

Retail Facilities Planning in New Towns: A Case Study of Jubail Industrial City, Saudi Arabia

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Abstract. The provision of retail facilities in new towns provides special opportunities and challenges for city planners. The Master Plan for the new Industrial City of Jubail in Saudi Arabia proposes a heirarchy of shopping centres which is one of the key elements in the community structure. The pattern of retail facilities planned for the new city is a radical departure from that which has evolved in traditional Saudi cities, in an attempt to overcome the many difficulties associated with traditional shopping centres.

The paper describes the retail proposals of the Master Plan and the ways in which they have been amended during the implementation process. It evaluates the basis of the retail forecasts which underlie the Master Plan policies, analyses the expected benefits of the retail strategy which has been adopted, and identifies some of the difficulties which might be anticipated throughout the implementation process.

The paper concludes that in the light of the rapid social and economic change which the Kingdom is undergoing, and the inherent uncertainty surrounding many of the basic parameters on which the retail forecasts are based, the Royal Commission will need to adopt a flexible and market-responsive approach to the development of retail centres, if it is to achieve its objectives.

Introduction

Shops are one of the fundamental elements of any community. The provision of shopping facilities in the right numbers, with an appropriate variety, and in the right locations is likely to be a significant factor in ensuring the success of a new community

as seen by its residents. New towns provide an opportunity to plan shopping centres, and access to them, so as to maximise the convenience for shoppers and minimise the problems of congestion which are typical of older cities. However, the planning of retail facilities in new towns also poses severe challenges, as the actual provision of shops is fundamentally conditioned by market demand, and investors' perception of that demand.

This paper describes the approach which has been adopted in planning the provision of shopping facilities in Jubail Industrial City in Saudi Arabia. It illustrates the evolution of the planning policies for retail services, evaluates the basis of the plan's retail forecasts, assesses the expected benefits of the retail strategy, and analyses the issues raised by the policies. It does not attempt to describe and evaluate the implementation of the retail facilities proposed in the Master Plan, being concerned rather with the nature and evolution of the policies for level and distribution of retail facilities.

The Retail Planning Process

There are two principal questions to be answered by planners considering the shopping requirements of a city. The first is what is the total quantity of retail space that is required (or can be supported) by the population; the second is how should that space be distributed within the city. The retail proposals for Jubail Industrial City illustrate the difficulties of answering both of these questions.

Ideally the retail planning process should be based on the following steps:

- 1- Analysis of the growth of jobs and population, and their socio-economic characteristics.
- 2- Estimates of the expenditure patterns of households, recognising the distinction between durable and convenience goods.
- 3- Forecasts of the total expenditure by households on durable and convenience goods in the city.
- 4- Estimates of the relationship between sales (or turnover) of stores, and retail floorspace (conversion factor, or sales per m² of retail space).
- 5- Application of the conversion factors to the forecasts of total expenditure to give estimates of the amount of floorspace which can be supported by that level of expenditure.
- 6- The allocation of total floorspace to centres or locations within the city.

In the case of planning for retail services in new towns in Saudi Arabia there are three particular difficulties in applying this process. The first is that there is little readily available information on trends in income and expenditure patterns, which planners can use to make reasonable estimates of future expenditure behaviour. The second is the very limited data on the relationship between turnover and floorspace, which is necessary to convert expenditure estimates into floorspace requirements.

The third is that little is known about the shopping habits of the Saudi population, so that it is difficult to assess the impact that different patterns of provision might have on consumer behaviour and satisfaction.

In the face of difficulties such as these, it will often be necessary to take shortcuts and make assumptions (e.g., by drawing on comparisons with other similar cities). Although such pragmatic approaches are recognised as inevitable, it is to be expected that they will give results which are less reliable than more detailed analyses of the factors which determine retail demand. One implication of this is the need to monitor implementation experience particularly closely, to see if adjustments may be necessary to key underlying assumptions.

Summary of Planning Proposals for Jubail Industrial City

Jubail Industrial City was designated in the Second Development Plan as one of two areas to be planned as major (new) industrial cities [1, pp. 145-146]. It is located on the eastern coast of Saudi Arabia, on the Arabian Gulf. The other area designated was the Yanbu region in the Western Province of the Kingdom, on the Red Sea coast (Fig. 1). In 1975 the Royal Commission for Jubail and Yanbu was established as the agency responsible for the planning and development of the new cities.



Fig. 1. Location of Jubail and Yanbu Industrial Cities

The economic foundation of the Jubail Industrial City is the development of large-scale hydro-carbon based and energy-intensive primary industries that can utilise the country's abundant supply of low-cost crude oil and associated natural gas as industrial fuel and raw materials. The primary industries will produce a wide range of products for both domestic consumption and for export. Some of the outputs of the primary industries will be used by secondary industries as raw materials for the manufacture of a wide range of intermediate and consumer products. The planned primary and secondary industries represent the economic base of the new city [2, pp. 71-81].

