

KHSK

ECONOMIC CONSULTANTS

Preparation of a Supplementary Development Contribution Scheme for Metro West

**Report to
South Dublin County Council**

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Executive Summary

1. The legislation governing the application of Section 49 schemes requires that the benefits that arise from the relevant infrastructure in property that will be subject to the levy must be identified and that the revenue raised must not exceed the cost of the infrastructure. Further guidelines have emphasised the need to ensure that the scheme does not distort or displace development so consistency with adjacent schemes is necessary.
2. The value created in property will be equal to the increase in prices multiplied by the quantum of development that is foreseen. These latter data were supplied by South Dublin County Council for the purposes of this study. The potential increase in prices was estimated on the basis of a number of sources of information including previous work in the Dublin area, other available literature and a survey of estate agents.
3. There is widespread agreement that the Luas had a beneficial impact on property prices in its vicinity. This was probably in the region of 10% for residential property but considerably lower for commercial and retail property. The impact on the final class depends on accompanying features of the property.
4. Construction of Metro West will create property values in properties which have been identified as having potential for development or redevelopment with a current value estimated at between €1,013 and €1,613 million. The range arises due to divergent views on the potential impact on house prices with an expressed range of 5% to 10% following construction.
5. Four criteria that have been used in developing a number of other SDCSs in the Dublin region were used to identify the appropriate levy. These are
 - The cost of the infrastructure;
 - The impact on property values;
 - The service that will be provided; and
 - The rates set in other schemes.

The levy was identified following a comparative assessment of these other schemes under each of these headings. This assessment indicates that an appropriate target for the scheme would be to raise revenue with a present value in the region of €205 to €236 million, before exemptions, and that levy rates should be broadly comparable to those that have been identified for the MetroNorth SDCSs.

6. Due to the disparate nature of the properties that are identified as having potential for development i.e. varying plot ratios and residential densities, the levies are to be applied on a per unit basis for housing and a per m² basis for commercial and retail development. All levies should be indexed at a flat rate of 5% per annum to

- protect the real value of revenues which are discounted at 5% in accordance with Department of Finance guidelines.
7. The following rates are recommended:

Residential	€3,000 per unit
Commercial (Offices etc)	€50 per sq. m.
Retail	€65 per sq. m.
 8. These commercial and retail levies are broadly similar to those applied in the Fingal MetroNorth SDCS which is deemed to be a comparable scheme. It is not considered that these levy rates will displace development from South Dublin.
 9. The scheme will raise €239 million in present values before exemptions. This is slightly above the upper level of the targets that are identified. The Council may exempt certain types of development. When 15% of the residential development is exempted as social and affordable housing, revenue raised falls to €223 million. Other minor exemptions could also be applied but will not have a meaningful impact on the overall revenue stream.
 10. On the basis of an indicative cost estimate of €410 million for the infrastructure in South Dublin, this revenue is equal to 58.3% of the cost before exemptions and 54.4% (€223 million) net. Of this, 44% (€106 million) will be raised from residential development, 49% (€116 million) from commercial non-retail development, and 7% (€16.8 million) from retail development. The levies mean that between 14.8% and 23.6% of the value that is created in property in total will accrue as revenue, depending on the impact of Metro West on residential property values. This is slightly higher than the average for other schemes. Between 8.8% and 17.6% of the value that is created in residential property accrues as revenue.

1. Introduction

This report has been prepared as an input to the design of a Supplementary Development Contribution Scheme (SDCS) to part finance investment in the proposed MetroWest Light Rail System in the South Dublin County Council (SDCC) administrative area. Under Section 49 (1) of the Planning & Development Act 2000, Planning Authorities may include conditions when granting planning permission requiring the payment of a contribution towards the costs of providing a specified piece of public infrastructure.

Section 49 allows for considerable flexibility in designing schemes but it is important to show that the projects qualifying for inclusion under such a scheme must provide a direct benefit to any development that is subject to the SDCS. It is also necessary in the interests of good governance that the scheme is designed and is implemented in a manner that is transparent, certain, equitable and efficient, and that it is appropriate to the particular development in question. This is achieved through clearly setting out in advance the basis of the levy and its application. To minimise the impact on the location of development it should also be consistent with other relevant schemes, a number of which have now been developed in the Dublin region.

KHSK Economic Consultants have been engaged by SDCC to provide estimates and advice for the preparation of a draft SDCS for MetroWest in its administrative area. The legislation requires that the spatial area to which the SDCS will apply is specified in designing the scheme for the contributions. The proposed route of MetroWest has been identified by RPA although subject to modification and the study area has been defined as property within 1 km of the route, in accordance with the currently available information.

The value of the revenue raised by the Scheme will depend on the unit value of the levies multiplied by the quantum of development to which the levies are applied. The recommended levy rates are based on a number of criteria that are discussed in detail in Section 2 below. Among these, the need to ensure that the area is not placed at a competitive disadvantage regarding its attractiveness for future development, which incorporates the concept of consistency with other schemes, and the level of benefits in terms of increased property prices are particularly important.

Estimating this latter value is undertaken in Section 3. It is calculated as the quantum of property in the study area to which the levies will be applied – this is based on information provided by SDCC and is set out in Section 3.1¹ – multiplied by the percentage change in values as a result of improved transport infrastructure (Sections 3.2 and 3.3) multiplied by the value of properties in the area (Section 3.4).

¹ Statements and forecasts in this report regarding current and potential land usage in the study area are based directly on information provided by SDCC and the consultants have not undertaken research on this aspect of the study. Nothing in this report should be interpreted as a recommendation regarding current or potential aspects of land usage and decisions in this respect remain exclusively within the powers of South Dublin County Council.

Most of the expenditure will take place in first few years prior to operation while the benefits will accrue in later years as development proceeds². The value of the revenue that is raised must therefore be expressed in real terms and parameters adopted of the study that will protect this value in the face of inflation. These and other issues to optimise the design of the Scheme are discussed in Section 4.

Section 5 summarises the conclusions in terms of providing answers to a series of questions that were posed by SDCC in the Terms of Reference.

² It is important to note that the use of the word ‘benefit’ in this study refers to the gains in property values in properties that are subject to the levy. This should not be confused with a cost benefit analysis where the gains in existing properties would also be included along with other benefits such as lower congestion on roads, benefits realised by non-residents of the study area, and safety and environmental benefits.

2. Criteria for Assessment

2.1 Review of Planning Contribution Schemes

Development contribution schemes have been implemented in Ireland for about 45 years but the Planning & Development Act 2000 revised and redefined their use. Three types of development contribution schemes operate in Ireland under Sections 48 and 49 of the 2000 Act:

- General Development Contribution Schemes which apply to developments that benefit from public infrastructure and facilities that are provided by the local authority (Section 48);
- Special Development Contribution Schemes which provide finance in respect of costs related to a specific public infrastructure or facility that are not covered by the General scheme (Section 48(2)(c)); and
- Supplementary Development Contribution Schemes (SDCSs) which relate to a particular piece of infrastructure and are applied to development that directly benefits from the provision of the infrastructure (Section 49).

A large number of general schemes have been introduced by virtually every county council and a number of town and borough councils since Sections 48 and 49 came into operation in 2002. These schemes are estimated to have yielded over €2 billion in the period to 2006³. The annual yield rose sharply over this period and it is estimated that a further €2.1 billion will be collected in the period 2007-13⁴.

Conditions and levy rates vary considerably across these schemes⁵ and the increasing use of these schemes, along with the growth of SDCSs, prompted the issuing of guidelines in response to the Report of the Inter-Departmental Committee (IDC)⁶. In addition to restating the legislative requirements that the revenues earned do not exceed the economic costs of the infrastructure, these guidelines emphasised the need to ensure that the levies do not provide a disincentive to development or place an excess burden on housing. This reflected the concerns expressed by the IDC.

Securing future income streams from development contributions depends on achieving the appropriate balance between the necessary levels of funding now, and the need for local authority areas to continue to represent an attractive location for future investment. It was agreed that revised guidance to local authorities should strongly emphasise the importance of maintaining local competitiveness.

Report of the Inter-Departmental Committee on Development Contributions. (page 11).

³ *Report of the Inter-Departmental Committee on Development Contributions* (April 2007)

⁴ Government Publications (2006) *National Development Plan 2007-2013*

⁵ For example, levies under various general schemes vary from €8 per m² for commercial development in Donegal to €120 per m² in Fingal and €132 per m² in Dublin City.

⁶ Circular letter PD 5/2007 to Local Authorities from Department of the Environment, Heritage and Local Government, 9 May 2007

The use of the word competitiveness in this case means the attractiveness of an area in competing for development investment. While it is not a requirement that the levies set under any scheme should be similar to those in any other scheme, it is required that schemes in adjoining areas must be taken into account in determining the appropriate levy rate.

Thus, a balance is required between raising finance and retaining the attractiveness of the area for development. In addition, to ensure that location of development is not unduly distorted, the Guidelines called for greater consistency and transparency in the setting of levies. This requires extensive consultation and consistency in the factors that are considered in determining the levy rates. These guidelines mean that a range of factors in addition to the amount of revenue that is required must be considered.

