Design as a practical tool for economic and business development in the Glasgow metropolitan economy

Final Report

by

the HENLEY CENTRE

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PLEASE RETURN

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Section 1: The report in context

1.1 A worldwide trend toward local intervention in product design

GDA wants quickly and visibly to help Glaswegian firms improve the calibre of their design. GDA wants to see Glaswegian firms implement design programmes which are not just cost-effective and distinctive, but which can really help move Glasgow into the realm of 'advanced industrial' cities. Many of these programmes will be programmes of product design, conducted by local manufacturing companies. In adopting them, Glasgow will not be alone.

Of all the different disciplines of design, product design, in partnership with technology and marketing, has done the most to move city-based firms into an 'advanced industrial' arena of improved trade performance. As early as 1986, Christopher Lorenz, management editor of the *Financial Times*, identified a number of fundamental reasons why managers of manufacturing companies needed to take product design seriously. Here, updated for 1994, are the 'Big Picture' reasons why manufacturers in Glasgow, as elsewhere in Scotland and indeed worldwide, can expect product design to continue to play a major role in their future success:

Table 1.1 Eight agents of change which make product design vital to competitiveness

1	Product/market maturity: the need for differentiation in the product
2	Fragmentation of markets/users calls for differently designed products
3	Tougher competition – especially from the more quality-conscious Far East
4	Impossibility of sustaining competitive advantage by technology alone
5	Shortening of some product lifecycles, slower obsolescence in others
6	The demand for shorter 'time to market' in New Product Development (NPD)
7	Globalization: designing 'world' products which nevertheless meet local needs
8	The call to cut costs in manufacture and increase value for money in the product

Source: Lorenz (1986), Henley Centre

The significance of design to business and thus to urban competitiveness has been recognised both by governments and by cities. In May 1993, Japan's MITI announced that, next to confronting a 'new breed of end-users', design in general and Japan in particular had above all to develop fine products among small and medium enterprises (SMEs), and 'regional design centres to act as the nucleus in promoting regional economic growth' (MITI, *New design promoting strategies for the changing needs of our time*, 12 May 1993). From Bremen, Barcelona and Milan to New York City, Toronto and Vancouver, support for design has become a growing part of urban economic development. More and more of the world's cities boast Design Centres, as well as public/private partnerships to research, publicise and celebrate design.

The Danish Design Council, Copenhagen; the Swedish Industrial Design Foundation, Stockholm, and the International Design Centre, Nagoya, show how focused but directed public intervention in design can play a positive role in boosting the competitiveness of city-regions (see Appendix 1 for more on these three). Add to this the April 1994 formation by Scottish Enterprise of Scottish Design Ltd, a company which will dispense product design advice to Scots companies and spread awareness of design in Scottish education, and the *trend toward a particularly Scottish intervention in design matters has already proved inescapable. In this sense, the question facing GDA is not whether to sharpen Glaswegian and Scottish expertise and practice in design, but how.*

1.2 GDA must step into the breach left by the old Design Council, but avoid its mistakes

It could be argued that Scottish Design Ltd should take sole responsibility for the delivery of design services to Glaswegian firms. After all, Scottish Design will be based in the Ca'd'Oro Building, Glasgow. But Scottish Design will not specifically promote either Glaswegian firms, or design awareness in public sector organisations or the cause of graphic design and other design disciplines. There is, then, still a case for GDA to engage *in the direct delivery of the right kind of design-related services to Glaswegian firms and public-sector organisations*. What, though, are the 'right kind' of design-related services GDA should develop? The answers are not easy. For nearly 50 years, the Design Council failed to do more than preach, largely invisibly, to a small coterie of manufacturers who were already converted to the cause of design.

A short history of the Design Council

1944	Formation in euphoria over planning and concern over exports
1950/60s	Dispensing of 'good taste' to the middle class and to an industrial clique
1970s	Engineers take over to try to reverse declining British trade performance
1982-88	Advisory services consolidated; DTI funds SMEs to hire design firms
1989-93	Provision of local, sectorally-specific advisory services to SMEs
1994	Radical downsizing and change of focus?

The Council's wrong kind of services to industry should serve as a warning to GDA. So, to should other well-meaning initiatives. Late in 1993, the Design Business Association, the nation body of major design firms, called a conference on 'How to select and appoint the right design consultancy'. Aimed at 35 managers, it was cancelled... through lack of interest. Just two delegates signed up to come.

GDA has little choice but to intervene in design. This report is about ensuring that GDA's *intervention brings real interest, real results – and real value for money.*

1.3 Intervention in product design in Glasgow manufacturing would be a very new activity for GDA

A number of GDA initiatives are concentrated on improving engineering, technological and production *processes*. Although product design today relates strongly to the call to cut costs in manufacture (table 1.1), it first relates not to processes but to *products*.

Table 1.2 How product design differs from engineering

Engineer's concerns about the product	Product designer's concerns about the product
COMMON	
Functional performance	
compatibility with other systems	
deployment of materials	
durability	
ease of recycling, re-use, disposal	
DISTINCT	
machine-machine interactions	man-machine interactions
Total Quality Management	visual, tactile and aural clarity, delight
zero defects in the product	zero defections from the product – maximum customer loyalty
technical performance	human factors/ergonomics
non-destructive testing	laboratory/collaboratory/field research into users/potential users
	aesthetics
	graphic, information and screen interface design environment
	surrounding the product

Source: Ughwana & Baker (1989), The Henley Centre

We would go further. Particularly because of the spread and sophistication of IT in today's product innovations, leaps in product technology are more central to product design than ever before. The old Design Council and DCS were certainly very fond of a technological interpretation of design. However, *though product design is intimately bound up with technology, it is above all about the customers who buy products, and the people who end up using them. Product design is not, like engineering, concerned with machine-machine interactions, but with man-machine interactions.*

Even within Glasgow's engineering firms, product design cannot be reduced to engineering, technology, production processes, product technologies or the doctrine of TQM. *For GDA, provision in product design will have a strong link with provision in technology, but will be distinct from it. Provision in design will demand of GDA new skills, new staff, and thus new budgets. The tasks simply of familiarisation with product design should not be underestimated.*

1.4 A capsule familiarisation with product design: the centrality of marketing considerations

Product design means adjusting artefacts to tomorrow's users – their socio-economic and demographic circumstances, their attitudes and their behaviour patterns. Product design is not about what colour will be in vogue next year, nor even about integrating the inner technology of a system with an attractive outer appearance. Today, product design means completely configuring products to human purposes.

From the point of view of an economic development agency,

product design = *translating market intelligence about* tomorrow's circumstances, attitudes and behaviours *into physical artefacts*

= *the embodiment, within products, of clever marketing strategy.*

As such, *the kind of product design GDA should seek to nurture is one which will be shaped by important marketing considerations*, as follows:

Table 1.3 The impact of future marketing trends on design: eight ways in which economic development agencies should define the tasks of product design in the 1990s

1 *Appeal to international customers,* by adjusting to *hierarchies of customer needs and wants, in the present and in the future*

2 Encourage *confidence, knowledge and interest* on the part of customers

3 Give *social legitimacy* to products, and *tell the truth about their limitations*

4 By providing *value-for-money,* reach *universal audiences,* summoning the world's best breakthroughs in design to meet the requirements of all social groups, and especially *older people*

5 Allow products to be *tailored* by their users, and, in the case of software interfaces, *adapted* to their needs

6 Defend *manufacturer brands* against retail brands. Build a *service dimension* into products

7 Build a distinct, differentiated, internationally-recognisable *local vernacular,* or design language

8 Creatively catalyse *NPD* and reduce *time-to-market.*

Source: The Henley Centre

The charts in Appendix 2 illustrate some of these points in more detail.

1.5 Product design is specially relevant to Glasgow and its SMEs

In the world of artefacts, there is every reason why Glasgow, more than many cities, can and should place a strong emphasis on product design. Glasgow is the historic town of origin of the Mackintosh venacular. The city has, through its 1993 Design Renaissance conference, made its mark on 1000 members of the international design community. Above all, whether it likes it or not, Glasgow is still associated, in the minds of many Continentals, with manufacturing. There is thus scope for:

- the development of *a new distinctive 'Glasgow vernacular', or design language*, in products emanating from Glaswegian manufacturers. This vernacular would supercede that of Mackintosh, and receive acclaim from the international design community for its progressive qualities. The example of Hotel New York, a dockside hotel/restuarant/bar in Rotterdam, the Netherlands, alone shows how a second-tier internaional city can use design to put itself on the world creative map.

- the use of *the brand endorsement 'Clyde Built'* on exported products which are clearly seen to have benefited from the Glasgow style.

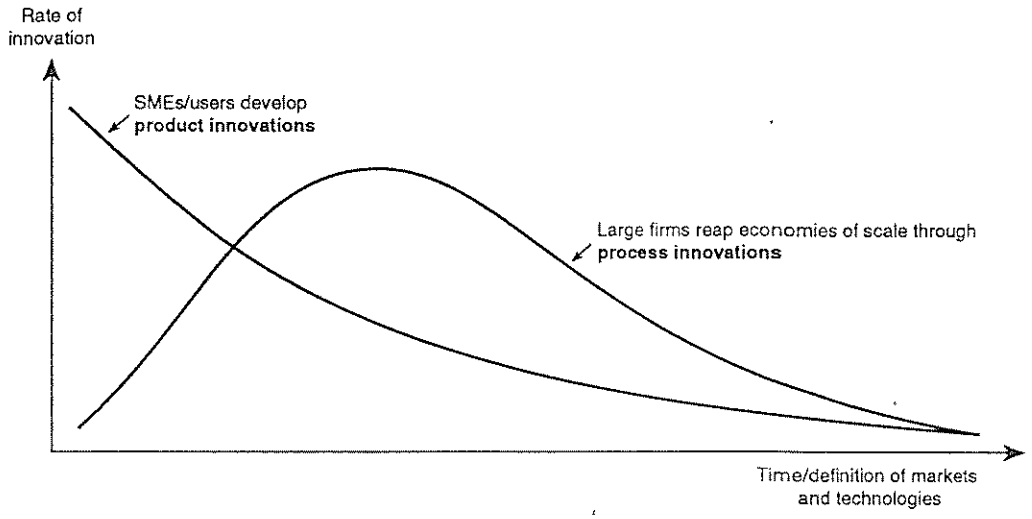
In addition, however, product design is specially relevant to Glasgow because of the problems the city and Scotland as a whole share with SMEs.

Take *A strategy for Scotland's business birth rate* (draft, Scottish Enterprise, 15 June 1993). In this document, Action 5 – 'Developing start-ups in key sectors: obtaining more new starts in the important sectors of manufacturing, high-technology and business services' – recognises Scotland's need for new business 'incubators', for academic spin-outs and for improved science parks (op cit, pp15-16). The paper rightly sees, too, the need for good networks, financial support, and the training of start-ups in business and marketing skills. It makes no mention of design; but in Action 6, it rightly notes that 'While a reasonable proportion of Scotland's new starts grow to employ 50 people, compared to more dynamic economies relatively few have sustained this growth to become much larger companies' (op cit, pp17-18).

We believe that *in both the start-up phase of SMEs, and the critical transition from being a 50-strong firm to one employing many more, product design has a vital, if so far neglected, role to play.*

Research by Abernathy and Utterback suggests that *product innovations, rather than process innovations, are central to SMEs*. Because product innovations frequently rely on an understanding of customers, SMEs join product users themselves in being flexible enough, and close enough to markets, to create products which fill definite market gaps. By contrast, larger firms are more bureaucratic, and less capable of developing product innovations based on customer need. They do, however, have the resources to invest in process innovations aimed at bringing costs down:

Chart 1.1 The changing character of innovation



Source: Abernathy and Utterback (1986)/The Henley Centre

1.6 Corporate myopia about product design is a critical area for GDA to address – especially in the medium enterprise size range (50-200 staff)

While to be an SME is to be bound up with product innovations, a Small Business Research Trust, Cambridge University, survey of 2000 manufacturing and business services SMEs in the summer of 1991 found that, between 1987 and 1990,

- only 21 per cent of manufacturing SMEs took outside advice on product design, 27 per cent on marketing, and a mere 17 per cent on market research;

- by contrast, more than 50 per cent of the manufacturing SMEs surveyed had had outside advice on financial and IT matters;

- more than 50 per cent of all SMEs were unsatisfied with the availability/quality of government training. Firms with under 100 staff were especially unsatisfied.