The Master Plan for the new residential community was completed in 1978 [3]. It located the community on two headlands on either side of a bay (Khaleej Mardumah), to the north of the industrial complex. The total estimated population of about 370,000 and total housing requirement of 72,000 units were distributed to eight districts of between 45,000 to 50,000 population each. Each district was planned to be virtually self-sufficient in terms of its needs for services and facilities. City-level services and facilities were grouped into major activity centres, and located around the bay between the two headlands of the community.

A grid system of freeways linked the community to the industrial area and the regional freeway network, and in effect divided each district into four parts. Each district consisted of four or five sectors, one of which contained the district centre and the others a sector centre. In total the plan provided 8 district centres and 27 sector centres. Sectors contained four or five neighborhoods of 2,500 - 3,000 persons each, and every neighborhood had its own centre. The spatial organisation of the community is illustrated diagrammatically in Fig. 2.

In the first six-years of the new city's development there were two major modifications to the plan as part of the detailed design and implementation process:

- a) The elimination of the Community Commercial Centre and the enlargement of the district and sector centres to accommodate the displaced commercial space.
- b) A lowering of residential density by eliminating high density neighborhoods and changing the housing mix [4, pp. 3-4].

In 1983 a major review and updating of the Master Plan was initiated [4,10 Vol.]. This resulted in a significant reduction of the planned population, from 370,000 to 280,000, and a further reduction in residential density. The general structural principles of the Master Plan were retained (the division of the community into 8 self-contained districts) but the average district population was reduced from 47,000 to 34,000. The population of sectors was also reduced, from 10,000 to 7,500, and neighborhoods were reduced from an average of about 3,000 people to about 2,000.

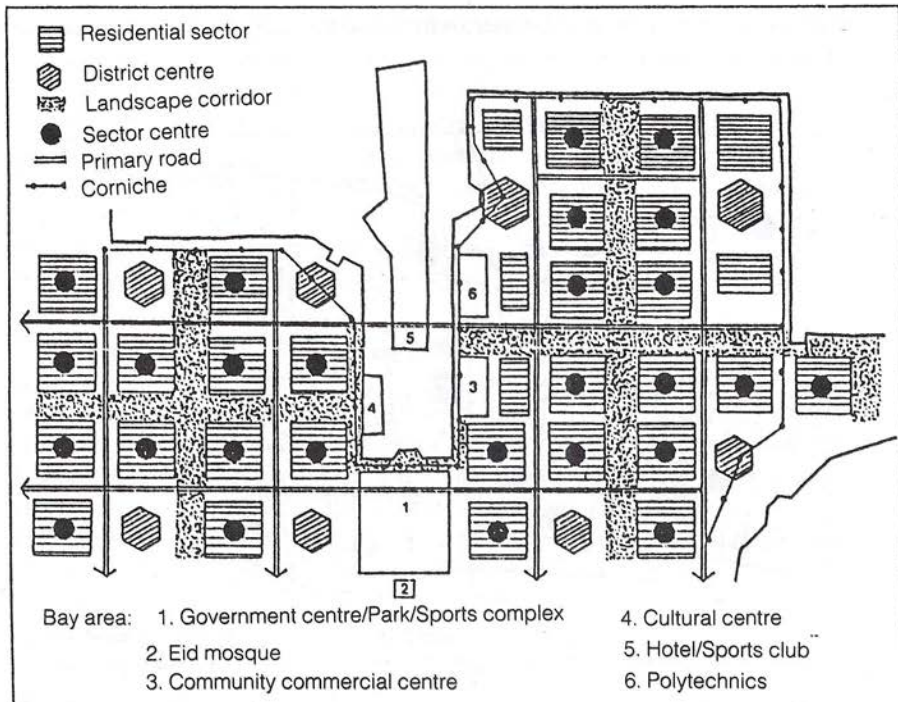


Fig. 2. Spatial Organisation of The community (Diagrammatic)

Source: Royal Commission for Jubail and Yanbu [3, vol. 3]

Retail Planning in Jubail

The Original Master Plan - Total Floorspace Requirements

The original Master Plan provided for a total of 550,000 m² of gross retail floorspace. Although it is common in retail planning studies to derive floorspace requirements from expenditure estimates by using turnover/floorspace ratios (as described above), the consultants considered that the data available in Saudi Arabia were too limited to allow this approach to be followed. Instead the consultants estimated the level of gross floorspace on the basis of a review of other studies in the Middle East and elsewhere [5-11]. These studies gave a range of commercial floorspace standards of 0.8, 0.9, 1.0, 1.8, 1.9, 2.0 and 2.1 m²/person respectively. The consultants adopted the standard of 1.5 m²/person, which gave a total requirements of 552,100m². This standard was claimed by the consultants not to be excessive in comparison with the other studies reviewed by them.