2.2 Review of SDCSs in Dublin Area

A considerable number of SDCSs have now been designed in the Dublin area and are at various stages of implementation. In compliance with Guidelines issued by the Department and the need to ensure that development is not displaced from the area, these have been designed for the most part along consistent lines. A key realisation is that the cost of paying the levy will be largely borne by final purchasers⁷. The value of the levy should therefore only be a portion of the value that is perceived by the payers – otherwise there is a risk that development will be diverted from the area.

Table 2.1 provides details of levy rates in 5 Schemes in the Dublin area.

Table 2.1: Levy Rates in SDCSs in Dublin (year of design in brackets)

	Residential	Commercial	Retail
DLR Luas B1 (2003)	€250,000 per ha	€570,000 per ha	
Fingal Metro (2006)	€290,000 per ha	€660,000 per ha	€900,000 per ha
Dublin City Metro (2006)	€2,540 per unit	€22.35 per m ²	€32.20 per m ²
Navan-Dublin Rail (2004)	€131,250 per ha	€299,250 per ha	
Kildare Route Project (2007)	€1,900 per unit	€22.35 per m ²	€29 per m ²

As discussed further below, achieving consistency with the levies in neighbouring areas was an important consideration in setting these rates. However, other considerations were also important and were considered to be the main criterion in some cases. For example, the levy rates set for the Navan Rail and Kildare Route SDCSs were considerably lower than in the LUAS and MetroNorth SDCSs. These reflected much lower carrying capacity compared to the light rail schemes – the levies were set at approximately 50% of the other schemes in the case of the Navan Dublin Rail SDCS – and a lower estimated impact on property values in South Dublin in the case of the KRP

⁷ In other words, it will be passed on to home owners and business operators who may be able to pass it on to their customers. Whether they do so will be a business decision depending on economic conditions. This issue is discussed further in this report and in Appendix 1

as most of the benefits will accrue to residents of the main origin and destination areas, which are outside the area to which the levy will be applied.

A key feature of these schemes is that in each case it was determined that the impact of the infrastructure was on the value of the property rather than its use. In other words, it could not be concluded that property would remain undeveloped or developed at a meaningfully lower intensity in the absence of the infrastructure in question. This is also the case in respect of the current study area. It cannot be concluded that property in the study area depends crucially for its development on the prior existence of Metro West, although the infrastructure will enhance the value of the property once developed.

The importance of this has been demonstrated by recent research in relation to new road infrastructure in Dun Laoghaire Rathdown. In this case the proposed new Glenamuck District Distributor Road is considered to be an essential piece of infrastructure if lands along its route are to be developed. This means that the increase in values that can be attributed to the construction of the road is the difference between the current use of the property as agricultural land and its use as development sites. This is a vastly different value than if the infrastructure merely improved access to the extent that housing in the area simply became more desirable.

This has a huge impact on the levies that can be considered. In determining the levy in the case of the Glenamuck SDCS, Dun Laoghaire Rathdown County Council chose to emphasise the need to pay for the infrastructure as the key criterion⁸. These are shown in Table 2.2. Further rationale for these high levies is that the value created allowed for a much higher contribution and since development depends essentially on the road being built, the Council can implement a higher levy without fear of displacing development. As a result, it was decided to set the draft levy rates at a level that would be adequate to raise the total revenue.

Table 2.2: Proposed Glenamuck District Distributor Road SDCS

	Proposed Levy (€)
Residential	€43,450 per unit
Commercial	€200 per m ²
Retail	€200 per m ²

This brief overview indicates that while consistency is important, the actual recommended rate must not be assessed in isolation but with adequate consideration to the value that is created and the overall attractiveness of the area for development.

⁸ The Glenamuck SDCS remains at draft stage and the rates have not been finalised. Therefore, there would be risks with proceeding on the basis of assuming it represents the types of levies that will be seen in the future. However, its implementation would mean that it must be considered that the threat of development being displaced as a result of the MetroWest SDCS would be reduced for any given levy. Full and partial exemptions are included in the draft scheme for social and affordable housing and extensions to existing houses.

2.3 Comparative Criteria

A number of criteria can be identified that have been considered in deciding on the levy rates in these SDCSs:

- The amount of finance that is required to be raised relative to the cost of the infrastructure.
- The service that will be provided by the infrastructure;
- The proportion of the value that is created in property to which the levy will be applied that would be extracted by the SDCS; and
- The need to ensure that the area is not placed at a relative disadvantage in terms of its attractiveness for development.

Each of these are considered below and conclusions drawn in relation to Metro West.

Cost of Infrastructure

It is explicitly required under the Planning and Development Act 2000 that the total revenue collected under the SDCS must not exceed the economic cost of the relevant infrastructure. Actual costs have not been provided for the infrastructure so the ability to use this criterion in determining the appropriate levy rates is limited. Furthermore, it would be a mistake to take this target and work back as this could lead to a levy rate that imposed an unsustainable burden resulting in development being displaced from the area.

The RPA has indicated, however, that the capital cost of the Metro West project will be in the region of €1 billion but, given that a contracting and bidding process will be undertaken, this figure is purposely vague. The currently proposed route for Metro West will be 24km in total with 20 stops. Of this, just over 10km will be in South Dublin with 9 stops. It is estimated that 41% of the costs will arise in South Dublin. Taking these factors into account, a preliminary estimate of €410 million for the part of the route in South Dublin appears reasonable⁹.

Table 2.3 shows estimates using the available data of the proportion of revenue that will be raised under schemes in the Dublin area as designed. This shows that there is considerable variation and that very different emphasis is placed on this criterion.

Table 2.3: Proportion of Infrastructure Costs Raised as SDCS revenue

	Cost (€m)	Revenue (€m)	%
MetroNorth Fingal	1,200	525	44
MetroNorth Dublin City	c.1,000	113	11
Kildare Route Project	220	57.5	26
Navan Rail	n.a.	n.a.	< 50
Glenamuck DD Road	153	143	93

Note: MetroNorth costs are unconfirmed estimates.

⁹ This indicative estimate is for use in terms of the analysis in this report only and its accuracy has not been confirmed by the RPA.

The only scheme where this criterion was the main determinant of the levies that were set was in the case of the Glenamuck District Distributor Road. In this case, the scheme was designed to raise all the costs except for a €10 million contribution from council funds. Allowing for the fact that the proposed residential development will be at a much lower intensity than in the other schemes – densities closer to 40 units per ha are identified in the Glenamuck LAP rather than the 100+ that is more typical of the other areas – a similar levy to the schemes above would lead to a recommended rate of €8,000 per unit. However, such is the property value that is created by the proposed road that a higher levy could be justified on the basis of extracting a proportion of the value created that would be closer to the average in the other schemes. The Council also decided to prioritise the need to raise revenue over these other considerations. It is considered that this scheme is not comparable with the current proposed investment.

All other schemes are designed to raise less than 50%. Achieving close to 50% in the case of the Navan Rail line will require that a considerable area is rezoned for development during the lifetime of the scheme. In Fingal, the relatively high proportion of the costs depends crucially on the availability of a large rezoned, but undeveloped, land bank in Lissenhall to the north of Swords. In the case of the Dublin City MetroNorth SDCS, the low contribution reflects the small property base and the need to avoid displacing development to Fingal. With the KRP scheme, the relatively low contribution reflects the fact that although the costs are realised in South Dublin, the benefits accrue to residents of other areas closer to the origins and destinations. Thus, considerations other than the cost of the infrastructure have generally been prioritised in designing schemes.

MetroWest will provide benefits to residents from outside South Dublin so there is a rationale for its construction to be part financed by central funds. RPA has indicated that its policy is to raise 50% of the cost, mainly in the form of SDCS levies. This would provide a target under this criterion of €205 million for the South Dublin Metro West SDCS. This 50% target has not been achieved in any of the other comparable schemes.

While this indicative target is identified, the importance of this criterion should not be overemphasised. As a result, while this provides a metric against which the scheme might be assessed, it is considered that this should be done *ex post* only and that the levy rate should be determined by reference to a broader range of criteria.

Service Provided

The Luas B1 SDCS has influenced other light rail schemes in the Dublin Area through relating the service that is provided by the Luas with the service that would be available on the proposed infrastructure. Thus it is being argued that, in order to ensure consistency, the levy should be set at a level that reflects the service that will be provided.

The capacity on the Luas Green line to Sandyford is currently 4,500 persons in one direction based on 40 metre trams at 4 minute intervals. Trains on the B1 extension may be less frequent. This approach was used to identify a levy rate for the proposed SDCS for Phase 1 of the Navan Dublin Railway Line. In this case, peak transit was estimated at 6 trains per hour with capacity approximately 50% of the Luas B1 estimate – so the levy was set at 50% of the Luas B1 rate.

This criterion was also considered in relation to the MetroNorth levies. Estimates were produced that 7,500 trips one way would be generated on MetroNorth from Swords in both the morning and evening peaks with a total daily ridership of 37,500 to and from Swords on the average weekday¹⁰. This work estimated that the potential for total annual ridership would be over 1.5 times updated projections for the Luas Green Line. More recent projections have substantially increased these estimates and RPA currently estimate that MetroNorth will carry 34 million passengers annually, although clearly not all of these will travel to Fingal¹¹. On this basis it could be argued that the MetroNorth levies should have been well above the Luas B1 levy. However, this argument was not prioritised by Fingal and Dublin City Councils on the basis that high levy rates could place the areas at a relative disadvantage in terms of their attractiveness for development.