Source: SBRT: The state of British enterprise: growth, innovation and competitive advantage in small and medium-sized firms, 1992

Thus product design among British SMEs has two sides to it. On the one hand, SMEs, in the early phases of their growth, have an intensive need for product design so as to refine their basic product innovations. On the other hand, *SME take-up of specialist advice about product design is very poor – and, if current government training schemes are left unaltered, likely to remain so.*

The evidence that SMEs are myopic about product design is part of a wider pattern across SMEs and larger firms alike. *By international standards, the private sector in Britain lays disproportionate stress on process innovations.* Even in 1990, before the current fad for cutting costs through Business Process Re-engineering,

- only 16 per cent of UK companies saw competitive advantage coming from their *products* – and the figure was even less for consumer durables firms

- a much larger 35 per cent of UK companies looked to *processes* to give them the edge, largely because they were still committed to short-term, low-risk strategies of catching up on their competition

- In Germany and Japan, by contrast, 30 and 40 per cent of companies respectively preferred improving their products to improving their processes.

Source: Dr Tony Roberts, *Product strategies for the 1990s*, paper to *Financial Times*/Design Management Institute conference, London, 16 October 1990

Moreover while half of *British* NPD was spent in *re-design*, in *Japan* the *preliminary, in-depth definition of product requirements* took up a full two-thirds of the resources fielded.

Corporate Britain – and thus, no doubt, corporate Glasgow – wastes an enormous amount of time and money amending the specifications of new products shortly before they are launched. The result is delays, higher costs, lower margins and uncompetitive prices. *GDA must strive, therefore, to help Glaswegian manufacturers to establish the fullest possible design brief for their new products as early as possible in the NPD process.*

Up to 90 per cent of a product's lifecycle costs are determined in concept, design and engineering stage. Yet conceptual work costs only five per cent of such costs, and design/engineering only another 15 per cent. It makes sense to devote extra resources to concept and design. Moreover, research by the Henley Centre for IBM UK allows us to pin down exactly where, along the complete spectrum of firm sizes in Britain, such extra resources could have its greatest effect.

Our research among 300 000 quoted and unquoted companies larger than £10m has shown that it has been unquoted UK-based firms with an average £6m turnover and a 50-strong workforce in 1989 which have grown the fastest during the recession. Such firms rose, on average, to £20m, 200-staff enterprises by 1992. Henley research shows that Scottish-based firms were particularly well represented in this area.

While many of the firms which grew fastest were in services (especially business and financial services), those manufacturing companies which did make the transition from 50 to 200 employees were the ones which showed the fastest growth of sales turnover, growth of profitability and growth of employment. Instead of dropping their rate of return on capital employed by 10 per cent, as did a control group of 1000 companies, the 1000 fastest-growing firms raised it by 10 per cent. There is thus a strong case for believing that *it is in the 50-200 employee size range that product design is specially relevant. Though manufacturers in this range face high risks as they expand, Scots experience itself has shown that high rewards are available for those who make it.*

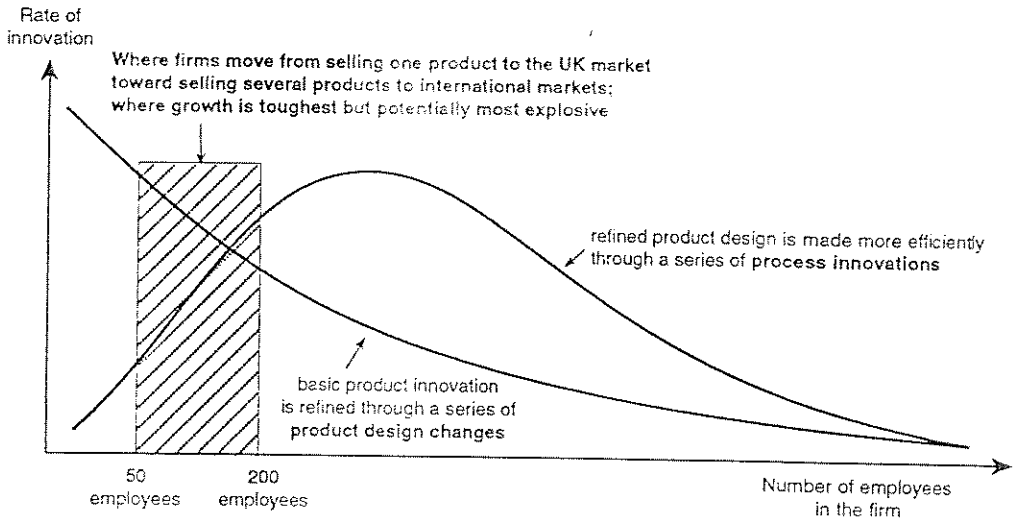
This is not to dismiss the role of product design among smaller start-ups. Scottish Enterprise's recent *Academic Spin-Off Study* suggests that 'market intelligence' – a factor indispensable to good design briefs and thus to good product design – is critical to both pre-start-up and start-up phases

in this milieu (p13). Nor do we dismiss the critical role played by product design among those multinational corporations with plants immediately outside metropolitan Glasgow. We deal with this later in our report. Our point here is simply suggest that *the transition from small to medium enterprise is probably the transition which GDA should most concentrate its product design resources upon.*

Research by the Small Business Research Trust allows us to elaborate on this picture. The SBRT has shown that most British SMEs are myopic about competition in general and foreign competition in particular. Another way of saying this is to argue that, *among manufacturing SMEs, internationally-orientated product design can help accelerate the transition from domestically focused, one-product company to multi-product exporter.* Our interview with the highly relevant local example of Barrhead Sanitaryware (Paisley) confirmed that, *alongside finance and market intelligence, design skills are vital if companies in transition from small to medium enterprise are to open up, through NPD, a serious breach in continental European markets.*

Often *the transition from domestically focused, one-product company to multi-product exporter occurs when SMEs grow from about 50 people to a size greater than 200* (Barrhead is in the upper end of this range). The chart below sums up this point, and the others we have made in this section.

Chart 1.2 Why product design is critical to a small firm becoming a successful 'medium enterprise'



Source: The Henley Centre

1.7 Recommendations

(1) GDA needs to *learn from national or city-based state agencies located abroad*. They have begun a useful intervention in product design.

(2) Whatever the fate of the DCS, GDA should *prepare to inherit the mantle of DCS advisory services to industry*. GDA will also have to *develop tools for intervention in product design more effective than those offered by the old Design Council*.

(3) Intervention in product design by GDA requires that it *deliberately extends its knowledge base*. The cultural shift at issue is just as sizable as that undertaken when GDA consolidated its intervention around technology. Of central significance to GDA's product design activity will be *deepening market intelligence, and understanding the impact of future marketing trends on design*.

(4) GDA must *help in the development of a fresh, differentiated Glasgow product design vernacular* among the city's manufacturers. It should also *help reinforce this vernacular by encouraging use of the endorsement 'Clyde Built'*.

(5) In its product design activity, GDA should *focus on product innovations more than process ones, and on the early, in-depth definition of design briefs*. All firm sizes are relevant to GDA's intervention, but it will likely *reap the biggest benefits from fledgling exporters in the 50-200 employee range* – even if they are also likely to be sceptical about government/outside advice in general and about advice in product in particular.

Section 2: What is design?

2.1 Two definitions of design for GDA

For an economic development agency like GDA, we would define two sides to the meaning of design: the product/service-centred, and the place-centred. The first of these is more important.

(A) The product/service-centred definition of design for GDA

With manufacturing and service firms in the private sector and in the Glasgow metropolitan area, GDA has an interest in the design of

- capital goods, consumer durables, textiles, clothing and software destined for Glaswegian, Scottish, national and export markets
- those services which, while available in the metropolitan area, are predominantly communicated and delivered outwith Glasgow (eg haulage, financial services).

In our product/service-centred definition of design, it is above all Glasgow's performance in national and international *trade* which design relates to. The design disciplines relevant to the product/service-centred definition for GDA are

(1) *product design for capital goods and consumer durables (PD)*

and

(2) *textile, clothing and fashion design (TCFD).*

However, all the 'hardware' handled by these disciplines also involves elements of packaging, branding, documentation and service. Because of this, and because of the reliance of both software and general services on the practice of graphic design (in on-screen menus, literature, forms, vehicle liveries, etc), the product/service-centred definition of design for GDA must also include

(3) *graphic, information and screen interface design (GISD).*

(B) The place-centred definition of design for GDA: Glasgow as 'design city'

Because GDA's primary function is to work with the market in enabling local enterprises to improve competitive performance, initiatives centred on Glasgow as a place will not have the same

status, for the Agency, as those centred on the delivery of better products and services. However, place-centred initiatives will have subsidiary merits. By contrast with product/service-centred design orientated toward trade, place-centred design initiatives can

- improve the appeal of Glasgow to *tourists and inward investors.*

In addition, place-centred design initiatives

- are more immediately *visible* than breakthroughs in PD
- may, by improving the design awareness of Glaswegians, help *create a more competitive, export-winning social climate for local companies.*

In a further contrast with the product/service-centred definition of design, *place-centred design relies not just on private-sector organisations, but on public-sector ones too. Both kinds of organisations are responsible for the look, feel and layout of Glasgow as a place for 'the public' to live, do business and relax in.*

Where the product/service-centred definition of design converges with that centred on place is around a Glaswegian vernacular, or design language. In Section 1, we argued that GDA must help create a vernacular in products emanating from Glasgow. But GDA must also work with public and private organisations to generate the same pleasant and efficient language in the products, communications and above all the *locations* that are to be found within the city. This means that GDA should encourage both private and public organisations to ensure that they improve

- the *fixtures and fittings* installed in their environments. This is once again a matter of PD (also, to a much lesser degree, of TCFD): it relates to

  furniture

  lighting

  transport vehicles

  floor- and wall-coverings

- their *communications*. This is once again a matter of GISD: it relates to

  literature

forms

signage

maps

banners

- their interior design, architecture, and local streetscape – in short,

(4) *Environmental Design (ED) as it relates to the following sectors:*

- Government
- Health
- Education
- Transport
- Leisure
- Retailing
- Offices

2.2 How product/service-centred and place-centred definitions of design suggest two broad styles of GDA intervention on the 'demand side'

Our definitions of design for GDA have a strong relationship with the twin-track economic strategy which GDA should naturally follow with design – one of simultaneously taking both demand-side measures and supply-side initiatives. Because GDA's principal focus is on the development of mainstream manufacturing, trade and exports, the main contribution it can make to establishing Glasgow as a design-assisted advanced industrial city is in encouraging, on the part of Glaswegian industry, *demand* for design services. At the same time, to build, for Glasgow, a reputation for a world-class design infrastructure means that GDA must also support sensible initatives on the *supply* side – initiatives which accelerate the growth, professionalisation and effectiveness of the design community in Glasgow. We therefore now consolidate into a table both the typical demand-side sectors in which design can be applied, and the design disciplines which are relevant to these sectors on the supply side

Table 2.1 Planning matrix for GDA intervention in design

Definition of design	Typical demand-side sectors	Relevant supply-side disciplines
Product-centred	Engineering, food, textiles	PD, GISD, TCFD
	Distribution	GISD
Service-centred	Financial services	
	Public:	PD, GISD, ED, TCFD
Place-centred	Government	
	Health	
	Education	
	Transport	
	Leisure	
	Private:	
	Leisure	
	Retailing	
	Offices	

Emboldened on the demand side are two broad styles of intervention for GDA:

Table 2.2 Two broad styles of intervention for GDA on the demand side

(A) The *direct delivery of PD-related support services* to private manufacturing industry, and to engineering firms

(B) The *more mediated, consensual, collaborative persuasion of public sector managers of the need for them to help improve Glasgow city as a place,* through

(a) *specifying* good PD, GISD and ED standards of their suppliers

(b) leading, on behalf of public/private partnerships, the quick and visible organisation of place-centred design *events.*

We deal more fully with these two styles later.

2.3 Design and economic development

Practitioners of PD, TCFD, GISD and ED occupy perhaps 200-300 jobs in Glasgow. These four design disciplines, therefore, cannot and should not be expected to generate significant employment in Glasgow. Direct employment effects are weak, and only a further 300-400 posts in administration and among suppliers of design materials can indirectly be dependent upon the professional design practice. Nevertheless, employment-inducing effects are potentially strong. *Alongside existing GDA initiatives in technology, and backed up with the right kind of market intelligence, PD, TCFD, GISD and ED can play a first-rank role in maintaining and expanding jobs in key sectors of the Glasgow economy.*

From our introductory discussion of the eight agents of change which make PD vital to competitive performance, we are convinced that the role of PD in improving the trade balance Glasgow has with the outside world is potentially quite powerful. This is a matter which requires further research; but *compared with spending on technology, tooling, marketing, advertising and price promotion, spending on PD, if managed properly, carries with it a relatively big 'bang' per buck.* Case studies in Appendix 3 show this. Below, we list the ways in which PD improves competitiveness.