The Original Master Plan - Floorspace Distribution

The total floorspace was distributed in a 4-level hierarchy of commercial centres [3, Vol.3 and 6]. The spatial distribution of these centres is shown in Fig. 3, and the

distribution of floorspace within the hierarchy is shown in Table 1. The 4-levels in the hierarchy were as follows:

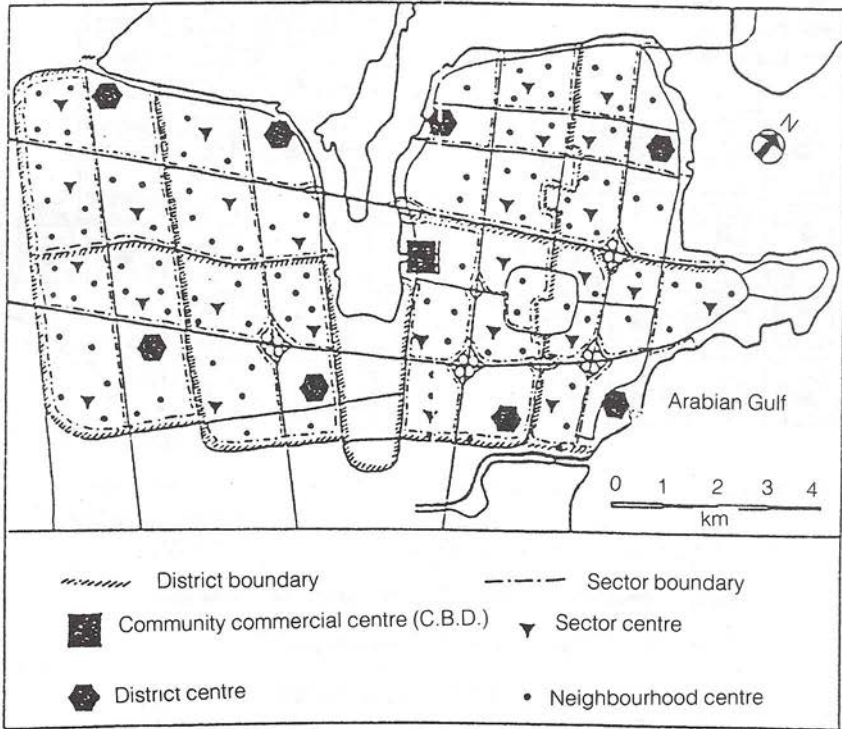


Fig. 3. Distribution of Retail Facilities, Original Master Plan. Source: Royal Commission for Jubail and Yanbu [3, Vol. 3].

Table 1. Distribution of gross retail floorspace by type of centre: original master plan

	Community commercial centre (CBD)	Districts	Sectors	N'hoods	Total
No. of centres	1	8	27	99	135
Floorspace (sq.m.)	117,000	311,000	37,000	86,000	552,000*
% of total floorspace	21	56	7	16	100
Average size of centre (retail sq.m.)	117,000	38,875	1,370	869	-

* Total does not match because of rounding.

Source: Royal Commission for Jubail and Yanbu, [3, Vol.3].

1- 1 Community Commercial Centre: this was the city's main commercial centre or Central Business District. It was to contain those commercial activities which would draw on the population of the whole community, and, it was therefore intended to be predominantly retail centre for durable goods (91% of the total retail floorspace being allocated to durable goods).

2- 6 District Centres: which were intended to provide an intermediate level of services between city-wide and local levels. District centres were expected to contain both durable and convenience shopping, together with a wide range of other commercial facilities such as offices, restaurants and personal services.

3-27 Sector Centres: containing facilities which support populations at an intermediate level between those of neighborhood centres and district centres, such as clinics, supermarkets and post-offices. "Unlike a neighborhood centre, a sector centre does not have a clearly defined catchment area, but primarily serves the immediately adjoining group of neighborhoods" [3, Vol. 6, p. 45]. Because they would depend to a large extent on vehicular access, they were located at strategic positions on the collector road system to provide good accessibility to the groups of neighborhoods they serve.

4- 99 Neighborhood Centres: which, in retailing terms, were intended to provide mainly convenience shopping, limited to daily shopping requirements, within walking distance of most of the population.

The original Master Plan's proposals for the distribution of shopping space are summarised in Tables 1 and 2.

Table 2. Distribution of gross retail floorspace by type of shopping: original master plan

	Convenience		Durable		Total	
	sq.m.	%	sq.m.	%	sq.m.	%
Community commercial centre (CBD)	11,000	6	106,000	28	117,000	21
District centres	74,000	43	237,000	63	311,000	56
Sector centres	30,000	17	7,000	2	37,000	7
Neighborhood centres	61,000	34	25,000	7	86,000	16
Community total	177,000*	100	375,000	100	552,000*	100

* Total does not match because of rounding.