Analysis in preparing the KRP SDCS identified that carrying capacity on this line would be considerably above the Navan line so the levy would be closer to the MetroNorth levies on this criterion. However, most of the passengers and thus the benefits that would arise would not have origins or destinations in South Dublin. As a result, this criterion was not considered to be a good basis for determining the appropriate levy.

The service that will be provided by MetroWest has similarities with MetroNorth although carrying capacity is projected to be somewhat lower with 20 million passengers per year¹². There are additional benefits as a result of multiplying the options that are available to passengers through integrating public transport in the Dublin area so that up to 7 million car journeys per year will be removed from roads. As a result, it would provide a service that is broadly comparable to MetroNorth. Thus, this criterion would indicate that the levy could be set at a level that is similar to the MetroNorth SDCSs.

Proportion of Benefits to Relevant Properties

The legislation is designed to allow the providers of infrastructure to access part of the value created in property. As a result, the revenue obtained must be a percentage of the value created for the people who ultimately pay the levy. Failure to do so would greatly increase the risks associated with the potential for development to be displaced. As a result, avoiding displacement requires that the levy is set at a rate so that the total value of

¹⁰ Private correspondence with Roughan & O'Donovan Consulting Engineers. The population basis for these estimates were the 2011 population forecasts which are below current projections for population growth in the Swords area based on the existing Development Plan for the Swords area.

¹¹ www.rpa.ie/metro/about_metro/what_is_metro

¹² RPA (2007) *Metro West: Emerging Preferred Route*

the SDCS is well below the value of property benefits that are identified in the properties to which it will be applied. Furthermore, consistency requires that the proportion of benefits that will accrue as revenue in other schemes is taken into consideration is identifying the appropriate levies for Metro West.

Estimates of property benefits were not published for either the Luas B1 or Navan Rail SDCSs. Table 2.4 shows the property benefits that were calculated in respect of other SDCSs and the revenue, in real discounted values, that will be raised under each scheme¹³.

Table 2.4: Proportion of Identified Benefits Raised as SDCS revenue

	Benefits (€m)	Revenue (€m)	%
MetroNorth Fingal	2,100	525	25
MetroNorth Dublin City	1,400	113	8
Kildare Route Project	389	57.5	15
Glenamuck DD Road	802	143	18

Along with the need to raise revenue, this criterion provided a rationale for the levies that were set for the draft Glenamuck scheme. The KRP SDCS also placed some emphasis on this criterion since it was considered important that the levy should reflect the fact that the benefits to residents of South Dublin from the infrastructure would be limited. As a result, the levy was set with reference to the level that would raise a proportion of the benefits that would be approximately at the mid-point of other Dublin schemes. In the case of the MetroNorth SDCS in Dublin City, the levies were set at a rate that would avoid displacement to Fingal given a meaningful proportion of the property base was outside the city centre. Thus, this was given priority over accessing a certain proportion of the benefits.

This table shows that there has been considerable variation in terms of this criterion as other objectives have been given priority in various schemes. However, all the schemes have set levies at a rate that will collect a limited part of the benefits that have been identified. Taken as a whole, these schemes will mean that 18% of the benefits that were identified will accrue as SDCS revenue. The availability of land for development and the fact that residents of the study area are likely to be important users of Metro West means that an overall target that the scheme should raise is the region of 18% of the values that are created seems appropriate¹⁴.

Maintaining Attractiveness for Development

SDCSs that have been designed in the Dublin area do not adopt consistent rates for their own sake but to minimise disruption of the market i.e. avoid making an area relatively

¹³ The estimates of benefits use the mid-point of the ranges estimated in each case

¹⁴ The proportion of the value created in residential development that accrues as revenue tended to be lower than in commercial and retail developments in these schemes.

unattractive for development. This criterion has been given considerable emphasis in most schemes. Table 2.5 updates the data for levy rates in the SDCSs in the Dublin area to 2008 values according to the indexation details contained in each scheme.

Table 2.5: Levy Rates in SDCSs in Dublin in 2008

	Residential	Commercial	Retail
DLR Luas B1	€319,070 per ha	€727,500 per ha	
Fingal Metro	€319,725 per ha	€727,650 per ha	€992,250 per ha
Dublin City Metro	€2,667 per unit = €320,040 per ha	€23.47 per m ² = €752,000 per ha	€33.81 per m ² = €966,000 per ha
Navan-Dublin Rail	€159,535 per ha	€363,740 per ha	
Kildare Route Project	€1,995 per unit	€23.47 per m ²	€30.45 per m ²
Glenamuck DD Road	€43,450 per unit	€200 per m ²	

Note: The Dublin City levies are converted to per ha equivalents according to projected densities and plot ratios. The retail rate uses the projected ratio for retail development outside the city centre which is at a lower plot ratio than in the city centre.

It is clear from this table that achieving consistency has been the important determinant in respect of the SDCSs for light rail (Luas B1 and MetroNorth). The residential rate has been almost identical in each case when expressed on a consistent basis. Commercial rates have also been similar but there is some variation in the retail rate. The Navan Dublin Rail SDCS was also set with reference to the level of the LUAS B1 SDCS being set at 50% of the rate. Comparability was also a consideration in setting the KRP levies – the KRP commercial rate is the same as the MetroNorth rates in Fingal and the City – although other criteria were given consideration.

The Glenamuck SDCS is a considerable outlier under this criterion as discussed earlier. The context is clearly different from the scheme under consideration since it refers to a road and the infrastructure is absolutely essential if development is to take place. However, the levy rates being considered in the draft SDCS places a new definition on what might be considered to be a consistent scheme. It is also of interest to note that part of the area to which the proposed Glenamuck SDCS will apply is already subject to the Luas B1 SDCS levy. Part of the MetroWest study area under consideration in this report is subject to the KRP SDCS levy.

2.4 Implications of this Approach

These criteria provide metrics against which the levy for MetroWest can be compared. Comparison with the considerations that have been used to determine levies in other SDCSs lead to the following indicators:

- Raising 50% of the estimated cost would provide a target of €205 million;
- Given the service that is provided, the levies could be set at a level similar to in the case of other rail and light rail schemes;

- The levy should be at a rate that about 18 to 20% of the value created in property would accrue as revenue. This is considered in detail in Section 3 below;
- Avoiding displacement is an important consideration in terms of the guidelines that have been produced and the schemes that have been implemented, and, comparability with adjacent schemes under this heading is important.

MetroNorth is the obvious comparator as it is a similar light rail system and there are similarities, as discussed in the next section, in terms of its potential impact on the surrounding property base. Although the Glenamuck scheme has greatly expanded the range that might be considered for levies, this scheme is not of a comparable nature. Unlike in the Glenamuck SDCS, the total cost of the infrastructure cannot be taken to represent the main criterion, since the development of properties along the MetroWest route cannot be determined to depend crucially on the development of the infrastructure and since no estimate has been published for the total cost. Furthermore, the infrastructure will cross administrative boundaries and provide benefits to non-residents thereby providing a rationale for financing in considerable part by a centralised body.

3. Valuation of Impact

The impact of MetroWest on property values is calculated as the quantum of property in the study area (Section 3.1) multiplied by the percentage change in values as a result of improved transport infrastructure (Sections 3.2 and 3.3) multiplied by the value of properties in the area (Section 3.4).

3.1 Definition of Area and Projected Quantum of Development

The study area to which the SDCS will apply has been defined as property that will be developed or redeveloped within the proposed 30 year lifetime of the Scheme and that lies within 1km of the route of MetroWest. This definition is in line with other SDCSs which have been developed in recent years¹⁵. The estimated potential for development in the study area is shown in Table 3.1¹⁶.

Table 3.1: Estimated Development and Redevelopment Potential in Study Area

	Hectares	Residential units	Commercial sq m	Retail sq m
Town Centres, SDZs & Fringes	333.7	17,200	1,528,000	202,500
Brownfield Sites	188.7	8,620	675,500	3,300
New Residential Infill	71.0	3,200	0	0
Other Areas with Potential	91.4	6,250	123,000	52,000
Totals	684.8	35,270	2,326,500	257,800

This shows potential development of 35,270 residential units at densities generally in the range of 75 to 125 units per ha. There is potential for 2.3 million m² of office and other non-retail commercial development and 257,800 m² of retail space.

¹⁵ It is arguable that the key criterion should be distance from the location of proposed stations rather than the actual route. The work was redone to estimate the impact of these alternative definitions on the quantum identified. It was found that adopting one definition over the other had an immaterial impact. This is not surprising given the criteria that are used by the RPA in deciding on the location of stations as these aim to maximise the population within 1 km – 10 minutes walking time – of the station.

¹⁶ The quantum of property has been identified by the Planning Department in SDCC in line with a schematic layout provided by the consultants. This involved forecasts of the potential for future development in the study area. However, these forecasts are for the purposes of this report only decisions in this respect remain within the powers of SDCC. The consultants have not further examined this quantum.