Table 2.3 The role of product design in international manufacturing competitiveness

Factor in competitiveness	Influence of design
Price	
Sales price	Cutting costs in manufacture
Value to weight	Easing transport and storage
Value for money	Connoting and delivering value for money
Lifecycle costs	Cutting costs in installation, use, maintenance, repair and disposal/recycling
Non-price; product-related	
Product specification and quality	Performance; uniqueness, appearance; materials, finish, reliability, durability, safety; ease of installation, learning, use, maintenance, repair and disposal/recycling

	Incorporation and explanation of service benefits around point of purchase and experience of use
Non-price; company-related	
Time to market	Ease of development and of meeting delivery schedules
Company image/sales promotion	Presentation, packaging, display, image, promotion
After-sales service	Minimising of user complaints, streamlining of error recovery, maximising of customer loyalty, building of a word-of-mouth reputation.

Source: Roy (1990), Henley Centre

Returning now to the contribution which design as a whole can make to the city, the table below illustrates which design disciplines are relevant to which sectors.

Table 2.4 Patterns of sectoral employment in Glasgow and Strathclyde, 1991, and the design disciplines which are relevant to maintaining them

	Glasgow	%	Strathclyde	%	Relevant design disciplines
Agri/Forests	400	0.1	5,100	0.6	-
Energy/Water	4,800	1.4	12,100	1.4	GD
Min'als, Met, Chem	2,300	0.7	19,100	2.25	-
Eng & Vehicles	21,300	6.3	78,100	9.2	PD, GISD
Food/Other Mfg	25,300	7.5	75,800	8.9	PD, GISD
Construction	23,000	6.8	56,100	6.6	-
Distrib/Hotels	60,500	18.0	168,800	19.8	PD, GISD, ED

Tpt & Comms	22,100	6.6	53,200	6.3	PD, GISD, ED
Bank/Finance	49,000	14.6	81,200	9.6	GISD, ED
Other Services	127,800	38.0	301,300	35.4	GISD, ED
Total	**336,500**	**100**	**850,700**	**100**	

Source: Census of Employment, Henley Centre

Another way of grasping the relevance of design to the local economy is to identify the number of companies which the four design disciplines mentioned could assist. The table below does this. It also registers, in bold type, those companies involved in the direct supply of design-related services:

Table 2.5 Sectoral patterns in the distribution of companies in Glasgow, and the design disciplines which are relevant to them

Sector	Number of companies	Relevant design disciplines
Mechanical & Heavy Engineering	248	PD
General Engineering	92	PD, GISD
Biotechnology & Health Care	20	PD, GISD
Building & Construction	77	-
Building Services	209	GISD
Building Products	154	PD
Food Manufacture	45	GISD
Food Processing	42	-
Drinks & Spirits	35	GISD
Catering Services	32	PD, GISD, ED
Dairy & Confectionery	17	GISD
Printing	119	GISD
Publishing	16	GISD
Clothing Manufacturing	70	TCFD
Textiles	20	TCFD
Other clothing/textile related goods	35	TCFD

Clothing/textile designers	**10**	**TCFD**
Banking	24	GISD, ED
Insurance	49	GISD
Financial Services	49	GISD, ED
Accountants	59	GISD, ED
Solicitors	15	GISD, ED
Architects & Interior Designers	**24**	**ED**
Quantity Surveyors	6	GISD, ED
Chartered Surveyors	50	GISD, ED
Property Development	5	GISD, ED
Consultants	40	GISD, ED
Media	**93**	**GISD**
Exhibition & Display	14	ED
Software	63	GISD
Business Services	13	GISD
Security	23	GISD
Training	2	GISD
Language Services	12	GISD, ED
Miscellaneous	7	-

Source: Glasgow City Council, Henley Centre

It will be seen from the table that

- on the demand side, *PD is of relevance to a total of about 500 companies in engineering, health and building products*. Furthermore, *GISD impacts on 264 firms, in food, drink, catering, printing and publishing alone, and its effect on financial, legal, property, consultancy, media and software sectors spreads to a further 400-500*. As for TCFD and ED, they have respective potential audiences of about 125 and 250 firms.

- on the supply side, *GISD, TCFD and Architecture/ED are the direct business of as many as 10 companies.*

Altogether, design has a pervasive relevance to different sectors of industry and services within Glasgow. At the same time, though design will never be a big direct employer in Glasgow, a loss of companies and jobs in this sector would undoubtedly be noticed. But there is a deeper point to be made here.

Glasgow has, on the supply side, a decent base of GISD and ED companies. With these firms, we found evidence that local demand is reasonable for their services. With GISD, indeed, we show shortly that global demand gives scope for a considerable further expansion to be possible on the supply side.

Meanwhile the main subject of GDA's interest, PD, has a *potential* demand-side audience of perhaps 500 firms. But, as we shall confirm later, PD appears not to register much at all on Glasgow's supply side. There are product design suppliers hidden away in the previous table (probably under the category 'Business Services'), but, *compared with the scale of local industrial take-up of PD that would be necessary for it to 'make a difference' to Glasgow's trade performance, the city is woefully unprepared in PD.*

2.4 The worldwide design industry: demand for graphics and growing roles for IT and materials

The world spends perhaps $60bn a year on design-related services: about $10bn for PD, a further $10bn each for TCFD and ED, and an astonishing $30bn for graphics – as these figures for the 'marketing services' industry make clear:

Table 2.6 Expenditure on marketing services in 1992, $bn

	USA	UK	France	Germany	Japan	Rest of World	Total	
Sales Promotion	154.3	16.7	10.7	11.6	40.2		65.3	298.7
Media advertising	136.2	13.8	10.7	13.9	36.0		73.4	283.9
Direct mail	26.4	4.9	2.5	3.3	8.0		11.0	56.2
Graphics & Design	**16.2**	**4.7**	**1.6**	**1.9**	**7.3**		**2.6**	**34.3**
Public Relations	12.6	2.0	0.8	0.9	3.3		1.8	21.4
Public affairs	5.8	1.4	0.5	0.6	1.4		0.6	10.3
Healthcare	4.5	0.8	0.5	0.7	1.3		1.1	8.9
Market Research	2.8	1.1	0.7	0.8	0.7		2.1	8.1
Recruitment	4.0	0.5	0.2	0.7	0.9		1.5	7.8
Audio visual communication	3.5	0.7	0.6	0.7	0.8		1.3	7.7
Incentive & motivation	2.7	0.7	0.3	0.5	0.9		1.5	6.6
Financial communications	1.4	0.5	0.1	0.3	0.8		0.2	3.4
Real estate	1.1	0.2	0.1	0.3	0.7		0.5	2.9
Ethnic	1.6	0.2	0.1	0.1	0.1		0.3	2.4
Total	**373.0**	**48.3**	**29.4**	**36.2**	**102.5**		**163.2**	**752.6**

Source: Industry associations, Government associations, WPP estimates

Though GDA's main interest is in PD, we have shown earlier that (perhaps for historical reasons), Glasgow is blessed with no fewer than 34 firms selling TCFD and ED. Indeed, several ED firms export their services abroad. Yet *GISD – in Glasgow, as elsewhere, the most populous of the design*

professions – confronts a world marketplace which is very large. Moreover the market for GISD will grow, given

- the importance of graphics to maintaining product/service and corporate brands
- the scope for major jumps in the general demand for marketing services, including graphics, in the economies of the East
- a spreading recognition that screen interface design is central to competitive performance in IT-based hardware and software

The GISD market may be big, but the industry which supplies it is very fragmented. No graphics studio in the world employs 200 people, and the Glaswegian/Scots profession has a microscopic world market share. Yet, through the work of graphics firms such as Graven Images, Glasgow has a graphics sector which is beginning to gain a modest international reputation. The field is therefore one that is ripe for it to attack. *GDA should clearly take steps to ensure that Glaswegian graphic design consultants become more ambitious.* This means *a special, if carefully limited GDA programme to help professionalise and internationalise a key segment of the supply side of Glaswegian design, namely GISD.* In addition, it means *building commercial expertise in screen design alongside Glasgow's thriving software industry, and in particular at the new software centre intended for the lower part of Atlantic Quay.*

The growing role of IT

GISD is the biggest and most accessible international market in design – a fact which reflects the centrality of services to modern economies. PD, TCFD and ED are smaller but equally fragmented industries. *What all four sub-disciplines of design have in common is a susceptibility to change under the impact of IT.*

In GISD, it can be argued that the rise of desktop publishing, buttressed by increased coverage of computers and graphics at school, contains a warning of the need to *upgrade skills.* Without that, Glaswegian and Scots graphic designers face the 'commodification' of their profession – its reduction to the status of a jobbing, if IT-assisted, trade, with little value added. In the 1990s, cost pressures on clients for GISD are such that a substantial part of the Glaswegian and Scots graphic design profession's business could wind up going to printshops, copying departments and the unskilled – as well as to strategy and management consultants who know little of and care less about design, but who are able to use DTP and other forms of IT to supplant the professional designer.

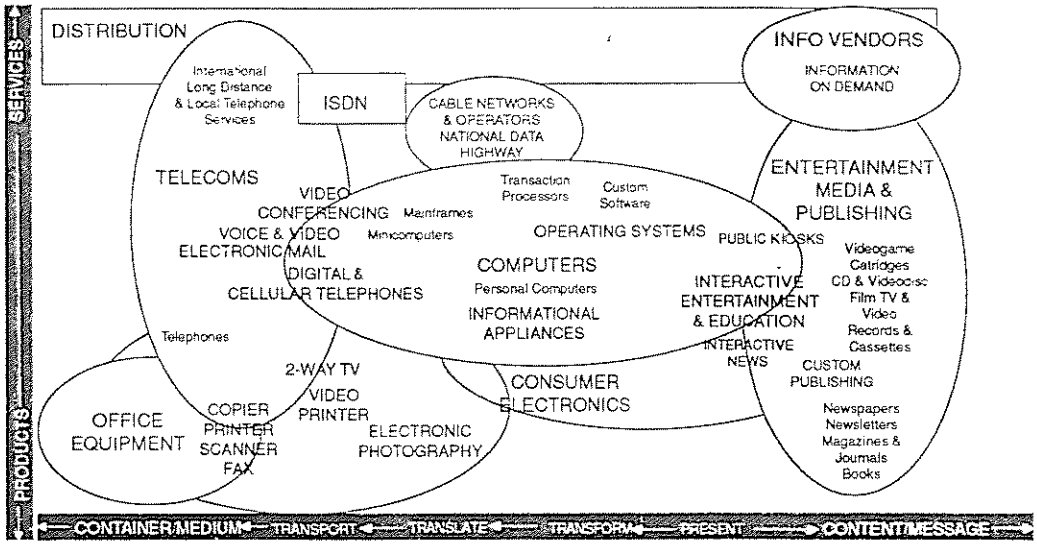
GDA needs to devise programmes to help Glaswegian graphic designers to accelerate the development of

- Creative mastery of IT
- Full participation in the whole IT sector.

We stress 'full participation in the whole IT sector' because there is a need for Glaswegian graphic designers to complement their achievements in print with conquests on the screen. This is all the more the case, given that there is today, under the impact of the digitisation of the telecommunications, consumer electronics and publishing industries, a certain amount of convergence between print and screen. The news that Time Warner is experimenting with Hewlett-Packard colour printers in the homes of cable TV viewers in Orlando, Florida is merely one illustration of the trend.

Progress toward full convergence in IT, and between IT and publishing, will be far from smooth. *Through education programmes, GDA must help graphic designers know how better to place themselves within this convergence.* One template for the future shape of the IT and IT-related industries is this:

Chart 2.1 The world information industry in 2001



Source: Apple

In *PD* above all the opportunity is there for IT to play a role in *speeding time to market*:

- In London, PD consultancies are beginning to equip themselves with computer-aided design (CAD) systems such as Alias, which allows them to feed product-making instructions to Illinois manufacturers. In Illinois the manufacturers are equipped with Alias machines linked directly to computer numerically-controlled machine tools in factories. *GDA should team up with local subsidiaries of major multinational IT companies to develop a wider culture of inexpensive, product-orientated CAD among local manufacturers.*

- *DCS's integrated product design centre is of vital significance to GDA, and should enjoy its full support.*

- DCS has set up a Technology Group of firms interested in Computer Aided Engineering Design (CAED). *GDA should join this Group*. Members share expertise, seminars and site visits; they include the following companies.