Source: Royal Commission for Jubail and Yanbu, [3, Vol. 3]

Changes to The Master Plan Prior to Formal Revision

A number of changes were made to the Master Plan's proposals during the detailed design and implementation process. By far the most significant of the

changes as far as retail policies are concerned, was the decision in 1979 to remove almost all retail space from the Community Commercial Centre [4, pp. 3-4].

In the original plan, the Community Commercial Centre comprises 117,000m² of retail space, 52,000m² of office space, plus a variety of other commercial uses. After the modification, the retail space was limited to 17,000m², and the office floorspace was increased from 52,000 to 152,000m².

The 100,000m² of retail space which was removed from the Community Commercial Centre was redistributed among the district and sector centres. The overall effect of this redistribution is shown in Table 3.

Table 3. Modifications to Distribution of Retail Floorspace by Centre Prior to Master Plan Update

	Community commercial centre (CBD)	Districts	Sectors	N'hoods	Total
No. of centres	1	8	27	99	135
Floorspace (sq.m.)	17,000	370,000	78,000	86,000	552,000*
% of total floorspace	3	67	14	16	100
Average size of centre (retail sq.m.)	17,000	46,250	2,890	869	-

* Total does not match because of rounding.

Source: Royal Commission for Jubail and Yanbu, [3, Vol.3; 4, Vol.7].

Comparing this table with Table 1 it can be seen that the retail component of the Community Commercial Centre was reduced from 21% of total retail space to only 3%. At the same time the district and sector centres increased their shares of total retail space from 56% to 67% and from 7% to 14% respectively. The 8 district centres were thus designated as the dominant retail centres in the community, with no single centre being clearly identified as the city's main centre of retail activity. The Community Commercial Centre was transformed into an office centre, with a small retail element to serve the office workers employed there.

Significantly, no reason is given in the Master Plan Update for this major change of strategy. It is however possible to deduce some of the reasoning behind the decision, and more will be said about this later. It should be noted however that these changes affected only the distribution of floorspace, not the total amount of space allocated, which remained the same. It can therefore be concluded that the overall standard of space requirements (1.5m²/person) remained acceptable.

The Master Plan Update

It has already been mentioned that as a result of the review and updating of the Master Plan, the projected population of the community as a whole, and of each of the 8 districts, was significantly reduced. This reduction had a dramatic effect on the scale of retail provision in the Master Plan Update, and also led to some significant changes in the spatial structure of retail services. The Master Plan Update proposals for the distribution of retail centres are shown in Fig. 4.

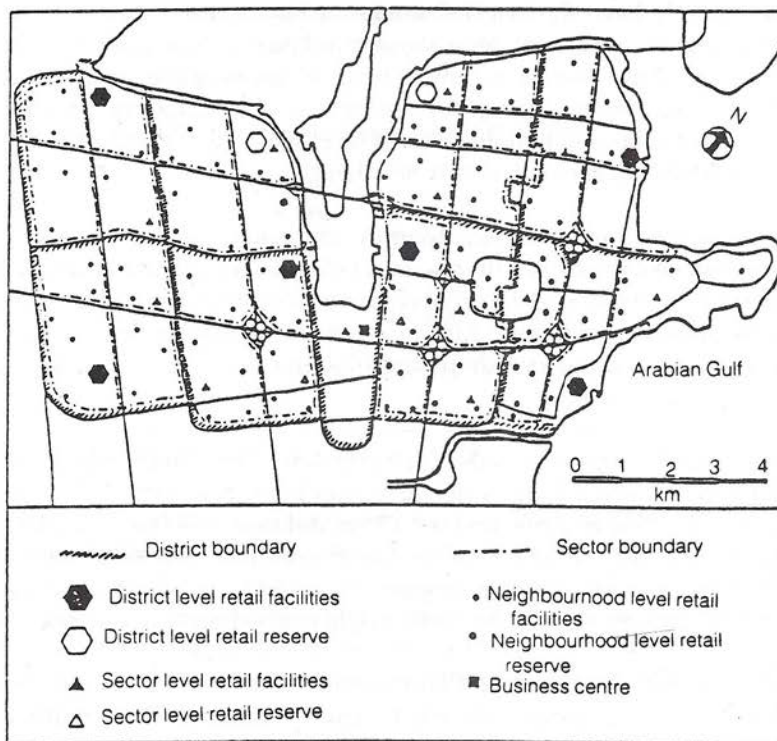


Fig. 4. Distribution of Retail facilities, Master plan update

Source: Royal Commission for Jubail and Yanbu, [3: Vol. 3]

The Master Plan Update - Revised Floorspace Requirements

A major market and commercial study was commissioned by the Royal Commission in 1980, and a programme of empirical research was implemented to throw light on expenditure patterns and turnover/floorspace relationships in Saudi Arabia. The results of this study suggested that the overall provision of retail space was excessive and that the provisions of 8 major (district) shopping centres, each with a limited support population of 47,000, and only 2km apart, would not be commercially viable [12]. It recommended a reduction of the total retail space in the community from 552,000 to 280,000 m²—a reduction of over 50% [12, Vol. 1, p. 65]. This would have

resulted in an overall standard of $0.8\text{m}^2/\text{person}$ - at the low end of the range quoted above. No action seems to have been taken on this recommendation prior to the Master Plan Update. Concern for the viability of the proposed commercial centres, together with the need to revise the spatial distribution of community facilities (to reflect changes in density and population distribution) led to a redefinition of the hierarchy of centres in the Master Plan Update [4, Sections 4 and 5].

