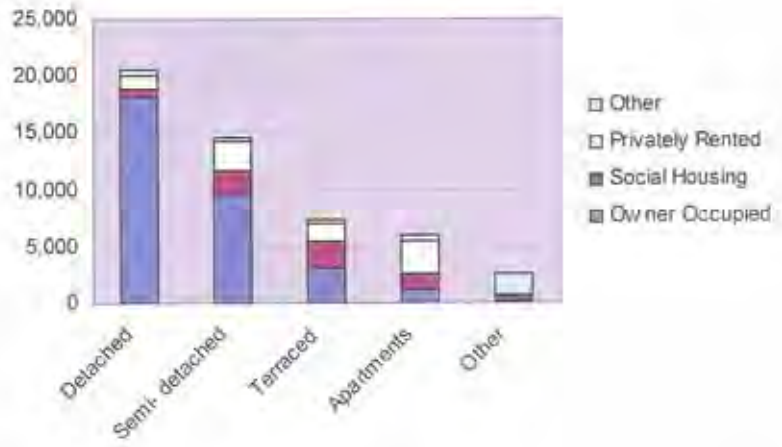
While Dockland type developments also include offices, in high density developments this does not have much effect on the amount of land used. The Local Area Plans for the City Dockland areas envisage a net development area of c.0.7 km2 containing up to 8750 dwellings (implying an average density of c.125 units per ha), plus 27,000 jobs. It would however be more difficult for brownfield sites further away from the city centre to attract large scale office employment.

In principle, the declining size of household should increase the share of apartments in the overall residential market, and reduce that for conventional houses. If so, this would reduce demand for greenfield housing land, as apartments use less land and are more likely to be located on brownfield land.

The basic constraint on increasing the proportion of apartments in new residential construction is that the proportion of new apartments which are owner-occupied is very low, as Figure 7.3 illustrates. In Dublin, the proportion is considerably higher[6], but this is partly attributable to the effect of longer commuting times, which may make a more centrally located apartment an attractive alternative to a conventional house on

[6] 27% of owner occupied dwellings built in Dublin between 1996 and 2005 were apartments, and 36% of (occupied) apartments were owner occupied. The corresponding percentages for Cork City were 13% and 9%, and for Cork County 3% and 29%

Figure 7.3 Dwellings Built in Cork City & County, 1996-2005 by Type and Tenure



the periphery. Unless consumer resistance amongst owner occupiers to apartment living can be overcome in Cork, or there is a shift away from owner occupation, this constraint will remain. This issue may need to be addressed even if there is no further shift towards apartment living, as the alternative seems to be large concentrations of predominantly rental sector apartments in particular areas.

Either the planning authorities, or developers, or both may need to explore ways of promoting owner occupation of apartments in Cork. Waterfront areas are the natural location for such efforts, because of the amenity advantages they can

offer. Possible ways of promoting owner occupation of apartments in such locations might include:

Owner Occupation of Apartments – Promotional Options

This could be pursued in several ways, including:

- by improving privacy, through more demanding sound insulation requirements between dwellings. Sound insulation tests could be carried out in conjunction with BER Certification
- by limiting some groups of apartments or a certain proportion of units within them to owner occupation by planning condition
- by requiring a minimum proportion of street frontage in mainly apartment areas to be occupied by conventional houses (eg 3 storey), to create a greater sense of building/social mix.
- by providing sufficient garage courts to allow a proportion of apartment residents to have generous storage space

There are also several ways in which such requirements could be applied

- on an experimental basis, in specific small areas, as part of an action area or master plan
- by agreement with individual developers, who saw the requirements as a selling point, and a binding agreement as giving it credibility
- more generally, as a requirement of statutory plans and housing strategies

Some of these options would reduce densities on specific sites, but could increase average residential densities in the wider Cork area, by making apartments and duplexes more popular.

(2) Redevelopment of Pharmachem Type sites: A substantial number of industrial plants on large sites were developed from the late 1960s onwards, mainly for pharmachem type processes. The original products for they were designed for have limited life spans. In some cases, plants are adapted for a 2nd or 3rd generation of products; in others the original buildings are redundant, and the site becomes available for redevelopment. Particularly in Ringaskiddy, the most probable follow-on use is a biopharm one, as in the recent redevelopment of a 4 ha. section of the former ADM plant (closed 2005) by Pfizer, for a small scale biotechnology plant. In other cases, such as the former Mitsui plant in Little Island, a industrial estate/business park type development was proposed.

On the supply side, the sites involved are large, and on the demand side, the industrial activities which might use new buildings on them are large scale users of land. This type of redevelopment is thus promising, in the sense that it could attract uses which might otherwise seek greenfield sites, in worthwhile volumes.

However, one factor limiting this potential is the likelihood that developers of industrial estates/business parks on brown field land will seek a substantial element of office use. This tendency, while already evident in greenfield versions such as Eastgate, is even more likely on brownfield land, where land and site preparation costs are likely to be higher. Offices – even suburban offices – use relatively little land, and transferring them from greenfield to brownfield sites will have limited effect on demand for the former.