Table 2.7 Members of the DCS's Computer Aided Engineering Design Group, 1993-4

IBM UK

Weir Pumps

Philips BCS Small Switching

Tannoy Group

Yarrow Shipbuilders

BAe

Glasgow University

Strathclyde University

Honeywell Control Systems

Digital Equipment (Scotland)

Source: Confidential

In *TCFD*, an August 1992 DCS survey of Scots makers of apparel, fabrics, workwear, carpets, furnishings, lace, industrial textiles and accessories found that *though 64 per cent of manufacturing companies did not use CAD, 60 per cent of those non-users themselves recognised the potential benefits of CAD*. Ignorance of available systems, fear of making the wrong decisions and past mistakes with CAD were some of the chief reasons for low take-up. *GDA should investigate the possibility of working with Scottish Design in developing research and educational expertise in this area*, even if confidentiality considerations may to some extent limit the amount of software which can be offered to local manufacturers.

In *ED*, Glasgow professionals have long been adept in CAD. The key task here is for *GDA to arrange for the adaptation, to mass audiences, of animated CAD displays on future place-centred initiatives around Glasgow*. That way such initiatives can be subjected to public interaction and comment before they are implemented. This will make for more successful design.

The growing role for materials

Apart from the computerisation of design, one of the trends in design which is most relevant to GDA is the *heightened significance of materials to PD*. Again, the example of Barrhead Sanitaryware is telling, for the company explained to the Henley Centre that lack of a designer skilled in ceramics was an important weakness facing it.

Along with Germany, Britain has caught up with America in the *technologies* of ceramics and metals, though it still falls short of Japan. Given this, and given Glasgow's defence interests, the city is well-placed, in international terms, to develop well-designed products which make the very best use of materials in terms of properties such as

- high strength to weight
- high resistance to temperature
- 'smartness' – the ability to flex or stiffen according to outside conditions.

With a particular species of the new materials – advanced polymers – developments are even more exciting. With polymers, time to market in major innovations has shrunk from 10 to five years ('The new alchemy', *Business Week*, 29 July 1991). As a result, product designers now

- use plastics for their elasticity, softness, springiness, pliability and fine surface qualities
- assemble different kinds of plastics into colour, texture, temperature and reflectance 'stories'

- work with plastics which glow in the dark and conduct electricity

- look out for plastics which can be chipped, scratched, dented, scuffed, cracked and worn in such a way that the older they get, the nicer they become.

As in PD, so in ED. In buildings, for instance, windows in conductive plastics can change colour, and can conduct heat away during the day and keep it in at night.

It is important for GDA to keep a sense of realism about the use of plastics and other materials in products. Not everything is possible with them. Nevertheless, *plastics is a key area for PD, and one which, working with Strathclyde University's Materials Research Centre and with companies such as ICL Technology, GDA needs to continue to support – especially with regard to the creative, user-centred and design-driven deployment of materials in NPD.*

2.5 What's in and what's out in design

IT and new materials are not alone in opening up new issues and methods in design. Below, we list just a few of the transitions which design is making at the moment, if only to give a flavour of the very substantial changes afoot.

Table 2.8 A few contemporary trends in the design industry

"In"	"Out"
Silent design	Designer labels
Service design	Retail design
Quantifying effectiveness of design	Superstar designers
Multidisciplinary designers	Compartmentalised design subdisciplines
Designers as team catalysts	Designers as Renaissance Men
Humanism	Modernism
Rationalism	Post-modernism
Fusion Technologies	Breakthrough Technologies
Materials at a price	Infinite choice/manipulability of materials
Corporate brands	A wide product brand portfolio
Printed forms	Letterhead logos
Signs, maps, banners	City logos
Screen design	Design on TV
Pack as product	Pack as art
Savvy clients	Naive clients
Focused rosters of design suppliers	Unwieldy rafts of design suppliers

Source: Henley Centre, Design Business Association

Appendix 4 contains more explanation of 'What's In'. The main moral of here is that, apart from pursuing practical advisory functions in design, *GDA specialists must, by immersing themselves in the international theoretical articles, trade papers and conferences of the milieu, know how to respond to emerging trends in design.*

2.6 Recommendations

(6) The two broad styles of intervention for GDA on the demand side should be the *direct delivery of PD-related support services* to manufacturers, and, with the help of DCS, *persuading public sector bodies to play a constructive role in buying design and sponsoring events which will put design 'on the map'* in Glasgow. With PD, however, the indigenous supply side looks weak. GDA is almost starting from zero here.

(7) The size and growth potential of the world graphics market makes it essential that, on the supply side, GDA *help in professionalising, internationalising and computerising GISD.* With computerisation, GDA should *help GISD should carve out a niche with software companies at Atlantic Quay.*

(8) In PD, GDA should

- team with local IT multinationals to *develop a wider culture of low-cost CAD for local SMEs*
- support the continuation of the DCS's *integrated product design centre,* and of its *Technology Group on CAED*
- uphold *Strathclyde University's Materials Research Centre,* and *ensure that it is fully open to the design/user implications of its work.*

(9) In TCFD, GDA should work with DCS in developing research and educational expertise that will increase CAD take-up among local manufacturers. In ED, it should work with local practitioners to bring animations of future place-centred initiatives to the people of Glasgow.

(10) On top of the direct delivery of PD-related support services, and in order to ensure that these services constantly take account of the changing nature of design, *GDA specialists must participate fully in the international 'invisible college' of experts in design and its management.*

Section 3: Building a better design industry in Glasgow

London have international clients and international reputations. This is especially true of PD and GISD.

Worse still, *Glasgow is weaker than even Edinburgh in PD and especially GISD*. The Chartered Society of Designers (CSD) reports figures which tally with this – even if they are restricted to CSD members and, indeed, to those members resident in major cities rather than the broader number working in them.

Table 3.3 Number of CSD members resident in major British cities, by design discipline

	Product Design	Interior Design	Graphic Design	Other Design	Total
London	321	504	417	193	1345
Edinburgh	20	62	37	22	141
Glasgow	15	36	24	10	85
Bir'ham	19	43	16	0	78
M'chester	14	13	23	14	64

Source: Chartered Society of Designers

In the round, then, Glasgow still lacks a substantial, *diversified expertise in PD, and even in GISD*. This applies *not only in terms of what needs to be put on offer to existing Scottish manufacturers, but the kind of broader culture of design that will be necessary if Scotland is to build the world-class indigenous multinationals which Scottish Enterprise holds dear.*

Consumers in the 1990s are interested in value for money, not simply low prices. The same attitudes are often to be found among business purchasers. Expectations of product and service quality have not been impaired by the recession. Meanwhile, over the years, design has become an essential part of the quality equation. As a result, we can be sure that the world-class Scots multinationals of the future will find that they cannot neglect design. Design will not be incidental to those multinationals' success, but an integral part of it.

GDA nees to take urgent action to close the supply-side design gap between Glasgow and other cities. In particular, it may need to develop special schemes to attract international design consultancies to establish 'Glasgow offices' as part of their worldwide service networks. These schemes, aiding inward investment on the part of design firms, could help raise the general quality of design performed in Glasgow.

3.2 GDA must stem the leakage of graduates

Higher Education Institutions (HEIs) in Glasgow produce a number of graduates with the potential to enhance the supply side of the design industry in the city. In most cases, however, *design graduates in Glasgow do not have the chance to develop careers in their chosen field – because of the limited positions available in the local supply side.* Consequently, *Glasgow suffers a heavy leakage of design graduates,* usually southwards.

Although its teaching is more steered toward engineering than design, Strathclyde University provides a useful illustration of this point. Take those students leaving the University with a postgraduate diploma in optoelectronics – a key 'fusion' technology, and one with considerable implications for design. Of the five optoelectronics graduates leaving Strathclyde University between 1990 and 1992, two were in temporary employment (wine store supervisor and barman), one was unemployed and two were not traced.

At the University, it is true, there is progress in mechanical engineering. There, 11 of 13 graduates gaining employment between 1991 and 1992 worked in Scottish firms, nine of them in Glaswegian companies. Nevertheless, *GDA needs to devise programmes which will enable Glasgow to retain a higher percentage of its graduates in design and design-related disciplines.*

3.1 The design industry in Glasgow: no grounds for complacency

The DCS estimates the Scottish design industry to have a turnover of £66m. DCS holds a database. The Henley Centre was not permitted access to Designer Selection Service, which has the DCS's database of registered design consultancies in Scotland; but we understand that there are 140 registered consultancies and a total of 270 designers on it – a figure which excludes advertising agencies, lecturers and student designers, who together bring the total for Scotland to 500.

Table 3.1 Database of consultancies held by DCS

Category	Number
Interior Design	12
Product Design	13
Fashion and textiles	13
Engineering Design	45
Graphic Design	83
TOTAL	140

DCS's category Engineering Design is one we have not used in this report, because engineering designers work much more in the sphere of machine-machine interactions (the traditional province, as we have noted, of the engineer) than in that of man-machine interactions.

The most recent survey of the design industry in Scotland, by DCS in October 1993, estimates that there are a total of 183 design companies, employing a total of 1,738 designers and ancillary staff. This survey found that there were 745 qualified designers in Scotland, with a cumulative total of 1602 years experience. A detailed breakdown follows.

Table 3.2 The design consultancy industry in Scotland

	All Companies	GISD	ED	PD	Engineering Design	TCFD
No. of firms (responding/ surveyed)	141/183	97/119	18/24	7/10	16/25	3/5
Turnover, £m	65.67	45.66	9.2	1.53	8.99	0.28
Jobs	1738	1097	229	54	341	17
Qualified Designers	745	480	98	31	128	8
Cumulative Years of Experience	1602	900	250	103	82	67

Source: DCS

From the table, it can be seen that

- each qualified designer in employment tends to support and be supported by another employee (usually in administration)
- average turnover per designer in GISD and PD is of the order of £100, 000
- Scotland is terribly undersupplied in PD.

According to DCS chief Frank Binnie, there are 300 'design organisations' in Scotland, of which 80 employ more than five staff. Six of these 80 are in PD and GISD, and they are mainly based in Edinburgh, Leith and Dunfermline. The number of PD suppliers working in consumer products is very thin, with only two large consultancies in Scotland. Little more than 12 product designers in Scotland work freelance for multinational corporations, mainly on product modification.

Altogether, *Scotland is no match at all for the extensive cluster of design suppliers located in London and the South East*. There Scotland and Glasgow face a formidable rival. Designers of every discipline in

3.3 Slow growth unless GDA steps in

Graduate leakage is not the only problem facing the design industry in Glasgow. We have argued earlier that both supply and demand surrounding GISD and ED are reasonable in Glasgow. On the other hand, the *need* and *potential* for PD among Glaswegian manufacturers is great; but both the supply of PD, and clear budgets for it on the demand side, are weak. Over the four design disciplines (including TCFD), however, the prospect for Glaswegian design could well be slow growth for years.

Prospects for growth in Glasgow's design industry are debatable because

- the international design industry has taken some hard knocks in the recession. It operates in a buyers' market, where considerable suspicion attaches to the 'designer' goods and services
- the Glasgow design sector has a relatively weak position within the industry, and has little strategic fit, as yet, with opportunities in continental Europe – still less the Far East.
- despite the resilience of Scotland in the recession, it operates in a British economy for which the Henley Centre forecasts only modest growth for some years to come.

Table 3.4 Forecasts for economic growth in leading Western economies

% growth in GDP year-on-year	1992	1993	1994	1995	1996	1997	1998
France	1.4	-1.3	1.0	2.6	2.9	3.0	3.5
Germany	1.1	-2.2	0.7	2.0	2.2	2.6	3.2
Italy	1.0	-0.3	1.7	2.1	2.2	2.5	2.9
Netherlands	1.5	-0.5	1.4	2.4	2.2	2.5	2.9
Spain	1.0	-0.7	0.8	1.9	2.6	3.0	3.2
UK	-0.4	1.8	2.3	2.4	2.5	2.8	2.3
Japan	1.5	0.2	2.6	2.9	3.0	3.2	3.2
US	2.6	3.3	3.0	2.7	2.8	2.9	3.1

Source: The Henley Centre

Even with the lattitude in demand for GISD which we have described, we do not expect the overall market for design to expand, of its own accord, faster than the general pace of UK growth. Demand for PD could atrophy still further, while that for TCFD faces an uncertain future if Far Eastern

textile manufacturers really do benefit from a positive dénouement to the GATT talks. Demand for ED is also down across the UK as a whole, as property markets remain in the doldrums.