The Master Plan Update - Revised Distribution of Floorspace

District Centres remain the most significant level of the retail hierarchy. They will accommodate large shopping centres with comparison and convenience shops for weekly and occasional shopping, personal services and restaurants. However, the number of district centres containing district level shopping facilities was reduced to six, three in each of the two community headlands.

Sector centres are also retained, but they are reduced in number from 27 to 25, and of the proposed 25, only 10 will contain retail space. However, although they are reduced in number, the size of the retail component of those sector centres has been increased to between $3,500$ and $5,000\text{m}^2$ each. Shopping facilities in the sector centres will include convenience shops and supermarket to serve the weekly shopping needs of the population.

The local, daily shopping needs of the population will continue to be provided at the neighborhood level. In the original Master Plan, neighborhood centres were distributed on the basis of a maximum walking distance of 300m. The Master Plan Update reduced the number of neighborhood centres from 99 to 84. Each centre will contain 3 to 5 shops, with a total retail space of 300-800m. This general reduction in size reflects the reduced population in the neighborhood centres' catchment areas.

The Community Commercial Centre, which had already been downgraded from the principal retail centre in the city to a predominantly office centre, is eliminated completely in the Master Plan Update, so that "there is no single Community Commercial Centre as in the original plan, thus avoiding the concept of a downtown" [4, pp. 4-16]. Although the total amount of floorspace to be provided was reduced, because of the reduction in the resident population, the standard of provision was reduced to only $1.0\text{m}^2/\text{person}$, still 20% higher than that recommended by the Commercial Study referred to above.

Summary of Master Plan Update Changes

The effects of these changes on the level and distribution of retail space are summarised in Table 4. Comparing Tables 3 and 4 highlights the major differences introduced in the Master Plan Update:

- 1- A major reduction of more than 50% in the total amount of retail space.
- 2- A reduction in the total number of planned retail centres from 135 to 100.
- 3- The total elimination of the Community Commercial Centre, originally proposed to be the city's Central Business District.
- 4- Increasing the relative importance of the District Centres, while reducing their average size from 46,250 to 30,670m².
- 5- Reducing the number of sector centres by 63%, but increasing their average size from 2,890 to 4,360m² (an increase of 66%).
- 6- Slightly reducing the number of neighborhood centres, but drastically reducing their size, from 869 to 410m².

Table 4. Distribution of Retail Floorspace by Centre, Master Plan Update

	Community commercial centre (CBD)	Districts	Sectors	N'hoods	Total
No. of centres	deleted	6	10	84	100
Floorspace (sq. m.)	-	184,000	43,600	34,600	262,200
% of total floorspace	-	70	17	13	100
Average size of centre (retail sq. m.)	-	30,670	4,360	410	-

Source: Royal Commission for Jubail and Yanbu, [4: Vol.7].

Analysis of Issues and Evaluation of Policies

The retail policies which have been incorporated into the Master Plan of Jubail Industrial City and the experience of implementing that policy (although limited) raise a number of issues relating to the retail planning process, and the way in which it has been applied in Jubail. They also emphasize some of the very great difficulties of developing systematic, consistent and coherent policies in a context of rapid social, economic and physical change.

Expenditure Forecasts and Space Requirements

The most fundamental questions relate to the estimates of the amount of retail space required, for these underpin the retail strategy for the new city. Forecasting retail space requirements is notoriously difficult, even in countries which have an extensive statistical data-base.

The problem is that future patterns of income and expenditure are not easy to forecast, and that the relationship between consumer expenditure and the amount of floorspace required is determined by economic and technical factors which are subject to continuous change. These problems are well-known and widely-recognized in western countries. They are compounded in rapidly-developing countries like Saudi Arabia by the pace of socio-economic change and the lack of data related to incomes,

expenditure patterns and turnover/floorspace relationships. In these circumstances it is no easy task to make a reasonable and realistic assessment of the amount of retail space required in a new city, where the economic base has not yet been fully established and the precise size and composition of the community is far from clear.