3.2 Literature Review and Other Research

International Research

The internationally published material on the link between investment in new transport infrastructure and property values confirms the perception of estate agents, discussed below, that improved transport links raise values but that the effect is difficult to identify. In general, it confirms the contention that, in theory, “any improvement in transportation infrastructure is capitalized into land values in a short – term urban partial equilibrium” (Mills, 1972). Many empirical studies have tested this view. However, there is only limited research available that concludes unequivocally that property prices in identified circumstances rose as a result of a particular piece of new infrastructure. There is even less research published that actually attempts to value the increase.

This lack of a good economic research basis has been noted in studies and there is an acceptance that schemes to effectively use private financing of public infrastructure are often based more on the forces that determine political decisions rather than on economic rationale¹⁷. Despite this, schemes such as provided for under Section 49 have grown in use internationally as well as in Ireland and have become an important means of raising finance for transport infrastructure¹⁸.

In a number of cases, the research has found a significant positive impact. Research on the Jubilee Line Extension to London Underground in 1999 found considerable positive price effects but these were not quantified¹⁹. Further research on the proposed Crossrail project in London concluded that the value of the property stock in the relevant area would increase by 5-10% once completed²⁰. This research was undertaken well in advance of operation. This impact was expressed as a once-off effect since the route is through an already developed area where considerable redevelopment had already taken place or would occur in any case. As a result, very little development was thought to result from the new infrastructure being in place.

This estimate would appear to be towards the upper end of the results found by researchers for operational systems. Research on the impact of the new Helsinki Metro, which was developed in the 1980s, estimated that the improved transport linkages it provided increased house prices within 1km by 6%. However, it also found that the increase was less in the immediate vicinity of stations due to noise and congestion²¹.

¹⁷ Jenkinson, T. (2003) ‘Private Finance’ *Oxford Review of Economic Policy*, Vol. 19 (2)

¹⁸ Enoch, M., S. Potter and S. Ison (2005) ‘A Strategic Approach to Financing Public Transport through Property Values’ *Public Money & Management*, Vol. 25(3) describes a number of examples of schemes from around the world that are designed to finance infrastructure by capturing value from private property owners despite the difficulties.

¹⁹ *Rail Business Intelligence*, Issue 247 June 2005 and Jones Lang La Salle Report for Transport for London (2004). The former report provided estimates of increased property values of £2.1 billion within 1km of the Canary Wharf station but the latter estimated only £78 million in the case of the Southwark station.

²⁰ Hillier Parker (2002) *Crossrail: Property Value Enhancement*. Report prepared for Canary Wharf Group

²¹ Laakso, S. (1992) ‘Public Transportation Investment and Residential Property Values in Helsinki’. *Scandinavian Housing and Planning Research*, Vol. 9, pp. 2170229

Similarly, a study of the Manchester Metrolink found that while there was a general positive impact, there was only a marginal impact on prices of nearby houses with adverse effects thought to have counteracted the gains²². Research in Hong Kong estimated that the light rail system increased apartment prices by 3% within a similar radius of a station, in this case expressed as a 10 minute walk²³. In Washington DC it was found that each one-tenth of a mile extra distance resulted in a decrease in apartment rents of 2.5%²⁴.

Distance from the service therefore appears to be the key determinant of the impact. However, there are also a number of other important factors. First, the timing of the research in relation to the operation of the transport system is important. In general, the strongest effects appear when the transport infrastructure is in place over a considerable period. For example, research on the new Supertram system in Sheffield found that property values rose only modestly before construction work began but that after a few years of operation a small rise in prices could be attributed to the new transport infrastructure²⁵.

The Sheffield research, which was designed to measure effects at a number of points over time, found a negative impact in 1993 before the positive rise in 1996. This finding pointed to a second important factor: the impact, real or perceived, is correlated with property cycles. In general, it would appear that the impact of new infrastructure may be to magnify gains in a rising market but that there may be little impact in a relatively quiet market such as is currently being experienced in the study area for MetroWest. This conclusion was strongly reflected in the finding of the consultation process with estate agents.

Third, research strongly indicates that the impact is related to the existing provision of transport infrastructure. For example, research has concluded that the development of the Miami Metrorail had only a marginal effect on house prices even over the longer term. In this case it would appear that accessibility was only marginally improved by the new infrastructure and subsequent development did not take place as expected. This point was also expressed by the estate agents where the most positive views were expressed by those whose business was not concentrated close to Tallaght Town centre where transport linkages are already quite good. However, a simplistic view of infrastructure is inadequate to fully understand this picture and the contribution of MetroWest in developing a network of public transport, as distinct from incremental additional capacity is important.

²² Forest, F., J. Glen and R. Ward (1996) 'The Impact of a Light Rail System on the Structure of House Prices'. *Journal of Transport Economics and Policy*, Vol. 30, pp. 15-29

²³ So, H., R. Tse, and S. Ganaesan (1998) 'Estimating the Influence of Transport on House Prices: Evidence from Hong Kong'. *Journal of Property Valuation and Investment*, Vol. 15, pp.40-47

²⁴ Benjamin, J. and G. Stacy Sirmans (2001) 'Mass Transportation, Apartment Rent and Property Values'. *Journal of Real Estate Research* Vol. 12, pp. 1-12

²⁵ Henneberry, J. (1998) 'Transport Investment and House Prices' *Journal of Property Valuation and Investment*, Vol 16 pp. 144-158

Finally, the research indicates that a range of other specific factors can affect the impact on values. For example, a study of the impact of new subway lines on property values in Taipei found it was significant but that the impact varied from location to location depending on factors such as distance from the city centre and building type²⁶.

This research leads to the conclusion that improved infrastructure can be expected to have a positive impact on property prices and will therefore provide a gain to landowners in the vicinity of the route. However, it can be difficult to identify this in any particular instance because of the effect of cycles in property prices that may magnify or hide the effect. The impact on values will also depend on the impact of the improved transport system on the area in terms of its attractiveness for development. This can range from very positive to marginally negative with neutral impacts in some cases.

Research in Dublin Area

Research undertaken in the preparation of recent Schemes in the Dublin area has attempted to identify the impact of new transport infrastructure on property prices within 1 km. The schemes in question related to MetroNorth in the Dublin City and Fingal areas and the Kildare Rail Project (KRP) in South Dublin. The research reached a definite conclusion that new transport infrastructure has a positive impact on property prices. However, the benefits of any particular new infrastructure depended on associated developments such as new shops or community facilities and on the overall state of the market. The perceived benefits have been such that proximity to the Luas and new rail stations is used as a marketing tool. However, new road infrastructure was perceived to be more important than proximity to rail or light rail in the case of commercial property.

In line with the international studies, actually pinning down the expected impact is difficult and the conclusions were expressed as ranges. Table 3.2 summarises the conclusions of this research. A general finding in these studies was that it would be new development as opposed to redevelopment of existing properties that would see the greatest benefits. Given these impacts, there was general agreement that a levy at rates along the lines implemented in the Luas B1 area would not have a major detrimental impact on the property market if introduced in these areas. Instead, general economic conditions are of much greater importance in determining the likelihood and pace of property development in any area.

Table 3.2: Expected Impact of New Infrastructure on Property in Other Areas

	City	Fingal	Kildare Rail
Residential	5 to 8%	6 to 10%	3 to 5%
Office/high tech commercial	3 to 6%	3 to 6%	2 to 4%
Retail (City Centre)	6 to 8%	n.a.	n.a.
Retail (Suburban)	3 to 5%	3 to 7%	1 to 2%

²⁶ Lin, J. J., and C. H. Hwang (2004) Analysis of Property Prices Before and After the Opening of the Taipei Subway System. *Annals of Regional Science*, Vol. 38 pp687-704

This provides some level of comfort for Councils that may be considering a SDCS. However, it should be noted that all this research was conducted against a much more vibrant property market than is currently seen. The published research has suggested that impacts may be magnified in such markets and there is the possibility that the same could have been the case with these expectations.

3.3 Expert Assessment of Impact

Views on Luas Red Line

Structured interviews were undertaken with a broad cross section of estate agents in areas along the route of MetroWest and in large city centre offices that cover the area. The interviews concentrated on identifying their views on the Luas Red Line and expectations in relation to the potential impact of MetroWest on property values.

Views on the Luas Red Line were instructive. The general conclusion was that there had been a major positive impact on residential property prices and that this impact extended well beyond the 1 km band. This may reflect people adopting park and ride. Most were comfortable with the idea that proximity to the Luas line had added 10% to the price of residential properties. All had used proximity to the line as a positive feature when marketing properties, and still do, indicating that the impact is sustained and may be cumulative. All agreed that the real impact arose once the system became operational although there was a noted positive impact up to 1 year beforehand. The general view was that the Luas had so greatly expanded the public transport opportunities in the Tallaght area that the market was transformed.

To what extent this was due to the very vibrant property market in this period is unclear but there was a general acceptance that the system has exceeded expectations. The fact that many estate agents reported that some areas became newly desirable for some parts of the market indicates that there was a genuine additional impact. The greatest benefit was seen in the buy-to-let market suggesting that the most positive impact was on new home values. The impact here was probably in excess of 10% but with prices now falling across the board it remains to be seen if this premium is retained.