The picture is not all bleak. Demand for product design in white goods, aerospace and in IT products is buoyant. In the latter two areas, Glasgow is relatively strong: the engineering design firm BAe/Sema, located at Atlantic Quay, enjoys a turnover of £20m, and the status and influence of design at nearby IT companies such as IBM and Hewlett Packard is, if anything, growing. Nevertheless, the positive counterpoint which BAe/Sema and design-conscious IT firms offer to the paucity of PD consultants in Glasgow is undermined by the fact that much of the design work of these companies is more related to engineering, defence, computer-aided applications and product modification than it is to consumer markets and NPD.

There is much virtue in designing capital goods. However, as was showed in Chart 3 on the world 'information industry' in 2001, the trend among IT manufacturers is to move as rapidly as possible toward *consumerising* their products. This is very evident in the realm of mobile phones, where Glasgow can again claim manufacturing expertise. Yet though this consumerisation (and, to a certain extent, universalisation) of IT is pregnant with increased demand for PD and GISD, as distinct from engineering, neither discipline in Glasgow is in much of position to capitalise upon that demand. And at a time when 'user-friendliness' is all in IT-based products, Glasgow's design industry has yet to create any convergence between product and graphic design.

In sum: *unless GDA steps in to help dynamise the supply side of the design industry in Glasgow (especially PD and GISD), the city faces the prospect of starting the new century without having leveraged, still less reinvented, its fine design heritage. If GDA does not step in, Glasgow may never have the wherewithal to use design either to help turn its small firms into medium enterprises, or to help turn its larger firms into world-class multinationals.*

A 'continue as before' policy with regard to the supply side of design in Glasgow would have a gloomy outcome. It could mean that

- Glasgow's trade balance in manufactures deteriorates. Real value is added exclusively in engineering/IT-based capital goods, rather than in sectors more aligned to mass market consumer goods

- As an arena for tourism and inward investment, Glasgow fails to assemble enough of a critical, visible mass of well-designed places and locally-delivered services to make itself attractive

- For inward investors, the attractions of Glasgow's labour force are more skewed to its low costs than they are to the higher-order design functions it can perform. As a result, Glasgow finds

itself competing with Far Eastern manufacturers on the dangerous ground of wages – and at a moment when these Far Eastern manufacturers themselves have begun to import and then develop for themselves an expertise in added-value design

- For indigenous inhabitants, failure to maintain basic design standards surrounding urban places and services adds to a wider loss of social cohesion. Included in these standards are the contribution design can make to sustainable development.

3.4 Disparate institutions, 'silent' status ?

While slow growth could all too easily afflict Glasgow's design professions, there is a further impediment to progress: the plurality of institutions responsible, in some way or other, for design in and around the city. Immediately involved are the following:

Table 3.5 Institutions which have an interest in design in Glasgow

GDA
DCS
Glasgow City Council
Strathclyde Regional Council
Scottish Design Ltd
Scottish Enterprise
Scottish Office
Strathclyde Passenger Transport Executive
Scotrail
BAA
Chartered Society of Designers
Glasgow School of Art
Glasgow University
Strathclyde University
College of Building and Printing
College of Commerce
Stow College

All of these instititutions do not make for effectiveness. What is more, by no means all of them can be said to be worthy practitioners of or specifiers of design. Even DCS is situated in some highly unimpressive offices. This points up a final aspect of the 'design industry' in Glasgow, even if it is one which the city shares with many others in the world.

In Glasgow's public sector, as well as in the city's manufacturing SMEs and privately-run services, a lot of design is going on, but without the conscious participation of people trained in the subject. Outside the consultancy sector and the large engineering or IT concerns, design in Glasgow is

largely an amateur activity. *'Silent design'* (see Appendix 4) *is the rule, not the exception, in Glasgow's private and public sectors.*

In the medium term, this situation is likely to change for the better. A generation of children who have had the option of secondary schooling in design will have grown up, and be far more acquainted with the basic tasks, vocabulary and IT dimensions of the discipline than those currently in post. But for the moment most people in Glasgow know and care little of design. At its best, it is still associated, in the public mind, with art, architecture or fashion.

The demand for and audibility of design in Glasgow has been adversely affected by the loss of major corporate HQs to London in recent years. Companies like ICI and Courtauld have departed, and with them a fair amount of jobbing work, at the very least, in design. It is true, by contrast, that some service organisations have tried to give a lead in design – the Clydesdale Bank is one example here. Food and drink manufacturers remain an important source of work, too, for Glaswegian graphic designers. Still, there are no grounds for complacency about the supply side of design in Glasgow.

3.5 The design industry in Glasgow – a critical appraisal

Strengths

Glasgow and Scotland have a strong reputation for the production of high quality goods, whether engineering products or whisky. The city has staged a major architectural revival in recent years, and has hosted two major international design conferences in 1993.

The metropolitan economy has a good seedcorn of manufacturing SMEs with ideas for and prototypes of new products. The city is also surrounded by subsidiary plants of multinational manufacturing companies, often with design functions on site.

The design industry in Glasgow has a cohort of young consultant graphic designers who are building an international reputation in their field. TCFD, ED, engineering-led and computer-aided design are also relatively well represented. With GDA's help, the design industry in Glasgow has also begun to mobilise through its new 'White Paper' publishing initiative.

Glasgow has an excellent bid in with which to win the Arts Council's '1999 – Year of Architecture and Design'. In the meantime, there is a four-year run-up programme of conferences on related issues of housing and planning – including, in 1998, an important focus on the question 'Is there a Glasgow style'? GDA also plans a week-long exhibition of international design, as part of its inaugural (1996) Festival of Design, a celebration which will be repeated every three years.

Glasgow School of Art (GSA), Mackintosh's greatest and most influential building, is home to important graduate courses in PD, GISD, TCFD and ED. In addition, the four universities – Caledonian, Glasgow, Paisley, and Strathclyde – have excellent reputations in engineering-related subjects. Together, GSA and Glasgow University also run a joint honours course in 'product design engineering'. GSA students in PD have also found placements at BAe, Howden Group, IBM and Weir Pumps.

The city has a group of strong and mutually co-operating public institutions – Strathclyde Regional Council, Glasgow City Council, Scottish Enterprise, etc – which, Henley interviews revealed, are sympathetic to design. There is a recognition among these instituitions that the city needs a coordinated design strategy. More importantly, personalities exist in each of these institutions with the drive and vision to 'make things happen' for design in the city.

Weaknesses

In manufacturing the city does not have a history of NPD in consumer goods. In the companies that do have good new products, there is often a lack of ambition to develop into export-orientated, multiproduct enterprises.

While the technological side of design is well established in Glasgow, there is a complete lack of centralised market intelligence in the city for local companies to access. Thus though product innovations are available, the means to turn these into working design briefs – especially for continental European markets – are not.

Until recently, DCS has not mobilised the indigenous design industry. Nor has it succeeded in bringing designers and manufacturers closer together with the city, or, indeed in bringing designers from different disciplines together.

With the exception of graphics, the design industry in Glasgow is relatively weak. The city has a scarcity of experienced product designers. There is no single place for designers to meet or to organise together.

In design the city lags behind Edinburgh, in spite of having a greater industrial base. Competition from other British cities is also hotting up:

- Edinburgh has already sponsored an annual 'Wealth and Design' competition and award
- In the North West, design consultants, design suppliers, BBC designers and British Council designers aim, through the Manchester Design Community to hold a series of exhibitions and seminars aimed at awakening client firms, educators, Manchester City Council and the public to design
- In Leeds, a similar group – the Leeds Design Chapter – has worked with the local authority on a number of major environments.

Throughout the Glasgow metropolitan economy there are a vast number of people undertaking 'silent design'. To a large extent these people are unaware of the contribution their design efforts could make to a more competitive and convivial city.

Limitations

While suppliers of PD and GISD in London and the South East have found international clients and, in the case of GISD, substantial British ones, suppliers of these two design services in Glasgow face a narrower and more local market.

Over a number of years, the manufacturing base of the Glasgow economy has been eroded, so that today only about 16 per cent of employment is in this sector. This decline, together with the loss of corporate HQs, has limited the entrepreneurial capacity of the city. Scottish and Glaswegian markets for consumer goods are also restricted.

Glasgow cannot expect to mount a broad-front challenge to competitors in design services from London (not to speak of rivals based in Milan or the USA). It can only hope to carve out a special niche for its services. That is yet another reason why it is essential to develop, based on the city's core sectoral and design competences, a modern and clearly differentiated Glasgow style in design.

Because of a lack of opportunities, there has been a demoralising leakage of design and design-related graduates from HEIs. There is a significant gap between graduation and having the experience to be registered on the DCS's register of consultants.

3.6 Potential for the next 10 years

By 2004, Glasgow

- overcomes its relative weaknesses on the supply side, makes its GISD disciplines still more modern, active and ambitious, and, through the creation of a stable, vibrant cluster of local PD suppliers serving local firms – as well as through the attraction of international PD consultancies in the form of their 'Glasgow offices – mounts a successful export offensive and a strong rearguard action against import penetration

- retains its strengths in engineering-orientated design functions, but complements these with practical expertise in PD in mass-market and consumer arenas

- becomes, despite growing competitive threats, Britain's leading city in the incorporation of design strategy into economic and urban development, and second only to London in the size of its design industry

- is seen by international city/region design centres to have an economic development agency which is an exempary force for local intervention in PD, based on the agency's

  market intelligence apparatus

  alerting of product designers to marketing trends ,

  participation in international research devoted to pushing out the practical boundaries of design and its management

- 'owns' a design vernacular based on the following sectoral and design core competences

  IT products

  branded fast-moving consumer goods

  public transport terminal design and travel information

  use of CAD and advanced materials/plastics

  use of cross-sectoral or 'fusion' technologies, eg optoelectronics

graphic, information and screen interface design

use – or avoidance – of Mackintoshian and nautical associations

resistance to adverse weather conditions

use of night-time lighting

sensitivity to future international trends in attitudes, economic circumstances and social behaviour

- has developed this design vernacular so that it is

  recognisable in all four design disciplines

  allows, in exported products, international audiences to discern that the city's wares are 'Clyde Built' even before they find this endorsement somewhere on the product

- has a constantly replenished stock of SMEs which

  'piggyback' on a sophisticated CAD-backed design culture extant in a ring of major plants around Glasgow

  function as preferred (because design-led and value-added) suppliers to these plants

  being expert in working out market-led design briefs, are very quick at NPD

  use design to develop multiproduct ranges of goods, and to generate significant export income

- has several major employers for whom design has been as essential a part of their rise to multinational status as it has been, say, for the Body Shop or for Virgin

- has public services, and in particular transport services, which give their private-sector counterparts a regular lead in place-centred ED initiatives, corporate communications, information design, the use of design to find 'painless' cost savings, turning employees engaged in silent design into audible creatives, etc.

3.7 Design education and training in Glasgow

Educational establishments in the Glasgow metropolitan economy run a wide range of design-related courses. However, many of these courses are only design 'related', and teach little in the way of design as we have defined it. Scots education, like English, often fails to link technology and engineering on the one hand with marketing and product/graphic design on the other.

During our discussions with key figures in Glasgow, this was a oft-quoted problem. Indeed the gap between engineering and design may be particularly acute in Scotland, not just because of the strength of Scots engineering, but also because of the strength of Scots Fine Art, crafts, textiles and fashion:

"There has long been a Scots dichotomy between engineering and art. This has meant that Scotland has had comparatively few product designers.
(Dugald Cameron, Director, Glasgow School of Art).

The scale of the problem is reinforced by the fact that, among students in Glasgow, design is still regarded more as a Fine Art-based *lifestyle* than as a training for real work in international markets.

There are clear reasons for this: we have already remarked how opportunities for real PD practice in Glasgow are slim. But the GSA/Glasgow University joint course, and linked as it is with local industry, shows the way forward. Even though there has been some leakage of graduates from this course, the early results are encouraging.

Table 3.6 First destination of product design engineering graduates from GSA

1991: Total graduates = 5
BAe, England
Wind farm engineer, Wales
Cabinetmaker, Scotland
IDEO product design consultancy, San Francisco

1992: Total graduates = 5
Postgraduate, Chicago, USA
Postgraduate, Sheffield, England
Postgraduate, destination unknown

Engineering company, Lanarkshire
Self-employed consultant, Scotland

1993: Total graduates = 8
TEFL, Japan
Travelling, Australia
Postgraduate, England
Postgraduate, England
Freelance, Scotland
Howdens, Glasgow
BAe, Ireland
2 unknown.
Source: Glasgow School of Art

We understand that GDA is already active around the redevelopment of the GSA building and the holding of a design competition in 1998 – the centenary of the first student admissions to GSA. In the light of the GSA experience, and despite GDA's limited remit in educational matters, GDA should also

- *more fully recognise GSA as a strategic educational and architectural resource for the city*, and help invest money in equipment, IT, visiting lecturers, multidisciplinary courses, international 'Mackintosh scholarships', etc – so that GSA moves into the top flight of international HEIs in design, not too far behind London's Royal College of Art.