As we have seen, the approach adopted in the original Master Plan was to bypass these problems by accepting an overall standard of floor space required per person - this standard ($1.5\text{m}^2/\text{person}$) being established after reviewing a number of other retail studies, in the Middle East and elsewhere. The ability of this approach to give a relevant or realistic standard for a new city in Saudi Arabia has to be questioned. For such an approach to be acceptable it would be necessary to demonstrate that the socio-economic structure, expenditure patterns and the pattern of retailing in the case studies were similar to those expected in Jubail Industrial City. No attempt was made to do this, and it is therefore not surprising that subsequent, more systematic and scientific studies have concluded that the original standard was at least 50% too high.

The most elaborate and sophisticated study of retail space requirements for the new city is that undertaken by Saudi Consulting House and Arthur D. Little International. It used a rigorous forecasting system, in the form of a computer model, and was based on empirical research in the Kingdom in order to establish a firm statistical base for its forecasts. Although the basic approach is commendable, it has to be pointed out that much of the data used to estimate income and expenditure patterns was derived from a major 1977 study carried out by the Ministry of Finance and National Economy [13], and that the surveys actually carried out by the consultants themselves were quite limited in scope (200 households and 34 retail establishments [12, Vol. 1]).

Economic conditions in the Kingdom have changed quite dramatically since 1977, and there must be real doubts about the relevance of 1977-based estimates in the different circumstances of today. Moreover, the limited extent of the direct surveys carried out means that the validity of the conclusions relating to expenditure patterns and turnover/floorspace standards must also be questionable. This is not necessarily to criticise the study itself - it is undoubtedly a great improvement on the crude approach adopted in the original Master Plan. However, the essentially dynamic characteristics of the factors involved in the determination of retail demand does mean that there is an urgent need for the monitoring of the critical assumptions on which the forecasts are based. It is somewhat disturbing that there seems to be no attempt to carry out such a monitoring process in relation to commercial development in the new city. If there are, indeed, changes from the assumptions in the forecasts, and these are not picked up by regular monitoring activities, it is inevitable that there will be problems of developing the right kind of retail centres to meet the needs of the city's residents.

Absence of a City Centre

As we have seen, the original Master Plan included a proposed Community Commercial Centre which was to contain those commercial activities which require a city-wide population to support them. The reasons for the decision to remove such a centre from the commercial hierarchy have not been documented in the Master Plan Update. However, it can be assumed that the decision was aimed at creating a more balanced distribution of services which, in turn, would help to reduce traffic congestion and avoid a single, excessive concentration of high land values.

While such objectives are, in themselves, worthy of attainment, the lack of a substantial retailing city centre and the consequent emphasis on District centres may create a number of potential problems:

a) Perhaps the most obvious of these is the inability of any single centre to offer a full range of comparison shopping facilities, thus necessitating extra shopping journeys to two or more centres for the purchase of comparison goods. This would negate the advantage of a more balanced distribution of retail facilities.

b) An associated problem is likely to be the difficulty of attracting major shops e.g., a full department store - which would normally be located in a city centre because of the prestigious location and its requirement for a city-wide catchment area.

c) The absence of a single dominant commercial centre for the city will also make it difficult to establish a focus for the commercial and social identity of the city.

Moreover, there is a danger that the operation of market forces will tend to elevate the first district centre (or the existing commercial centre in the nearby town of Al-Jubail) to the status of the principal retail centre. In the former case, this could lead to overdevelopment and congestion of that district centre, and its effective transformation into a badly located adhoc city centre. If, on the other hand, Al-Jubail was to become the effective 'sub-regional' city centre, this would have the effect of siphoning off a significant part of the commercial demand in the new city. It would also mean that the true city-level retail services were very badly located for most of the new city's population.

The Size and Spacing of Centres

The Master Plan Update introduced major revisions to the size and number of centres. The total number of centres was reduced, and the overall amount of floorspace dramatically cut back. The Master Plan Update makes it clear that the revised structure of commercial centres is designed as a response to the reductions in total population and residential density on which the revised Master Plan is based.

However, a detailed analysis of the provisions for the first two residential Districts to be developed, "Hail Al-Fanateer and Hail Al-Deffi", suggest that there is a major imbalance of programmed commercial space at the district, sector and neigh-

borhood levels. According to the Master Plan Update, 33% of retail floor space is allocated to local centres (sector plus neighborhood centres). For this to be achieved, it is necessary that each district contain its share of local retail space in strict proportion to its population. However, "Haii Al-Fanateer and Haii Al-Deffi" are programmed in the revised Master Plan for about 38,800m² of local retail floorspace [4, pp. A-1 and A-5], which is almost double their share in proportion to forecast population. If all this local retail space is built, it may capture all the food and related expenditure of district residents, and prevent the District Centres from reaching their planned size. Alternatively, if the District Centres successfully compete for their share of convenience shopping, the local centres will not generate enough turnover to be viable.

A similar problem may be emerging in the relationship between neighborhood and sector centres. Neighborhood centres are meant to accommodate the local daily shopping needs of the population, with each centre containing 3 to 5 small convenience shops. Supermarkets will be provided in sector centres [4, pp. 5-48]. Experience to date, although limited, is consistent-neighborhood centres are being provided with supermarkets of 500 to 1,000m². If this trend is allowed to continue, and if neighborhood centres continue to be developed in advance of sector centres, the latter may not have the chance to trade viably.