The Luas was also considered to be a positive impact in relation to commercial property but the situation is much more nuanced. In summary, the impact depends to a great extent on the complete package that is offered by the area and the category of the property in question. For example, agents perceive that office property in Sandyford benefited to a great extent from the Luas Green Line as it was part of a complete package for the development of a large high-tech office development in a defined area. Similar views were expressed regarding the prospects for the contribution of MetroNorth in the Lissenhall area north of Swords in the future. However, while the Luas Red Line had a positive impact on office property in the Tallaght area, the general perception is that this

is somewhat less pronounced than in the other areas and certainly less than in the case of residential property.

The situation regarding other properties is less certain. In general, industrial/warehouse properties are perceived to have benefited little if at all from Luas. The benefits to retail are also limited with car transport to warehouse development and local access to town centre retail developments being far more important. However, there are some gains likely due to higher visibility and the general upgrading of an area as a result of the development of infrastructure such as light rail. For example, the Rockbrook development in Sandyford has retail units fronting onto the Luas line and these are perceived to have achieved above average rents.

Views on MetroWest

The first issue to note is that this research is being undertaken against the background of an unprecedented slump in property prices. This was estimated at being in the region of 25% for residential property in West Dublin from the early 2007 peak²⁷. Given this, it is difficult to see that the infrastructure would actually raise prices but the idea that was stressed in consultations was not that MetroWest would cause prices to rise at any particular level but to be at a level that would not be the case in the absence of the investment. When prompted in this direction, estate agents were actually very positive about the potential impact.

All participants in the consultation process were very positive in their perceptions of MetroWest and all expected that there would be a positive impact on property values. This was particularly the case in relation to residential property. As in other research, there was a range of views but, in general, perceptions tended to be at least as positive as in the case of MetroNorth and considerably more positive than in the case of the KRP. All participants were fully aware of the proposed investment although awareness among the general public was perceived to be low. Most are not using proximity to the route in marketing properties currently but all intend to do so at the appropriate time closer to the investment taking place. There was general agreement that there would be a positive impact once the construction begins but that the main effects would be seen when operational. None of the estate agents perceived that levies close to the rates currently contained in other Schemes would have a detrimental impact on the property market or on the attractiveness of the area.

As before, there are difficulties in quantifying expectations. However, many were happy to accept that the impact could be in the region of a 10% addition to prices for residential

²⁷ While this estimated was fairly consistent, it is well above official estimates of the fall in prices. For example, the latest edition of the *ESRI House Price Index* (June 2008) shows a fall of 9.5% for the 12 months to May. One explanation may be that the official figures relate to completed sales only whereas the estate agents are basing views on pricing for properties that have been on the market but have not sold and are therefore being marked down. As a result, the greater estimate cannot be dismissed in terms of providing an indication of what is happening.

properties. However, a number were hesitant to accept that this would be achieved. Interestingly, many perceived that the lowest impact would be close to Tallaght where transport infrastructure is already good and that the greatest benefits would be felt in Clondalkin and further north. This is useful and many of the main development locations identified are also in these areas. A further interesting point was that estate agents perceive the MetroNorth as providing a key element in developing a transport network as distinct from merely increasing capacity. Thus the benefits for users are greater than might be expected from an incremental increase in capacity. It is likely that this reflects the goal of transport policy to enable consistent change from private cars to public transport as a matter of choice.

The conclusion from this work is that, in the case of residential property, expectations for the impact of the Luas Red Line were exceeded and expectations of up to 10% for the impact of MetroNorth on property prices may be realistic. This can be difficult to perceive in the current slowdown but short term factors – of relevance in a period of less than 5 years – should not be allowed to dominate in relation to the SDCS which has a 30 year timeframe. This means that the Luas Red Line experience is at least as relevant in projecting the possible impact as current views on the likely impact of Metro West. However, some caution is advisable. The research indicated that prices in the area have fallen by 25%, a rate of decline that is well in excess of official statistics. A prolonged downturn of such magnitude would make the market more sensitive to the introduction of a levy and could risk deferring a recovery (see Appendix 1).

It is noted that a 10% impact would be towards the higher end of what has been found in international studies – although within the range identified – but the perception that MetroWest will add to network of public transport, rather than just being an incremental expansion of capacity, is very important. However, many were uneasy with this figure so it is prudent to undertake the valuations in terms of a range with a 5% increase in residential prices resulting from Metro West representing a low impact scenario and 10% representing a high impact.

Regarding commercial, as with the impact of Luas, agents were much less inclined to assign positive impacts. Again, this reflects in part the general pessimism that currently pervades the market so it is necessary to move beyond this. Assuming that commercial non-retail developments will be concentrated in offices rather than industrial warehouses, it is accepted that there is likely to be a positive impact although this will be less than for residential. As a result, a figure of 4% is used in the calculation.

For retail developments, the impact is likely to be even less but positive impacts are likely to accrue. Retail warehouses in the Arena development in Tallaght are not using proximity to the Luas in marketing, instead emphasising the number of car spaces and easy road access. However, while suburban retail centres rely hugely on car transport and will continue to do so, the greater availability of public transport can start to impact on this. This will be seen in terms of the competitiveness of the location. Currently the city centre offers a destination for many potential customers who do not use cars as the radial nature of existing public transport in the city offers access. Thus, along with

increases visibility and improving the general standing of the area as a retail destination, Metro West will enable retail development along the route to compete better with the City centre destinations and so there will be some positive displacement of the customer base. While estate agents were not willing to place a percentage figure on the potential impact of Metro West on retail property it is necessary to recognise this positive but limited impact, so an estimate of 2% is used²⁸.

3.4 Property Values in Study Area

Residential

Various approaches can be used to identify house prices and two are used below. The first is to combine published data on construction and prices recently achieved. The benefit of this approach is that it allows for prices to be weighted to reflect different segments of the market since the data cover the whole market. However, it is necessary to assume that recent data on prices and unit sizes are representative of the market.

The second approach is to survey properties currently on the market. The benefit here is that more comprehensive data are available on units currently on the market, for example precise locations, characteristics of the property and the number of bedrooms. However, this approach is not a survey of the whole market, it is just a current snapshot, and it cannot be ascertained that the price that is quoted will be the actual market price. This is particularly important currently.

For the first approach, appropriate residential prices are estimated by combining data published by industry organisations. The market can be segmented according to the type of unit – house or apartment – and then by the number of bedrooms. Recent data for new home registrations in West Dublin show a total of 1,276 units in the period January to April 2008. Of these, 478 (37.5%) are houses and 798 (67.2%) are apartments. Registration data are collected according to the area of the total unit rather than the number of bedrooms while published price data refer to the number of rooms. As a result, it is necessary to estimate the number of bedrooms from the area data.

Table 3.3 shows the number of bedrooms estimated to be represented by units of various sizes and the numbers of each units registered.

²⁸ These estimates of the percentage impact on commercial development are below those found in other areas as shown earlier. This probably reflects in part the less buoyant outlook for growth in the economy since the other research was undertaken but also reflects the fact that areas along the proposed route are not perceived to be major destinations for office and retail development.

Table 3.3: New HomeBond Registrations, West Dublin, Jan-April 2008

No. of Units	Area (sq. mtrs.)	Estimated number of bedrooms	% of total
Apartments			
157	Less than 60	1	20
404	60 – 80	2	50
237	More than 80	3	30
Houses			
97	Less than 80	2	20
183	80 – 100	3	39
145	100 – 150	4	30
53	More than 150	5	11

Source: *Housing Times*, Volume 12(2) Summer 2008

Table 3.4 shows recent average prices for West Dublin.

Table 3.4: Residential Prices in West Dublin

No. of bedrooms	Av. Price (€)
1	234,000
2	289,000
3	338,000
4	452,000
5	648,000

Source: *Daft.ie House Price Report*, Quarter 2, 2008

From this it is possible to calculate weighted average prices for residential units. These are €293,000 for apartments and €396,500 for houses. This gives an overall average of €332,000 on the basis of the split for newly registered units.

Using the second approach, residential listings were obtained from a wide range of estate agents in areas along the proposed route. This survey included over 300 properties in all categories. A small number of properties in need of extensive refurbishment, properties with adjoining land and large detached homes were excluded as these were considered to be atypical of properties to which the levy will be applied. Average asking prices are shown in Table 3.5.

Table 3.5: Residential Prices in Study Area, July 2008

No. of bedrooms	Av. Price (€)
1	253,500
2	307,200
3	337,200
4	465,900
5	527,900

Sources: Residential listings for West Dublin estate agents, July 2008

The average price of these homes, weighted according to the proportion of the market that is accounted for by each segment was €340,100. This is sufficiently close to the average above (+2.4%) to conclude that it is an accurate representation of prices in the study area.

Both these approaches refer to all homes on the market whereas it is arguable that the data should be confined to new homes only. This is because the levy will be applied to new development and redevelopments only. The problem is that the stock of new homes in the area that is on the market at any time is relatively limited. As a result, a single development, perhaps in an area or with some characteristic that is atypical of the wider area, could bias any estimate produced. Notwithstanding, data were also collected on new homes on the market. These data referred almost totally to 2 bed apartments and 3-bed houses. When weighted as above the average price produced was €350,000 – 3% above the average price of all properties. This is within what might be considered to be an acceptable error interval.