- *work with Strathclyde University, Caledonian University, Paisley University, the College of Commerce, the College of Printing and Building and Cardonald College to supplement their honours courses in engineering and their technical training with an emphasis on markets, users and design.* Henley interviews with these institutions indicated a willingness to move in this direction.

- further *persuade these institutions also to develop post-experience courses in markets, users and design.* At present, Glasgow lacks any meaningful post-experience provision in design.

- in collaboration with the London Business School's Design Management Unit, *work with Strathclyde University Business School to introduce course options in design.*

There are two other areas which GDA needs to think about in education: Academic Spin-Outs (ASOs) and design teaching in secondary schools.

We saw in Section 1 that Scots ASOs are in need of market intelligence at pre-start and start-up phases in their lives. In fact the Scottish Enterprise study to which we referred shows that the same need exists in the 'maturity' phase of ASOs. Moreover, it suggests that the incidence of ASOs within Scotland's academically excellent HEIs has, over the past decade, only been equal to that in the rest of the UK. Thus *GDA needs to support local ASOs in matters of design and market intelligence, and in particular to see how more student designers and engineers can themselves be encouraged to form durable manufacturing enterprises.*

The table below shows the potential for success in places such as Glasgow and Strathclyde Universities:

Table 3.7 The incidence of academic spin-outs to new firm formation in Scotland

Institution	Total no. companies	Companies in 1992	Survival rate %
Univ. of Aberdeen	19	12	63
Univ. of Dundee	6	4	67
Univ. of Edinburgh	12	8	67
Univ. of Glasgow	7	5	71
Heriot Watt Univ.	13	10	77
Univ. of St Andrews	5	3	60
Univ. of Stirling	4	3	75
Univ. of S'clyde	12	6	50
Scottish College of Textiles	1	1	100
Napier Univ.	3	2	67
Caledonian Univ.	2	2	100
Total Scotland	84	56	67
Total UK	NA	300-350	NA

Source: PACEC Research

What, finally, of Glasgow's strengths and weaknesses in secondary design education ? At both Standard and Higher level, Scots secondary school students are able to pursue an option not just in Art and Design (which has a rather art bias), but also in Design and Technology, where the focus is on problem-solving in craft, technology, and graphic communications.

The tasks for GDA here are limited. It can only hope that

- Strathclyde Regional Council will go on improving and popularising the Design and Technology option

- Scottish Design will build upon DCS's relatively successful initiatives in secondary education – its mobile exhibitions, Scottish Schools Design Awards, etc.

3.8 European and international design

GDA needs to be aware of the degree of collaboration within the international design world, and, more importantly, how this is contributing to the diffusion of best practice in design among a number of Glasgow's international competitors. The Design Management Institute in Boston, USA is a prime example of this diffusion of ideas. The DMI holds conferences, conducts research, publishes a journal and develops case studies on the role of design in business success. Also from Boston, the Design Management Foundation has established a strong record in getting design courses off the ground in American business schools. *GDA needs to ensure that clients, designers, educators and GDA specialists follow the discussions of these two bodies closely.*

Nearer home, four Danish ministers – industry, culture, housing and tourism – have introduced a common national design policy: to give a stronger position to Danish product development, promote good design through the public sector; improve building design, etc. *The Danish Design Centre's programme of intervention in product design deserves a special study by GDA,* even if the Centre's director, Jens Bernsen, is already a visiting professor at Napier University. Some of the best points of that programme have been incorporated into section 10 of this report.

The Swedish Industrial Design Foundation has a team of just eight people. It consults mainly with SMEs to improve the design of their products and manufacturing processes. It *lets SMEs know that if they to do not aim to export their products, there are companies in other countries aiming to send their goods into Sweden.*

Jon Thackara's three-employee Netherlands Design Institute, Amsterdam, is rapidly winning for itself a reputation as the research-orientated model, in microcosm, for the future Design Council. For GDA it provides a worthy and well-known collaborator; *GDA should be prepared to send representatives to join in one of NDI's research consortia.* This would provide leading-edge insights into the future of the man-machine interface, design innovation in SMEs, etc.

The International Design Centre, Nagoya is familiar with Glasgow. Here, in Taiwan and in other Far Eastern design centres, Glasgow might be able to field mentors who at the same time are able to bring back market intelligence. On the other hand, student and faculty exchanges with well-connected design schools such as Art Centre, Europe (near Lausanne, Switzerland) might prove a useful counterweight to the domination of international design education by London's Royal College of Art. Finally GDA has already met, and Henley has won an offer of collaboration with, the Doblin Group of design planners, based in Chicago.

Appendix 5 includes names, addresses and contact numbers for a number of city-based international design institutions. Yet while these are worth GDA visiting, GDA should try to combine its own visits to them with trips to the same locations by Glaswegian manufacturers. Here, *GDA's purpose should be to get local firms to those international trade fairs which have a strong design theme.* Such fairs are held, annually or every other year, in the following cities and on the following subjects:

Hannover	Office equipment, 'Gute Industrie Form' exhibition of PD prizewinning companies and products
Milan	Contract furniture, lighting, office equipment
Utrecht	Signs
Kortrijk	
Koln	Contract furniture
Chicago	

3.9 Recommendations

(11) Working in collaboration with HEIs, GDA *must offer a variety of strong incentives for graduates in PD to stay in the city and in the profession they chose to train in.* Such incentives could include

- incentives to 10 international design firms for GDA to set up 'Glasgow offices' for the conduct of high-quality, IT-linked PD and GISD
- a *graduate entry scheme* – financial support to those employers willing to may most of the salaries of new graduates in design or design-related subjects. Here 'employers' includes SMEs, multinationals, the public sector, and PD and other design consultancies. A review of the entrants progress at the end of a preliminary year would provide GDA with valuable information on the state of design culture among Glaswegian employers
- lively *post-experience and postgraduate courses* in design – finance for employers to allow design graduates to attend seminars and perform project work which can broaden and deepen their understanding of the subject. Here, much would be gained by week-long seminars held by visiting international designers.

(12) GDA should *help create a growth in demand for design* which, though it can be met, at the same time steers the PD supply side toward:

- consumerisation of 'capital goods'
- market intelligence and future market analysis
- exploitation of cross-sectoral 'fusion' technologies.

(13) GDA should *identify those fledgling multinationals, at the upper end or past the 200-employee mark, which are most likely to benefit from and exemplify good design, and give them special support in it.*

(14) GDA could simplify the maze of institutions interested in the design by *establishing an attractive and singular Design Venue – one which clients, designers, students and end-users of design actively want to come to, so that they can meet and learn from each other.*

(15) GDA should *organise PD and GISD analogues of the 1998 architectural debate 'Is there a Glasgow style?'*, commissioning a number of papers to clarify the nature of a local vernacular. At the same time, it should *set in motion a scheme through which local companies are selected to receive financial assistance if their products deserve, in the eyes of GDA and independent advisers on design, to carry the legend 'Clyde Built'.*

(16) GDA should *encourage public sector institutions to embark on detailed audits of their design output* (beginning with graphic design), so as to discover

- where formal power in design decisions is located
- where informal power is located
- *where the real opportunities are for intelligent, value-for-money specification of design.*

(17) GDA should, *using GSA as a hub, help update, professionalise and upgrade the status of design teaching at this and other HEIs, and at FE institutions and Strathclyde University Business School*

(18) With HEIs and schools, GDA should, respectively,

- supply finance to *assist ASOs in the acquisition of design knowledge and market intelligence* and to *facilitate the establishment of design-led start-up manufacturing companies*
- *encourage Strathclyde Regional Council and Scottish Design to ensure high-quality and popular secondary education in design*

(19) With carefully selected methods and being very clear, in every liaison, about what it expects to give and what it can expect to receive, *GDA should collaborate with overseas design agencies, so as to make sure that Glasgow can learn from best overseas practice in design.*

(20) GDA should *organise field trips by local company managers to those international trade fairs which are likely to be instructive from a design point of view.*

Section 4: Public provision for design, past and present

4.1 Institutions involved in promoting design in Glasgow

DCS

The DCS is arguably the most significant design institution in the Glasgow metropolitan area. It has a turnover of £1m. Its 20 staff have contracts with eight LECs (to help the LECs' industrial clients), plus contracts with a further 47 companies on its own roster. DCS performs the following activities:

- *Technology Transfer*: the principal mechanism used here is the Design Advisory Scheme.

- *Research into design and design management techniques* to facilitate this process, DCS intends, as mentioned in Section I,to establish an integrated product design centre; it also runs, as we have seen, a Technology Group on CAED.

- Designer Selection Service *database of industrial companies and designers in Scotland*. This is linked to the Design Council's central database. The DCS also catalogues research projects, and general design projects performed in Scotland.

- *Education*: The DCS has a two main aims in this field: to be creative and to promote design in society. It does this through links with schools, in collaboration with Strathclyde education authorities. It also has responsibilities for training. Here, working with the Chartered Society of Designers, it organises seminars for local companies

- *Briefing local institutions on design matters*: the Council has provided information for a range of institutions in Scotland including Scottish Industry Department, Scottish Enterprise, Local Enterprise Companies, and local authorities. It provides information for in-house designers, and in particular to those salaried product designers who work at plants run by inward investors. DCS also provides limited analysis to those financial institutions which have funds for intervening in markets and backing investments.

- *Campaigning and propaganda*: the DCS encourages industry to design better products. In particular, it promotes the idea that well designed products advertise themselves.

DCs enjoys dynamic leadership in the shape of its director Frank Binnie. However, it has not been quite as aggressive, public or as universal in its messages to industry as it needs to be in the 1990s.

The interpretation of design at DCS is very much rooted in engineering and TQM. Moreover, it is not certain that DCS has recorded any more success with the Funded Consultancy Scheme (FCS) than has the Design Council as a whole.

Funding SMEs to hire design consultants is a device GDA should not pick up

In a separate Henley report to GDA, *Lessons of the DTI's Funded Consultancy Scheme and Support For Design programme*, we described FCS/SFD as 'an expensive way of giving SMEs more commitment, but still not a strategic one, to design'. This harsh judgement, based on the research of Roy and Potter, reflects the fact that though half the companies participating in FCS/SFD in the 1980s did increase their use of professional design, a mere eight per cent re-used the consultant designer assigned to them. Moreover the 'harder' the bias of FCS/SFD projects toward manufacturing, the riskier they were, with 44 per cent of engineering/capital goods projects never implemented, and 57 per cent of those which were implemented turning out to be unprofitable (figures for PD in consumer goods were 27 and 43 per cent respectively). Finally, in terms of state support, FCS/SFD projects cost quite a lot of money: the total cost for going through just to a 'Go/No Go' decision in engineering was £10,000, and the average cost of subsequent Design Council investment was £50,000 – not regarded as enough by SMEs, but still a fair sum.

Success in FCS/SFD projects relied upon the client preparing a clear brief, including a precise specification of

- Target market
- Customer requirements
- Distribution strategy
- Pricing strategy

Success also depended on the client regularly monitoring the consultant's interpretation of the brief; and, especially among clients with fewer than 50 employees, on the design consultant having commercial and technical viability foremost in mind.

Given all the conditions we have described of Glasgow and Scotland, Roy and Potter strike a sobering note in their evidence on the centrality of market intelligence to SMEs and of commercial/technical realism to designers. We have seen that Glasgow is not in a specially good position to see its SMEs develop clear design briefs for worldly PD consultants to work on, paid for by DCS, for 15 days – which is what FCS/SFD allows. It may, then, be no accident that, according to figures sup-

plied by the DTI to Henley, DCS spent no less than £2.4m on outstanding FCS projects between 1992 and 1993, but saw no more than nine completed. At the same time, as we have mentioned, turnover of the DCS itself was all of £1m.

Glasgow City Council

The role of Glasgow City Council in promoting design is as follows:

- *Local Economic Development*: the Council has tried to raise the level of design in companies. It believes that companies can increase the quality of products through this mechanism. At present, however, the economic development office of the city has only just recognised this fact. As yet, it does not have a programme of intervention, although it has targeted the changing of companies' culture as the most important task.