Another important issue related to the number and spacing of centres is the concept of neighborhood centres providing convenience shopping within walking distance (a maximum of 300m) of most of the population. It has not yet been established that enough people are prepared to walk to neighborhood centres to make them viable. If a high proportion of convenience shopping is done by car, this would tend to favour the larger centres over the neighborhood centres and the effective catchment area of the neighborhood centres would be too small for them to be viable.

Problems of Developing a Formal Hierarchy

None of the established cities in Saudi Arabia have a retailing pattern similar to the hierarchy proposed for Jubail Industrial City.

The main features of the 'traditional' pattern of retail services are:

- 1- A city centre, including a 'souk' or market area.
- 2- Extensive retail 'ribbon development' on major roads which have high accessibility.
- 3- Clusters of retail uses, usually around major intersections, forming substantial suburban shopping centres.
- 4- Scattered local shops in residential areas catering for casual convenience shopping (the classic 'corner shop' phenomenon which is found throughout the world). In the Kingdom they are known as 'bakalah' or 'dokkan'.

This list of features is derived from an analysis of the retail structure of several cities in the Kingdom - specifically Jeddah [14, 15], Makkah [16], Madinah [17], Taif [18, 19], and Riyadh [20, 21].

The problems associated with the 'traditional' retail structure of existing cities are well-known. The city centres are typically over-developed and congested, with high rents and land prices, major problems of parking and access, and a general deterioration in environmental conditions - for both city-centre residents and shoppers. Commerical development along main roads (the typical ribbon development seen in most Saudi cities) is a major cause of traffic congestion and accidents, and creates a shopping environment which lacks the features and attractions which an increasingly sophisticated population expects. The uncontrolled mix of retail activities in residential areas also creates environmental, health and traffic hazards, none of which are appropriate to modern high-standard urban development.

The pattern of retail centres proposed by the Jubail Master Plan represents a conscious attempt to overcome these problems. The absence of a single dominant centre (although it has the problems described above) can be interpreted as an attempt to spread the level of demand more evenly across a number of District Centres, thus avoiding the problems of congestion and over-development typical of existing cities. The concentration of convenience shopping in neighborhood and sector centres removes inappropriate commercial uses from residential areas, and yet provides necessary services within a convenient and readily-accessible framework of centres. They also provide the opportunity to design commercial centres which provide a high environmental quality, with pedestrians and vehicles safely segregated, so that shopping becomes a safer and more enjoyable activity.

However, because this type of retail development is radically different from that which Saudi investors and consumers are accustomed to, special efforts may be necessary to convince commercial investors that it will be profitable. There is already some evidence that investors prefer the 'traditional' opportunities presented by Al-Jubail, and that residents of the new city find the admittedly chaotic and congested commercial development in Al-Jubail more lively and interesting. It does therefore seem clear that the benefits of the retail structure proposed for the new city need to be more vigorously promoted, and that every effort should be made to build up the centres quickly, so that they achieve the 'critical mass' necessary to provide the variety and liveliness that characterises existing centres in the Kingdom.

Problems of a High Level of Planning Control

The proposed hierarchy also implies a degree of control over commercial investment and activities which seems incompatible with the Royal Commission's stated objective of relying heavily on the private sector for the construction and operation of commercial services. There must be a real possibility that the private sector's per-

ception of the commercial market and a viable distribution of facilities does not conform to that of the Master Plan. If the Royal Commission does not actually construct facilities and offer attractive conditions to have them occupied (which is the current policy), it may prove difficult to induce private capital investment into the pattern on which the Master Plan is based. On a small scale this is already happening, with the provision of supermarket facilities in neighborhood centres where there are only supposed to be small convenience stores. The market decision is that supermarkets are needed, and to date no investors have been prepared to construct or operate the smaller facilities specified in the Master Plan.

It is clear from experience to date that the new city is effectively in competition with the existing town of Al-Jubail for commercial - and especially retail - activities. Following the development of the Industrial City, the number of commercial establishments in Al-Jubail has increased from 61 in 1977 to 605 in 1986 and to 1,047 in 1989 (according to the records of the Department of Environmental Health, Al-Jubail Municipality). By comparison, in September 1986, there were 21 commercial establishments operating in the Industrial City, reaching only 307 in November 1992 [22], although the two communities were approximately the same size. It is, of course, to be expected that in the early years of the development of the new city, Al-Jubail would capture a significant proportion of the expenditure generated by the population of the Industrial City, because of the already existing retail facilities in the old town. However, the continued large imbalance in the provision of retail facilities - when some 35% of the currently available units in the Industrial City are vacant - must create a concern about the ability of the new city to attract private sector investment on the scale required if the Master Plan objectives are to be achieved. Personal enquiries to a number of commercial investors in Al-Jubail suggest that rental differentials, more complex approval procedures and higher development standards may be combining to deter potential investors.