Home prices have shown considerable volatility over the past year and are likely to continue to adjust to more sustainable levels. Estate agents indicate that current market prices are around 25% below the peak. Further adjustment is clearly possible – many estate agents do not rule out a total adjustment of 40% – but this could represent an element of overshoot to the low side. On the basis of these calculations, the average price of a residential unit in the study area is estimated to be €340,000.

Commercial

Estimating commercial property values for an area encounters a number of difficulties in that the values vary greatly according to the various categories of use – office, retail (intensive and warehouse), industrial and mixed office/warehouse – and also that the number of properties on the market in an area at any one time is much more limited than for residential property. Most estate agents in the area do not handle commercial property to any extent and most transactions are handled by a small number of large agencies based in the city. A survey was undertaken of their current listings. Older properties in need of refurbishment were excluded. To maximise the sample size, properties to let were also included. In this case, the price is inferred for the rent and the yield on commercial property.

Estimated yields are shown in Table 3.6. These refer to Ireland as a whole but Dublin represents a very large proportion of the database. While the market in commercial property has weakened noticeably along with residential over the past year, prices have not fallen as quickly as in residential and agents estimate that falls have generally been in the 10-12% range. Industrial property has remained much more stable with falls restricted to 3% or so. Rents have remained fairly strong this year despite the general downturn with the result that yields have edged up in this period. This is not unexpected as rent review periods do not necessarily coincide with short run changes in market cycles. However, it can be seen that there is variation in depending on the source of the

data, possibly due to market volatility. Further enquiries with property investment firms indicate that a retail yield in the region of 4.5% is suitable as a medium term average for medium to large properties.

Table 3.6: Current Yields for Commercial Properties

	Jones Lang LaSalle	CBRE Richard Ellis
Offices	4.3%	4.75
Retail (High Street)		3.75%
Retail (Shopping Centre)	3.4%	4.75%
Retail (Warehouse)		5.75%
Industrial	5.5%	5.75%

Sources: Jones Lang LaSalle *Irish Property Index*, June 2008; and CB Richard Ellis *Bi-Monthly Research Report* July 2008

The survey of commercial property available in the study area provided the valuations shown in Table 3.7 when the yields above are applied. As always, these averages hide considerable variation. New offices can be worth €6,000 per m² in particularly desirable locations in West Dublin. However, modern office space is available down to below €4,000 per m². Apart from retail, most of the new commercial development that is projected for the study area will be offices but it is certainly possible that there will be some warehouse space attached. By definition these will be modern but may not be in prime locations. An average valuation of €4,000 per m² is estimated.

Table 3.7: Commercial Property Values in Study Area

	€ per m ²
Older offices	3,500
Modern offices	5,000
Office/Warehouse	2,300
Industrial/Warehouse	1,750
Retail (Established Shopping & Local Centres)	20,000 – 40,000
Retail (Warehouse)	5,000 – 15,000

Sources: Survey of Commercial Property Agents

Prices in the retail sector have fallen faster than in other commercial segments and are down 12% for the year. The variation in values is also greater. High profile small units, for example in The Square, can be worth upwards of €40,000 per m². However, these are few and atypical of the market. In quieter centres, the value for small units i.e. less than 100 m², would be in the €20,000 per m² range.

By definition, the greatest area to which the levies will be applied will be warehouse-type retail space since these have by far the greatest square meterage. Established medium sized units in high profile centres can be worth in the region of €15,000 per m² but newer large units in retail parks are not achieving these levels. Rents for retail warehouses in Liffey Valley have been reported at €320 per sq. metre²⁹. Applying the typical 4.5% yield would provide an estimated value of €7,100 per m². The new Arena development

²⁹ *Construction Magazine*, July/August 2008

close to Tallaght Town Centre contains two retail units of 12,000 and 9,000 sq feet (1,115 and 836 sq metres). These are available at €21 per sq. ft. per annum (€226 per sq metre). At a yield of 4.5% this equates to a market value of just over €5,000 per m² and reflects the fact that this is not yet an established destination.

Retail space to be developed in the study area will tend to be in larger lots, although there will be significant amounts of small scale development in the Town Centres. Furthermore, much of the retail will be in, or close to, already established shopping areas rather than new locations. On this basis, a valuation of €8,000 per m² is estimated.

3.5 Valuation of Impact

The impact of MetroWest is the aggregate of the percentage impact estimated multiplied by the value per unit multiplier by the quantum of property for each category. The value created in the study area in property that will be subject to the levy is shown in Table 3.8.

Table 3.8: Estimated Property Value Created by MetroWest

	Percentage change	Market price	Quantum projected	Value Created (€m)
Residential (low impact)	5%	€340,000 per unit	35,270 Units	599.6
Residential (high impact)	10%			1,199.2
Office etc	4%	€4,000 per m ²	2.33 million m ²	372.2
Retail	2%	€8,000 per m ²	257,800 m ²	41.25
Total				1,013 - 1,613

This provides an estimate of the value that is created in property that is identified as having potential for development or redevelopment and that will be subject to the levy (before exemptions) of €1,013 to €1,613 million, as a result of building MetroWest.

Applying the criterion as discussed in Section 2 above that the SDCS should raise in the region of 18% of this value provides a target of €182 to €290 million. Using a mid-point estimate provides a target of €236 million for consistency with other schemes.

4. Scheme Parametres

4.1 Basis for Implementation

Under the Planning and Development Act 2000, only one levy rate for each class of property can be applied in the scheme and the unit basis for its application must be identified. Other SDCSs have applied different rates for different classes of use although some have combined commercial and retail into a single rate. The considerable differences in property values according to their use in residential, commercial and retail means that it is recommended that different rates should be used for each class.

These levies can be applied on the basis of the underlying property i.e. € per hectare, or on the basis of the actual area developed i.e. € per housing unit or per m² for commercial and retail property. The former approach provides some degree of certainty in relation to projections of future revenue streams since the areas to which the levy will be applied are known. With the latter, the revenue stream would be related to the plot ratios and densities achieved. Residential densities and commercial plot ratios have been used to provide the projected quantum of development and it is assumed that these represent the potential for development. However, a key requirement is to ensure that the provisions of the scheme do not interfere with the implementation of development plans for the area and these are subject to change in the future.

The Fingal Metro North and Luas B1 schemes applied levies calculated on a per hectare basis as this approach provides an incentive for developers to increase the plot ratios and densities of development. The Dublin City scheme adopted a per unit basis for residential development and a m² basis for commercial and retail due to the shortage of development space and since the areas in question are small. South Dublin also adopted this approach with the KRP SDCS because, particularly in the case of commercial property, plot ratios were deemed to be likely to vary considerably between different locations within the study area and because there was also the potential that higher densities would be achieved in the future than are currently foreseen. The per unit/m² approach will maximise the potential take of the scheme as higher densities will increase its value. Thus, the decision depends on characteristics of the study area.

SDCC will wish to encourage higher densities and plot ratios for new development compared to the existing property stock. Preparatory work undertaken by the Planning Department in SDCC indicates that existing commercial development has an average plot ratio of 0.5:1 while average residential density is 40 per ha. However, the estimation of potential development applied ratios of up to 2.0:1 and 2.5:1 in mixed developments in Tallaght Town. Residential densities of up to 125 per ha were used. However, these are not consistent across the study area. Some commercial/retail development will be as low as 0.5:1 while a proportion of the residential development that is foreseen will be at densities of 75 per ha and lower for infill housing. Given this disparity within the area, it is considered that applying the levies on a per ha basis would not be appropriate. Instead,

it is recommended that the residential levy should be applied per unit and the commercial and retail levies per sq. metre of development. The property base to which the levy will be applied is shown in Table 4.1.

Table 4.1: Property Basis for Application of Levies

Residential	35,270 units
Commercial	2,326,500 m ²
Retail	257,800 m ²

4.2 Rates of Indexation and Discounting

Discounting

The levy will be collected over a prolonged period during the lifetime of the scheme. It is necessary to discount all future flows to a base year when assessing the yield from the SDCS. It is recommended that all revenue estimates should be discounted to present values in accordance with official guidelines³⁰. These recommend that the returns from public investment projects be discounted according to the official discount rate stipulated by the National Finance Development Agency (NFDA). This is now 4%³¹. However, this project is in part dependant on the private sector and the returns in question are not social returns, as might usually be the case in capital investment projects, but the revenues eared from the levy. Thus, there is an element of public private partnership (PPP) involved. The project is not strictly defined as a PPP, but it is clear that the finance will be provided by and will depend on the decisions that are taken by private individuals. As a result, it is considered that there are elements of risk that are similar to those encountered in a PPP. Where this is the case it is recommended procedure that the discount rate should recognise this risk³².

Unlike in many areas of public sector revenue generation, compliance and avoidance are not risk factors with SDCSs. Neither is there a risk that its provisions could change in unforeseen ways in the future. Furthermore, the amount that needs to be raised will not change over time and the Scheme need not be changed in response to short term economic fluctuations. Although revenue under the SDCS will only accrue if the land is developed, the 30 year time frame for the SDCS is considered sufficiently long for all the potential development to take place. Indeed, once it is ensured that the gains that accrue to properties to be developed as a result of constructing Metro West exceed the value of the levies, the Scheme actually reinforces the conclusion that development will take place. The only issue therefore is the timing of the development and thus the timing of the payment of the levies. This means that the risk is that the real value of the revenue could be affected unless an appropriate discount rate is adopted.