(3) Refurbishment of Disused Industrial Complexes: Demand at the upper end of the industrial property market is sometimes not adequate to cover the costs of full redevelopment for new buildings, and in these case the buildings in a disused industrial complex may be subdivided, refurbished, or added to, to create a mix of units which can be rented out industrial and commercial users from the middle and lwoer ends of the market. Prime examples of this are the Marina Commercial Park in the City, and Rushbrooke Dockyard. Such complexes can retain the longer term option of full redevelopment, by letting out units on short leases. They are able to respond to strong demand in the upper end of the market for new built premises in a newly laid out environment.

Such complexes should be distinguished from older conventional industrial estates, in which individual buildings are on quite small sites, and the users have are often provided the building themselves, or have a long term interest in it. While such buildings may be demolished and rebuilt, the number of users in the estate makes any major change in its overall character difficult to achieve. As a result, brownfield land which may arise in them is unlikely to be a substitute for greenfield development land, because the same standard of environment and image cannot easily be achieved.

C. Depletion of Level Greenfield Land:

While market forces may thus promote some transfer of future employment uses from greenfield to brownfield locations, the supply and demand factors referred to above will tend to keep this on a modest scale. The trend estimate of 2 km2 of land redeveloped in Table 7.2 by 2055 may need revising upwards, but only to 4 or 5 km2.

Modestly reduced demand for low level greenfield development land on the Harbour would still result in the bulk of such land being used up by the middle of this century, under the higher growth scenario in Table 7.2.

The effects of this would depend on how much of the demand evident in established trends is driven by user preferences, and how far merely by availability. The satellite town, industrial and port development policies followed in Cork since 1970 encouraged the use of level Harbour side land, eg at Ringaskiddy, Little Island, Mahon and Carrigaline. If one projects forwards on this basis, the projections will naturally show further demand in similar places. However, not all this demand is specifically for Harbour side land. Quite a lot of housing and industrial development seems to have located there because conveniently located serviced land was available there, not because of any special amenity or functional advantage derived from proximity to the Harbour. In such cases, similarly convenient land elsewhere in the Cork area should be an acceptable substitute. Within Harbour side settlements, effects could include a shift in the manner in

which Harbour side settlements expanded, with more emphasis on expansion inland, away from the water.

However, even where there are no obvious special benefits to prospective business uses or residents from a Harbour side location, there is an 'established location' effect. Employment and residential locations with a track record of growth tend to continue growing, because this track record in itself gives developers, purchasers and lenders confidence.

There has always also been users who have a definite preference for a Harbour side location, for functional or amenity reasons. For instance, the influence of the desire to have a sea view is very evident in the distribution of 19th century residential development on the Harbour. If this becomes more difficult to accommodate on reasonably level land in the 21st century, one might expect some of this demand (for housing estate development as well as one-off houses) to be diverted towards steeper Harbour side areas. Steep areas which adjoin existing settlements perceived as upmarket could be particularly affected.

If development on undeveloped slopes was largely precluded by planning restrictions or sheer physical difficulty, more of the diverted demand might take the form of rehabilitation or rebuilding within existing linear Harbour side settlements on slopes.

A Question of Priorities?

The scenarios developed in this chapter cover a wide range of possibilities. However, those which involve development of much of the undeveloped land adjoining the Harbour by the middle of this century are at the more plausible end of the spectrum. While this view may sound questionable at present, it is based on observed long term average percentage rates of development adjoining the Harbour, and has deliberately avoided projections which reflect shorter term cyclical fluctuations.

If this view is accepted, there is a real risk of development beside the Harbour reaching levels which may 'crowd out' natural environment and amenities, some recreational activities, and employment uses which need or would benefit from a Harbour side location. The areas likely to be under most pressure are relatively level greenfield land, but increased spillover effects in other Harbour side areas could also be expected to happen in tandem with this.

This prospect raises the question of priorities. If we are not satisfied with a trend outcome, this implies that cumulatively, we feel too much of the Harbour area will be allocated to relatively low priority development, at the expense of development or existing uses of greater value.

The next chapter asks *'What if we chose to change the priorities implicit in established trends?'* It tries to ask this question realistically, recognising that priorities are determined by a mix of choices made within markets, and public policy

interventions, and that both may in turn be constrained by environmental factors. Policy interventions which operate in isolation are often ineffective, whereas policies which can harness such market forces as are reasonably consistent with their aims have more chance of achieving significant change.

Market forces in this context need to be viewed broadly, to include levels of use of amenities and recreational assets which may be available free, or are priced to cover operating costs but not the initial capital cost of developing them. If such facilities are well used and valued highly, by residents of the Harbour area as well as by tourists, they are likely to survive and to be defended against any proposals for incompatible uses that may arise. Conversely, if their potential is not fully realised or underused, they will in practice be more vulnerable to being 'crowded out', despite their theoretical merits.

Naturally, there are a number of different priorities that might be pursued. In the next chapter, 4 different sets of priorities, based on grouped sets of market, policy and environmental factors promoting change in the same broad direction, are applied to the trend scenarios outlined in this one.