This is perhaps one of the most critical strategic questions facing the Royal Commission - and it applies not just to retail development, but to the whole range of facilities and services to be developed in the new city. The Commission is faced with a real dilemma. On the one hand it wishes to promote high standards of development, and an urban form which overcomes the many deficiencies of existing cities. On the other, it is trying, in accordance with national policies [23], to maximise the role of the private investor in the development of the city. Given that there is not a tradition of strict development control in existing cities in Saudi Arabia, and that private investors have traditionally required a quick return from their development projects, it is by no means clear that these two objectives are consistent or can be equally achieved. Given the current economic situation in the Kingdom, this conflict must be resolved if the private sector is to fully participate in the new city's development. This does not mean that the new city cannot be a commercial success. It does however, suggest that a more flexible, market responsive approach on the part of the Royal

commission may be necessary if the commercial objectives for Jubail Industrial City are to be met.

Conclusion

The policies and proposals for retail development in the Industrial City have already been through a number of major changes, as a result of the evolution of the objectives of the Royal Commission, revised expectation and forecast, and experience gained during implementation. However, with the major exception of the removal of a city centre level of retail activity, the basic commercial strategy for the new city has remained firmly centred on a formal hierarchy of retail centres, the size and functions of which are specified quite precisely in the Master Plan.

It is clear however that the inherent difficulty in assessing future trends in expenditure and retail efficiency, combined with the exceptionally rapid socio-economic change being experienced in Saudi Arabia, makes it essential for the planning authority for the new city to continuously and carefully monitor the assumptions on which the forecasts of space requirements are based.

At the same time, it is not yet clear that a planning approach which implies a high degree of control and influence over commercial development, is consistent with the Royal Commission's broader goal of maximizing the role of the private sector in the development of the new city.

For both these reasons it can be argued that the Commission will need to develop a more flexible, demand-responsive approach as its concern shifts from the development of infrastructure to broader community development issues. Indeed, it could be suggested that the Royal Commission's ability to adjust to the more complex requirements of community development - especially those involving the private sector - will be one of the most important factors affecting the success of the new city.

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تخطيط مرافق وتسهيلات تجارة التجزئة (المفرق) في المدن الجديدة: دراسة عن الوضع في مدينة الجبيل الصناعية بالملكة العربية السعودية

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ملخص البحث. لا جدال في أن إيجاد مرافق وتسهيلات لتجارة التجزئة (المفرق) في المدن الجديدة لمن المهام التي لا يستهان بها، فهذه المهمة وإن كانت تتيح لمخططي المدن فرصاً استثنائية لها قيمتها إلا أنها في ذات الوقت تمثل تحدياً بالنسبة لهم. يقترح المخطط العام لمدينة الجبيل الصناعية الجديدة بالملكة العربية السعودية تسلسلاً هرمياً لمراكز التسوق، ويعد هذا التسلسل أمراً مهماً بالنسبة لبنية المجتمع. وهنا يمكن القول إن التخطيط المقرر لمرافق وتسهيلات تجارة التجزئة (المفرق) بتلك المدينة الجديدة لا يعتبر فقط تحولاً جوهرياً عما درجت عليه المدن السعودية التقليدية وإنما يمثل أيضاً محاولة للتغلب على ذلك الكم من المعوقات التي عادة ما تلازم مراكز الأسواق التقليدية.

يستعرض هذا البحث ما تضمنه المخطط العام من مقترحات بشأن مرافق وتسهيلات تجارة التجزئة (المفرق) وكيفية إدخال التعديلات عليها أثناء عملية التطبيق والتنفيذ، كما يقيم أسس توقعات تجارة التجزئة (المفرق) التي بنيت عليها تصورات المخطط العام وكذلك تحليل المكاسب المنتظرة من وراء اتباع استراتيجية تجارة التجزئة (المفرق) هذه، ثم إلقاء الضوء على بعض الصعوبات التي قد تنشأ مستقبلاً خلال عملية التطبيق والتنفيذ.

وأخيراً يخلص البحث إلى القول بأن الهيئة الملكية للجبيل وينبع - على ضوء التغيرات الاجتماعية والاقتصادية السريعة التي تشهدها المملكة العربية السعودية، وكذلك الشكوك الملازمة لكثير من المعايير الأساسية التي بُني عليها ما يتصل بتجارة التجزئة (المفرق) من توقعات - يتعين عليها أن تنتهج أسلوباً جديداً في تطوير مواقع ومراكز تجارة التجزئة (المفرق) يكون مرناً وقادراً على تلبية حاجات السوق ومتطلباته، هذا إذا ما أريد لهذه المواقع والمراكز أن تحقق أهدافها على أكمل وجه.