- *Design and Architecture*: the Council has the responsibility, through its planning and architecture departments, of enhancing the street-level design of the city. It does this through its everyday planning decisions, and through events such as City of Design and Architecture.

Our discussions with the City Council suggest that it will be a willing collaborator with GDA in engendering a better climate for design in Glaswegian companies. The fact that the City has not, as yet, implemented any programmes in the field of local economic development offers it the opportunity to co-ordinate its efforts with GDA more closely.

Strathclyde Regional Council

Strathclyde Regional Council acknowledges the critical importance of design in the following areas:

- *Politics*: the Council has an explicit political objective to use design to enhance the lives of all Glaswegian citizens.

- *Engineering and architecture*: the Council has a number of in-house departments that are involved in the design related activities: engineering, architecture, planning and cultural departments. The Council has a policy to increase the design content in these areas.

- *Education*: this is the main arena in which Strathclyde promotes design in the Glasgow area. It has now introduced a design component into at least four Standard grade courses in its schools. The Council has also collaborated closely with DCS in secondary schools. It would like to extend this role.

- *Business development*: this department of the Council has 58 staff and a budget of £11.5m to support companies in niche markets. This budget, of course, stretches beyond the Glasgow metropolitan economy. The majority of the money in spent on training grants and on new technology investment, in part to enhance the design capabilities of companies.

Scottish Enterprise

The activities of Scottish Enterprise touch on design-related matters in many ways. Possibly the most important is SE's Manufacturing Services Group. This has two principal roles:

- *Research*: the Group undertakes research to identify the key trends affecting research, design and development (RD&D) within Scottish manufacturing industry. At the present time it has a person in Germany looking at RD&D in German companies, and identifying market opportunities for Scottish firms.

- *Strategies*: the Group devises strategies to change the culture of RD&D within Scottish companies. It is also involved in the working with inward investors to increase local suppliers and increase the amount of value-added components supplied locally.

MSG is a key resource for GDA. It has an unrivalled knowledge of trends in SMEs in manufacturing in the economy and can provide useful information on the drivers of change.

4.2 What role for GDA as a design 'provider'?

Given the role played by other institutions in the provision of design in the Glasgow metropolitan economy that, our two track strategy for GDA on the demand side retains its relevance. In addition, however, the weaknesses which we have identified on the supply side need to be addressed.

Demand side, product/service-centred

In discussing the *direct delivery of PD-related support services* to private manufacturing industry, we have not meant to indict the work of DCS, whose energies and experience definitely need preserving. What we have argued, rather, is that subsidies of firms to take on product designers for short periods of time is a device singularly inappropriate to Scotland. What comes out of the old Design Council experience is the following:

(21) GDA should support Scottish Design Ltd as far as possible, while:

- ensuring that a new focus on markets and users balances the existing focus on engineering and CAD
- nurturing the DCS's databases, together with its recently acquired collection of some 5000 books and up-to-date journals.

(22) Uniquely, GDA must develop for itself the kind of design-related services to Glaswegian firms which lead to a *sustained, strategic commitment* to design. This

- means *services which firms want to avail themselves of because they can see the immediate benefit of so doing*
- does *not* mean hectoring firms about the poor quality of their design
- does mean arranging for *designers to be seconded to selected firms for periods of a year or more,* again (as we suggested in our related proposal for a graduate entry scheme) with appraisal of the experience by GDA. It is the longer-term commitment to design that will do most to secure that 'change in culture' which the City Council and SE's MSG so want to see.

- Unlike FCS/SFD practice, *GDA should choose to support firms which,* in the first instance, *can be identified by two or more of the following four distinct 'filters':*

(i) their ability to make *complete products for buisness/consumer users*, rather than just components which are more or less invisibly incorporated into other products

(ii) their *current and likely contribution to exports*

(ii)i their *ability to straddle more than one traditional sector, or incorporate – in product or process – 'fusion' technologies*

(iv) *in the case of SMEs, heads whose managerial track-record, vision and contacts suggest that they could 'go places' with design.* Evidence from the SBRT suggests that *'40-something' graduates with proven networking abilities are the heads of SMEs most likely to succeed.*

We see no conflict between GDA and the City Council over the delivery of PD-related services. GDA holds the initiative here.

Emerging from our discussions with Strathclyde Regional Council's business development department was its willingness to collaborate with bodies such as GDA to identify those companies requiring design support. We suggest, therefore, that the division of labour, and unique GDA value-added, should be as follows:

(23) While the Regional Council's business development team should continue to take an interest in the relationship between design and process technologies, *GDA should offer firms expertise in product technologies and, even more, on market-driven product design*

Scottish Enterprise's MSG, like research conducted by Scottish Design, should be something which GDA does not try to emulate, but rather benefits from.

Demand side, place-centred

With regard to working with GCC, SRC and SE to help improve Glasgow city as a place, we see no problem with the suggestions we have already made, in the public sector arena, for an audit of graphic design output and for the quick and visible organisation of place-centred design events. However, collaboration with the architecture and planning department of GCC on the specification of good PD, GISD and ED standards on Glasgow's streets will be a more delicate matter. We therefore recommend that

(24) GDA should *form a small, high-level joint unit with Glasgow City Council, to conduct a confident but wide-ranging review of the PD, GISD and ED dimensions of the city's streetscape.*

Supply side

(25) GDA should *sponsor market-orientated additions to the DCS's 5000 books and journals so as to help found a European Library of Design, complete with telecommunications links to overseas design agencies and their databases.*

Section 5: Strategies for GDA

5.1 Design activity for GDA

Demand side, product/service-centred

In general, the GDA message about design should be framed in terms of NPD, so as to get out to the vast majority of manufacturers who are 'unconverted' to the cause of design and who in general associate design more with art than with competitive edge. This understood, *GDA should, at the site of the Design Venue, install an NPD Unit which, supervised by remote IT links to Atrium Court and linked in a similar way to Atlantic Quay and a rehoused DCS, should implement Recommendations (1) – (25).* From 'top down', this unit would in addition:

- work with SE and in particular MSG existing research on how, in a restructuring Europe, not just to retain multinational plants but to add higher-order design functions to them
- build a central market intelligence resource for local manufacturing and service firms, with the accent on export market intelligence
- commission, with DCS, such specialised pieces of future market analysis as may be relevant to particular NPD projects
- be responsible for relationships with banks, etc (see section 11 below)

From 'bottom up', the Unit would first select SMEs according to the criteria we have treated (in terms of size, orientation to multiproduct export markets, 'fledgling' multinational potential, cross-sectoral /'fusion' position). Then it would make field visits to and follow-up contact with selected SMEs according to the Danish Design Council model:

- first, arrange to be sent a comprehensive sample of the company's literature
- visit for a one- or two-hour discussion with the MD, to take place for free. Allow the client to talk about his/her circumstances for the first 15 minutes. In this way, avoid preaching and instead *allow the client to identify NPD and design problems*
- return to base, and prepare, again for free, written proposals and presentations on
  - detailed design audits, if the firm is primitive in design

- briefs for particular NPD projects
- design strategies if the firm is more mature in its use of design
- what deliverables the SME might expect from three design consultancies selected by the NPD Unit using DCS databases.

After all this, the NPD Unit should leave the company to its own devices, telephoning after three months to see what experience it has had with consultant designers. However, it might be that the Unit would instead recommend year-or-more secondments of the sort we have recommended; or, indeed, it might be that the Unit would go on to

- *take equity stakes* of up to five per cent in those companies which it felt were far and away the most likely to succeed. Such stakes would
  - secure the relationship between the two parties
  - enable GDA to have an input in the direction of the company
  - make it easier for these companies to leverage private sector capital.

Finally, the Unit should

- organise SMEs to learn about design through *visits*, not just – as recommended – to local IT multinationals around CAD or to overseas trade fairs with a design angle, but *to UK and foreign manufacturers expert in design, their distributors and their design studios, whether internal or contracted out*. Visits to regions strong in SMEs and in design, such as Baden Wurtenburg, Rhone-Alpes, Catalonia and Lombardia, would be especially useful.
- *hold seminars, backed by selective advertising and direct marketing campaigns, around the theme of Stars of NPD*. Invite Ivor Tiefenbrun (Linn Products), and Dan Wright (Albion Automotive) as the first two Stars. Again the idea here is that it is not 'the government' which advises, but successful companies
- work with LECs other than GDA, and sell its services to LEEL, Grampian Enterprise, etc.
- investigate, in conjunction with the Trust for Senior Studies at Strathclyde University, the *possibilities around the long-term, strategic niche of 'NPD for older people'*, seeking out SMEs able to manufacture items such as:

Bigger taps, buttons, handles, knobs, locks and chains
Rationalised plugs, switches and fuse systems
Heat-retaining non-slip tableware and furniture
High-mobility supermarket trolleys and wheelchairs
Low, heat-retaining private/public furniture
Chairs with good head and lumbar support
Domestic furniture for storage
Soundproofing materials
Showers (more negotiable than baths)
Lifts (more negotiable than stairs)
Smaller, safer kitchen appliances
Home control, automation and protection
Health care, personal care and hygiene products
DIY, gardening, pets, arts/crafts, music and travel products
Large-type publishing
Cladding, insulating and damp-proofing building products
Heating appliances.

Demand side, place-centred

By contrast with its impressive inner-city architecture, the overall 'micro-infrastructure' – lighting, signage, shelter – of Glasgow is mediocre. Orientation and overall sense of place are not exceptional: there is, for instance, little guide to when the city begins and ends. There is a need to move the city into a situation where, from shopping neighbourhoods through street walls down to house entrances, it is possible to discern a nesting series of visual and tactile patterns, each of which is memorable and speaks of a larger, coherent city and conurbation.

To equip the city with a well-designed micro-infrastructure is to foster a programme of intelligent pedestrianisation and the encouragement of social intercourse. We have already contended that GDA should form a joint high-level review team with the City Council. On the agenda of that team should be *the holding of well-funded, well marketed major international competitions – open to designers and students of design in Glasgow, Scotland, the UK and overseas – to develop the following artefacts:*

Decorative ironwork
Bollards
Roadmarkings

Kerbstones
Benches
Litter and grit bins
Flags, banners
Multi-lingual/symbol-based signage
Map displays (including IT-based displays)
Safe play equipment
Shelters to dart between
Covered arcades to loiter in
Awnings to stand under
Wind trap eliminators
Warm, clean and vandal-proof phone boxes.

These artefacts to be designed in the light of

- *the Glasgow Festival of Design 1996*
- *the 1998 debates on 'Is there a Glasgow style ?'*
- *the city's bid for the Arts Council's 1999 City of Architecture and Design title*
- *the ability of local , Glaswegian manufacturers to make them.*

A second place-centred initiative needs to be taken by GDA around public transport. *GDA should work together with, and help fund, transport operators on two major projects of great significance to the design of Glasgow as a place for tourists and inward investors to flock to:*

- 'Airportising', through PD and ED, the quality of major rail, bus and taxi terminals in the city:

Seating
Lighting
Finishes
Monitors
Ticketbuying facilities
Telecomms enquiries/bookings
General business services

Retailing

Leisure

Emergency services.

- Reorganising, through GISD and PD, the complete information systems surrounding rail, bus and taxi transport in the city:

Maps and timetables

Stations, stops and ranks

Real-time Passenger Information Systems

Vehicle liveries and in-vehicle information.

The third place-centred initiative we have in mind for GDA relates to public/private partnerships around particular events. Naturally, the competitions which we have just called for should be treated as major participative events. We should also register that competitions may well make sense for the transport projects we have recommended. However the events we want to suggest go further than these, and further, too, than the other events which we have already touched on. No, we would like to suggest, in accordance with our Recommendation that GDA strengthen its influence in and around GSA, that *GDA should build on the Mackintosh exhibition it already has planned for 1996, by establishing a whole series of events linked to Mackintosh anniversaries and themes*:

Mackintosh Anniversaries

GSA completion 1897

Buchanan St tearooms 1897-8

Argyle St tearooms 1897-1905

Ingram St tearooms 1901-11

Mackintosh Themes

Integration of PD, ED and Graphic Design in one man

Rationalism

Use of materials

These events – lectures, debates, product demonstrations, hands-on exhibitions, design tournaments – should be given maximum media coverage; the monthly Glasgow edition of the Late Show might be possible, and BBC Scotland's John Archer is also likely to give sensible proposals a friendly reception.

Supply side

It is true that the best way to build a design infrastructure for Glasgow is first to create a market, among manufacturers, for design services. Yet *a modest supply-side programme to aid the design 'sector' makes sense for a city like Glasgow.* On top of GDA's 'White Paper' initiative with Glaswegian designers, there is a need for the city to give further public recognition to design and more confidence to its local design community.