³⁰ Department of Finance (2005) *Guidelines for the Appraisal and Management of Capital Expenditure Proposals in the Public Sector*

³¹ Department of Finance (2007) *Memorandum to Secretaries General* (NFDA, 15th May).

³² Department of Finance (2006) *Discount Rate Principles for Public Private Partnership Capital Investment Projects*. Central Guidance Note No. 7

It is important therefore that the discount rate is related closely to the index rate that is adopted so that there is no incentive created that could lead to a distortion of the pace of development relative to what would result from market forces i.e. the incentives facing developers, and good planning i.e. the objective facing the Council. As a result of these considerations, it is recommended that the discount rate should be set above the general recommended rate but should not exceed the index rate.

On this basis, the recommended discount rate for this project is 5% per annum. This is consistent with the approach used in other Dublin schemes.

Indexation

To protect the real value of the SDCS revenue, it is necessary to index the nominal rate to an appropriate inflation factor. Different indexation factors are available. General development contributions are usually indexed in line with the Wholesale Price Index for Building and Construction Materials (WPI) published by the CSO³³. This makes sense since these contributions relate to expenditure on infrastructure that will take place at various times in the future and usually in relatively close proximity to the development of local areas. Supplementary schemes differ in that the expenditure relates to a single defined piece of infrastructure and development of surrounding areas will not necessarily happen soon afterwards.

Despite this key difference, this WPI sub-index has been used in SDCSs. For example, Kerry County Council adopted this index as the indexation factor in relation to An Daingean Relief Road and Coach Park SDCS (2007). Alternatively, the SDCS for the Middleton Rail line designed by Cork County Council indexed the levy to the Consumer Price Index on the basis that this represents the most generally accepted means of protecting real incomes. While this is true, this index only protects the real value of consumer incomes and it is not considered that this reasoning can be transferred to protect the real value of revenue accruing to the Council.

In fact, it is an error to assume that there is any strong economic or financial rationale for adopting either of these indexes in relation to SDCSs. To see this consider that the capital cost of MetroWest must be all paid at an early stage of the scheme, assumed to be year 1. This will need to be financed either through debt or other public resources. Thus, the actual cost of this finance is better approximated by the cost of capital in the public sector which, given Ireland's consistently good debt rating over recent years, has approximated the rate paid on public debt in Ireland. Thus, in order to protect the real value of the Scheme, the index factor should be set with reference to the appropriate discount rate, not some inflation index that may or may not have a superficial association with the business of building Metro West.

³³ Jones Lang LaSalle (2008) *Development Contributions in Ireland: A Review*

This approach has precedence. Schemes in the Dublin area discussed above have all adopted a flat rate of 5% per annum with no reference to wider developments such as the possibility that inflation might exceed this rate. This has been based on the calculation by the Department of Finance that the rate of interest paid on Ireland's national debt approximated 5% per annum since the early 1990s³⁴. This calculation has recently been reduced to 4%³⁵. However, the long time period of the SDCS and the wish to maintain the real value of revenue irrespective of the timing of development mean that it is considered that the rate of 5% remains appropriate.

On this basis, it is recommended that the levy rates identified in this report for Year 1 should be indexed at a flat rate of 5% per annum, in line with other recent schemes in the Dublin area. The key issue here is the wish to preserve the real value of revenue i.e. to try to ensure that the impact of discounting is offset by the indexation. Setting the indexation and discount rates at 5% will preserve the real value of revenue irrespective of timing thereby removing the potentially important risk factor from the scheme. While it appears safe to assume that the lands in the study area will all be developed within the lifetime of the SDCS, the actual timing of this development and thus of the revenue flow will depend on decisions that are, to a considerable extent, outside the power of the Council to determine. By adopting the recommended parameters the real value of the Scheme's revenue is preserved irrespective of the timing of development.

4.3 Levies and Revenue Projections

Taking consideration of the value that is created in property as calculated above and the other criteria discussed in Section 2, the levies shown in Table 4.2 are recommended.

Table 4.2: Recommended Levy Rates

Residential	€3,000 per unit
Commercial (Offices etc)	€50 per sq. m.
Retail	€65 per sq. m.

Application of these levies to the total property base would raise revenue in the SDCS with a present value of €239 million. This is equal to 58.3% of the estimated cost of €410 million so it is in line with RPA policy. Of this, 44% (€106 million) will be raised from residential development, 49% (€116 million) from commercial non-retail development, and 7% (€16.8 million) from retail development.

The levy will raise between 14.8% and 23.6% of the value that is created in property to which it can be applied, depending on whether there is a low or high impact on the price of residential property. This gives a mid-point of 19.2% so it is not out of line with other

³⁴ Department of Finance (1994) Guidelines for the Appraisal and Management of Capital Expenditure Proposals in the Public Sector and CSF Evaluation Unit (1999) Proposed Working Rules for Cost-Benefit Analysis

³⁵ Department of Finance (2007) *Memorandum to Secretaries General* (NFDA, 15th May).

schemes as shown in Table 2.4 above. The proportion varies according to the class of property in question. These are shown in Table 4.3.

Table 4.3: Percentage of Value Created that Accrues as Revenue

	Residential	Commercial	Retail	Total
% of value (low Impact)	17.7%			23.6%
% of value (high impact)	8.8%	31.2%	40.6%	14.8%

These are considered to be acceptable proportions of the value that is created in all classes of property so as to avoid creating an incentive to displace development. It is also noted that, in line with the Department's Guidelines, the proportion taken of the value that is created in residential development is lower than in other classes.

These levy rates are also broadly comparable with other comparable schemes³⁶. The Fingal MetroNorth scheme would appear to offer the closest comparator. As the Fingal scheme expressed levy rates on a per ha basis it is necessary to express these rates on this basis. Table 4.4 compares the recommended levy rates expressed on a comparable per ha basis with the Fingal data from Table 2.5 above. The property that was identified for development along Metro West will have varying plot ratios ranging from 0.5:1 up to 2.0:1. In the Fingal projection an average of 1.5:1 was used when estimating development potential. For residential development, densities range from 75 per ha to 125 per ha for most projected developments of scale (infill developments will be at lower densities). The mid-point of 100 per ha is the same as in Fingal.

Table 4.4: Comparison of Recommended Levy Rates (€ per ha)

Plot Ratio	Metro West Levies			Fingal MetroNorth Levies
	0.5:1	2:1	1.5:1	1.5:1
Commercial	250,000	1,000,000	750,000	727,650
Retail	325,000	1,300,000	975,000	992,250
Residential	75 per ha 225,000	125 per ha 375,000	100 per ha 300,000	100 per ha 319,725

This comparison shows that the proposed commercial and retail levies are close to those in the Fingal scheme when expressed on a comparable basis i.e. per hectare with a plot ratio of 1.5:1. The residential levy is only slightly lower being equivalent to €300,000 per ha with a density of 100 units per ha. compared to €320,000 in Fingal. Thus, there should be no distortion of development arising from this levy.

Finally, it should be noted that some parts of the reference area will now be liable to a number of levies under various schemes. Although it can be argued that each of these relates to specific infrastructure and, as such, there is not difficulty here, the fact is that

³⁶ They are well below the proposed Glenamuck levy rates, for reasons that have been discussed, but are above the KRP and Navan Rail levy rates due to the better service and greater impact on property values.

potential developers, investors and purchasers might not perceive this to be the case. Consequently it is important that a relatively conservative approach is adopted so as to provide due emphasis to the need to avoid displacement. In summary, this is not a scheme that should be used to push out the range for SDCS levies.

4.4 Exemptions

Certain types of commercial development such as crèches can be exempted from the levy but no estimates of the numbers of such types of development are available. However, it is not considered that such exemptions would amount to large amounts of revenue foregone.

The most important exemption class is social and affordable housing. Assume that 15% of residential development falls into this class. This amounts to 5,291 units. At the recommended levy this amounts to €15.9 million. The overall value of the scheme following this adjustment is €223 million i.e. a reduction of 6.7%. This is equal to 54.4% of the indicated cost. Following this exemption, levies on residential property will account for 40%, commercial property for 52% and retail development for 7.5% of total revenue.

5. Conclusions and Recommendations

Task 1: Estimate the value of the benefit to land that is eligible for inclusion in the Scheme

Construction of Metro West will create property values in properties which have been identified as having potential for development or redevelopment with a current value estimated at between €1,013 and €1,613 million. The range arises due to divergent views on the potential impact of house prices. The basis of this estimate is shown in Table 5.1.