This is a matter of providing a workable, articulated milieu for design as much as it is of providing services to manufacturing. In other words, GDA's role as a promoter of design is likely to, and indeed should, differ from DCS's, insofar as cities in general and Glasgow in particular are special *places* for designers, and for design as a 'cultural industry'.

We have argued that the NPD Unit's premises should be held in common with the Design Venue we have called for as a means of breaking down barriers between clients, designers and design students. We would just like to add here that, wherever these premises are found, *GDA's Design Venue should*

- be in a part of the city which is either already picturesque, or can be quickly redesigned for the better
- *be made fully available to designers, not just as a place to meet, but as a place where they, like SMEs in general, can expect to receive, under the auspices of the GDA, financial advice, market intelligence and training support.*

5.2 Financing a design strategy for GDA

'Ball-park' budget allocation and staffing figures

Here we take first our main focus 'Design activity for GDA' (Section 5.1). Then we revisit our earlier Recommendations. Per annum figures here do not imply that all items of expenditure are incurred in every year. Broadly, the staffing levels mentioned are enough to take on year-to-year tasks. Note that, as we hinted earlier in our discussion of FCS/SFD, the real total cost of designing and launching a new product in an SME is of the order of £100,000.

	Budget (£k)	**Staffing**
Design activity for GDA		
Design Venue, IT, locality	1000 to start + pa	
NPD Unit	250 pa	6 specialists, 3 admin
Market intelligence	150 pa	
Market analysis	100 pa	
Atrium Ct supervision	50 pa	1 senior manager, 1 admin
GDA international orientation	25 pa	
Equity stakes	1000 pa	
SME local/UK/EC visits	100 pa	
Stars of NPD	25 pa	
NPD for older people	25 one-off	
Street artefact competitions	1000 pa	1 organiser, 1 admin
Transport ED/GISD	1000 pa	1 coordinator
Mackintosh anniversaries	100 pa	
1-stop shop info to designers	50 pa	
Total (rounded)	**£5m pa, £1m one-off**	**10 senior, 5 junior**
Recommendations (10) – (25)		
(7) GISD/Atlantic Quay	50	
(8) CAD for SMEs		
DCS PD centre, CAED Gp		
SU Materials Centre	40 pa in total	

(9) CAD in TCFD, SMEs	
ED animations	25 pa in total
(11) Inward investor incentives	£500,000 one off
Graduate entry	50 pa
Post-experience and PG	50 pa
(15) Vernacular debate	15 pa
'Made in Glasgow' prizes	35 pa
(16) Public sector GISD audit	30 one-off
(17) GSA investment	25 pa
(18) ASO assistance	50 pa
Secondary education	10 pa
(22) 1yr/2yr secondments	150 pa
(25) European Library	10 pa
Total (rounded)	**£500,000 + £0.5m one-off**
Grand Total	**£5.5m pa, £1.5m to start**

Sources of funds

There are two primary sources of funding the design activities of GDA:

- direct support from the European Commission, because of Glasgow's Objective 2 status within the European Union
- indirect support for SMEs through arrangements with local financial institutions.

European Commission Regional and Technology Funds

Table 5.1 below shows the possible funding categories that GDA could tap for the programmes we have recommended.

Table 5.1 EU Structural funds in the UK, in millions of Ecu

Measure	Fund spend, UK	Brussels Contribution
Encouraging SMEs	8.88	3.70
Enhancing SME expansion	8.88	3.70
Promoting R&D activity	2.35	0.93
Education and training	2.18	0.41+0.51 (ESF)
Doubling SPUR	60.31	6.94
Total	**82.31**	**16.19**

Source: CEC

There are significant resources, which, even when scaled down to apply to Glasgow alone, fit well with our recommended programmes for GDA. In addition, the European Commission is currently developing initiatives to encourage technology transfers in the less-favoured regions. This will be deliverable through a Regional Technology Plan, which will integrate indigenous research and technical development (RTD) capabilities with regional socio-economic objectives: we have already communicated to GDA the possbility of funding under this initiative. The Plan initiative could provide a significant source of funding with which GDA could marry together its programmes on technology with those on design.

Local finance for local SMEs

After preliminary discussions, Henley Centre would like to report an offer made to GDA on the part of the Clydesdale Bank.

The Clydesdale would be willing to receive an approach from GDA on developing a working relationship in the matter of financing SMEs. The bank makes the point that GDA could advise SMEs on the drafting of their business plans, since according to a senior manager at the bank:

'the majority of applications for loans are turned down on the basis of poor business plans that have far too optimistic scenarios for revenue growth.'

The Clydesdale, for its part, would provide capital to GDA-aided SMEs with business plans which

- are short and concise, with appendices containing greater detail.
- reduce risk as much as possible.
- indicate how GDA has aided the SME in its NPD process, and the potential benefits of the new products developed.

This Clydesdale offer gives GDA the chance to ensure that the SMEs it selects on the grounds of their NPD potential can also gain better access to private-sector capital. On the other hand, *by using the Clydesdale as a template, GDA can hope to spread among other financial institutions a consciousness of what NPD is all about and a sympathy toward it.* This is all the more necessary, given SBRT evidence that SMEs in northern Britain and Scotland are more critical than even southern SMEs of the banks' ignorance of their industries and markets.

5.3 The two key priorities for GDA

These can be briefly stated. They are

Priority 1: Working for long-term competitiveness through product design

Under the banner of NPD,

to listen to, advise and financially assist medium enterprises, so they

learn for themselves

from local multinationals and overseas design practitioners alike,

how to design multi-product export ranges –

ranges which firms/consumers want, need, and at once realise are 'Made in Glasgow'.

Priority 2: Making immediate, visible and meaningful moves to establish Glasgow as an attractive 'design city'

Under the banner of enlightened public support and partnership with the private sector,

hold big, media-worthy competitions and public debates,

show commitment to designers and design education, and

tangibly improve Glasgow's street/transport fabric –

improve it with the help of local designers, local end-users and local manufacturers.

5.4 A three year programme for GDA: order of priorities

Year 1 (1994)

Programmes:

1 Research and select of target SMEs

2 Establish one-stop shop, NPD Unit, GISD/Atlantic Quay initiative

3 Identify issues, start collaboration, announce competitions on key streetscape/transport design regeneration projects

4 Aid selected companies and ASOs in preparation of business plans for commercial funding

5 Establish clear working relationship with DCS, DCS PD centre, DCS CAED Group; act with DCS on CAD for TCFD

6 Conclude working arrangements with Clydesdale Bank to support design-conscious SMEs

7 Support CAD for SMEs, SU Materials Centre, research into NPD for older people

8 Plan 'Made in Glasgow' scheme

9 Perform public sector design audit

10 Refurbish GSA; announce 1yr/2yr SME secondments, graduate entry, post-experience and PG schemes; secure, with DCS, site and plan for European Library of Design

Results:

- Set in motion a cultural change within industry in the Glasgow metropolitan economy, both in terms of manufacturing and the design industry.

- Begin to crystallise cohort of SMEs which meet GDA criteria for showing dramatic growth through NPD.

- Lay foundations for strength in and mutual reinforcement of both supply and demand sides of design in Glasgow.

Year 2 (1995)

Programmes:

1 NPD Unit consultancy, market intelligence/analysis, information for designers

2 Negotiate equity stakes, implement working arrangements with Clydesdale Bank

3 Publicise Stars of Design to SMEs, explore NPD for older people opportunities

4 Visit inward investor plants, design-orientated trade fairs, EU regions, Doblin Group

5 Second designers and graduate entrants, start post-experience and PG courses

6 Announce competition results, commission ED animations around them; announce transport ED/GISD initiatives

7 Collaborate with public sector institutions to act upon design audit

8 Continue refurbishing GSA; begin GSA course development

9 Announce and solicit entries for 'Made in Glasgow' scheme

Results:

- See new product prototypes produced by companies, gain an idea of potential revenue generation of these products in particular export markets.

- Test equity stake arrangements
- Ensure that companies have seconded or recently graduated designers to aid the refinement and development of products beyond the initial stage.
- Develop a media profile of Glasgow as a city which is trying to do good things in design.

Year 3 (1996) – Glasgow Festival of Design

Programmes:

1 Consolidate and report publicly on NPD efforts in Years 1 and 2. Sift out likely SME failures, work with SE's MSG in Germany to identify market niches

2 In collaboration with the relevant bodies, implement results of competition and transport ED/GISD initiatives

3 Plan coherent export offensive from Glasgow's SMEs.

4 Appraise results of secondments, graduate entry

5 Plan Mackintosh anniversaries

6 Commission papers for Vernacular debate

7 Hold 'International designer in residence' week for local designers to attend

8 Start serious collaboration with other international centres of design.

Results:

- Win significant increases in the revenue generation, profitability and overall international competitiveness of supported firms.
- Create, in embryo, a 'niche world-class design infrastructure'.
- Prepare 1999 City of Architecture and Design programme.

5.5 Performance measures

In recommending performance measures to GDA, our emphasis is on identifying the immediate impacts of the recommended programmes in PD. This is to ensure that GDA can identify the economic benefits of the capital spent on each project – benefits measured in terms of employment, commercial results and supply-side expansion.

Measure (1): employment

Direct employment in selected companies: We suggest that a measure of direct employment within the companies supported by GDA would give a general indication of the impact on the Glasgow metropolitan economy. Direct employment is the best measure of the benefits accruing from GDA intervention.

Year 1 Milestone: An increase, across those industries supported of 20 per cent in direct employment. If, for example, GDA were to support 10 firms with an average workforce of 50-100 people, such an increase would create 100-200 jobs.

Indirect employment in the Glasgow metropolitan economy. This measure provides an indication of spin-offs from the growth of the supported companies. It is a gauge of employment generated by the spending from the new jobs created.

Milestone: The generation of income by the extra employment created by GDA-selected companies so as to generate 85 jobs – that is, £1.25m. This assumes an average wage of £15,000, and that two-thirds of income generated is spent in the local economy.

Induced employment in the Glasgow metropolitan economy. This measure is the amount of additional spending made in the local economy by companies supported by GDA. Such spending would be made on extra supplies purchased in the local economy. The more self-sustaining the design infrastructure of Glasgow becomes, the fewer leakages will occur outside the local economy.

Milestone: An appropriate employment milestone would be 50 jobs. This would mean that local companies supported by GDA would make an additional spend (on services and supplies) in the local economy of £750,000. We believe this is an apropriate and achievable milestone.

In total, we estimate that 250-300 new jobs could be directly created in the Glasgow metropolitan economy.

Measure (2): commercial results

Increase in profits: A key indicator of the way in which a company is performing is its profitability. We would expect that within two years that the companies GDA supports show be making substantial paybacks.

Milestone: 15 per cent returns on investment.

Increase in revenues: In the first two years of support by GDA, profits will not show a clear indication of the contribution from any changes. Hence we believe it is important to also gauge the flow of revenues into the companies supported.

Milestone: 10 per cent increase in revenue.

The capitalisation of a company: is a key measurement in assessing the future potential for that company and its products and services.

Milestone: A five per cent increase after three years on the balance sheet of a supported company would place it in a strong position for the future.

Rate of return per unit of production: We believe that there should be a significant increase in this indicator due to an inprovement in the design process.

Milestone: 20 per cent increase in the rate of return per unit of production.

Together, these indicators will enable GDA to both gauge the success of its programmes, and continually to monitor and evaluate them.

The volume of exports: One of the central purposes of GDA supporting SMEs is to improve competitiveness, and in turn, the international compeitiveness of indigenous companies. Thus it is important to gauge the changes in the trade flow of goods from the selected companies, once GDA's programme have been implemented.

Milestone: An increase of five per cent in exports within each sector supported.

Measure (3): The size of the design industry

The number of designers in PD, GISD, TEFD and ED. This indicator will provide a broad measure of growth of the supply-side.

Milestone: Total number of CSD-registered designers to reach 100, an increase of almost 20 per cent. It is specially important that the number of product designers grows significantly: we suggest a realistic milestone would be 10 practicing product designers by Year 2.

The total number of design companies. The growth of the supply-side could also be gauged by the growth in the number of design companies in Glasgow.

Milestone: An increase of five per cent in the number of design companies.

International recognition of the Glasgow design industry: GDA must take a qualitative measure of the development of its design industry. Often the critics' choice of what is good design – or, for that matter, *who* is producing good design – can have a fundamental bearing. Hence it is important that GDA adopts a measure of the 'standing' of the Glasgow design industry in the international arena.

Milestone: Survey of international designers giving views on Glasgow's progress.