Table 5.1: Calculation of Property Values Created

	Residential	Commercial	Retail
Total potential	35,270 units	2,326,500 m ²	257,800 m ²
Prices	€340,000	€4,000 per m ²	€8,000 per m ²
Low Impact %	5%	4%	2%
High Impact %	10%	4%	2%
Value (low impact)	€599,590,000	€372,240,000	€41,248,000
Value (high impact)	€1,199,180,000	€372,240,000	€41,248,000

Task 2: Identify the optimum rate of levy to maximise the yield

The levy must not place the area at a disadvantage relative to other areas. This means that a comparative assessment of other schemes is required. The levy applied must be such that an appropriate portion of the value that is created accrues as revenue. On the basis of other schemes, this should be in the region of 18% of the value identified. This should be lower in the case of residential property than other classes. The actual rates must be broadly comparable to other areas given the service that is provided. The scheme should also aim to raise in the region of 50% of the estimated cost of the project. Taken together, these criteria indicate that the scheme should aim to raise in the region of €205 to €236 million.

Task 3: Identify the appropriate rates for different classes of development.

The following rates are recommended:

Residential	€3,000 per unit
Commercial (Offices etc)	€50 per sq. m.
Retail	€65 per sq. m.

These commercial and retail levies are similar to those applied in the Fingal MetroNorth SDCS although the residential levy is slightly lower. They mean that between 14.8% and

23.6% of the value that is created in property in total will accrue as revenue, depending on the impact of Metro West on residential property values. Between 8.8% and 17.6% of the value that is created in residential property accrues as revenue.

Task 4: Calculate the total value of the Scheme and estimate the proportion of the cost of the infrastructure that will be raised

The scheme will raise €239 million in present values before exemptions. On the basis of an indicative €410 million cost for the infrastructure, the revenue is equal to 58.3% before exemptions. Of this, 44% (€106 million) will be raised from residential development, 49% (€116 million) from commercial non-retail development, and 7% (€16.8 million) from retail development.

Task 5: Advise on appropriate inflation and discount factors

It is recommended that all levies are indexed at a flat rate of 5% per annum rather than according to an inflation index. This will protect the real value of revenues which are discounted at 5% in accordance with Department of Finance guidelines.

Task 6: Identify the unit basis for application of the levy

Due to the disparate nature of the properties that are identified as having potential for development i.e. varying plot ratios and residential densities, it is recommended that the levies are applied on a per unit basis for housing and a per m² basis for commercial and retail development.

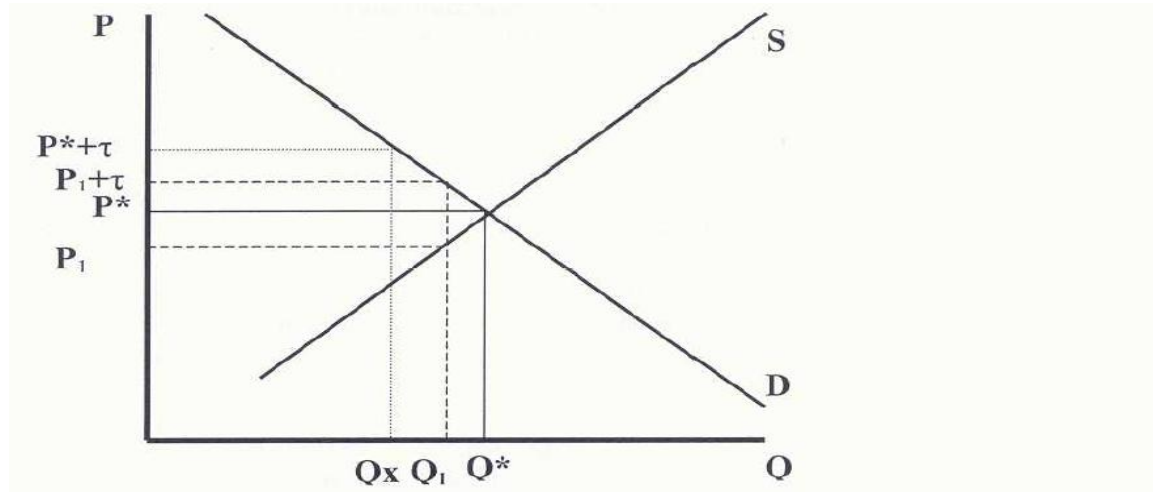
Task 7: Identify potential exclusions from the levy and the impact on revenue from the SDCS

The scheme will raise €223 million when 15% of the residential development is exempted as social and affordable housing. This is equal to 54.4% of the indicated cost. Other minor exemptions could also be applied but will not have a large impact on the overall revenue stream.

Appendix 1: Impact of a Levy on Demand

Consider the market for a representative good as is illustrated in Figure 1. Demand (D) and Supply (S) are equated at a price P^* with Q^* representing the quantity that is traded on this market. At P^* the market clears and there is no pressure on price to change. The market is said to be in equilibrium.

Figure 1: Incidence of a Levy

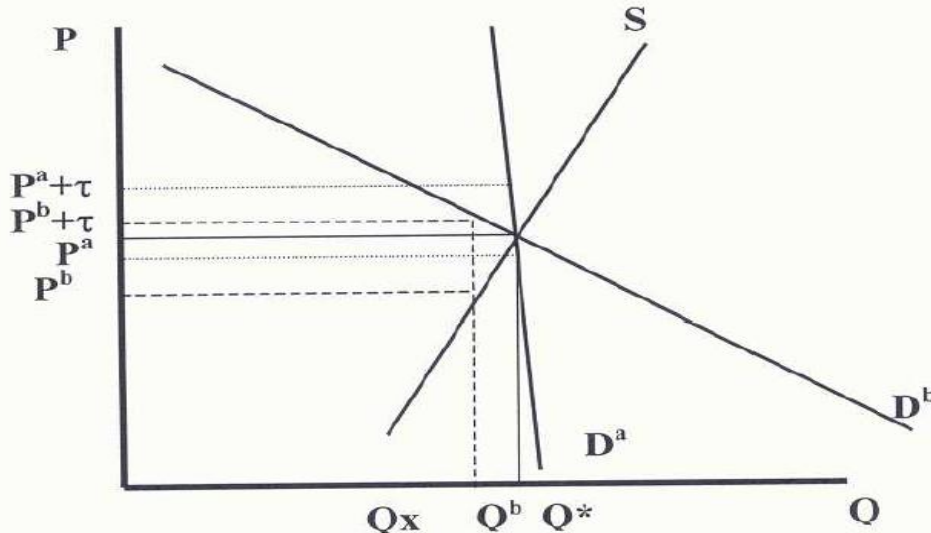


Assume that a levy is introduced. The value of this levy is τ . The first impact is to increase the price to $P^* + \tau$, with the suppliers continuing to receive P^* and the Council receiving τ per unit sold. However, it is clear that at this price demand (Q_x) is now less than supply, which has not changed. In a market with excess supply there will be downward pressure on price that will not be eliminated until price falls sufficiently so that demand equals supply. This happens where the market price is $P_1 + \tau$ with the supplier now receiving P_1 . Q_1 is traded in this market. Clearly this price is less than P^* , although $P_1 + \tau$ is still above P^* . As a result, it can be said that only part of the tax or levy is being passed on to the final purchasers with part being paid by suppliers. There is some fall in the quantity traded and a rise in the final price. The question then is to what extent the quantity might fall as this can be interpreted as a fall in the attractiveness of this good. In the context of the SDCS, this would be a fall in the attractiveness of property in an area where a SDCS is introduced.

The extent of the change in quantity and price will depend on the responsiveness of supply and demand to the change. This is measured by elasticity. If the response is low then the good in question is said to be inelastic with respect to price. In a diagram, this would be indicated by a steep supply or demand curve. Consider Figure 2. Demand curve D^a is relatively inelastic compared to demand D^b . (Note that the supply curve is also drawn fairly steep as this is likely to be representative of the situation in the property market i.e. supply does not change greatly in the short term as a result of a change in price). This has a major impact on the incidence of – i.e. who pays – the tax. It is clear that with D^a the market price $p^a + \tau$ is further above p^a than would be the case if demand

curve D^b were to be used. In other words, where elasticity of demand is low, suppliers would be able to pass on the tax to the final purchasers. The quantity of trade does not fall much but the final price rises more than with an inelastic demand.

Figure 2: Impact of the Levy and Elasticity



This means that the incidence of the levy will depend primarily on the price elasticity of demand on the part of final purchasers. Measuring this in the case of housing is complicated for two reasons. First, expectations in regard to future developments in the housing market are important in determining demand. Thus, demand can change - and the elasticity of demand can be quite volatile - even when market price is unchanged in absolute value. But market price may have changed relative to expected future values. This is extremely difficult to capture in empirical research. Second, the housing and property markets are not homogenous but are a whole series of markets. Property varies considerably depending on location, quality and other factors. Thus, each development is, in a sense, a once off. However, this is important in a general sense since it means that close substitutes to a particular piece of property may not be available, although other properties may be available. This has the general effect of reducing elasticity. In other words, the levy is mostly passed on to purchasers because there is little impact on their demand. The only exceptions occur where there might be close substitutes or where expectations of future prices are changing.

This analysis has a further important implication also. When the tax was imposed, the quantity of goods traded in the market fell. This effect is known as the deadweight burden of taxation. Where there is an elastic response, the impact of this distortion is considerable and the deadweight loss can be considerable. However, with an inelastic response the impact is lessened. Indeed, in the extreme case where elasticity is zero, the loss is also zero in this market. In other words, buyers accept the higher price as they feel they are still getting sufficient value to entice them to buy, even though the price is above its price in the absence of the levy.