

**Feasibility Study of Air-Conditioned
Circular Shopping Complex
in Laxmi Nagar District Centre**

Research Study No. 83

Prepared for
Delhi Development Authority

National Institute of Urban Affairs
Core IV B, India Habitat Centre
Lodhi Road, New Delhi

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CONTENTS

	Page No.
Introduction	3
Context	4
Proposed Market Complex	7
Feasibility of the Air-conditioned Market at Laxmi Nagar	16
Summary	25

Annexures

- I. Details of the project : Air-conditioned
Market at Laxmi Nagar
- II. Population and Densities of Unauthorised/
regularised colonies of the catchment area

LIST OF MAPS

1. Catchment Area and Traffic Bottlenecks
2. Location of Air-conditioned market at Laxmi Nagar
3. Distribution of Average Income of Households per month
4. Existing market rates per sq. feet in surrounding areas
5. Location of Unauthorised Commercial Developments,
Community Centres, Automobile shops and Readymade
Garment shops

INTRODUCTION

1.1. The main objectives of study were to identify the demand of Air Conditioned market in the proposed Laxmi Nagar District Centre, and to suggest appropriate measures for saleability of the project. The study is based on the premise that a high percentage of commercial plots/built-up shops of DDA remains unsold for a long period of time in various parts of Delhi. This is in gross contradiction to the prevailing shortage of shopping Centres in the city. Thus, while DDA has to accelerate the consolidation of commercial stock to cater to the basic need of the residents of Delhi, it also needs to assess the feasibility of its commercial projects within the context of the local market conditions.

1.2 The proposed air-conditioned market at Laxmi Nagar is stated to be an important landmark in Trans-Yamuna area. However, given the high outlay of nearly Rs.25 crores for the project, it is essential that a proper feasibility of the project should be seen in the context of the local need, the prevalent market for commercial properties in the area, and the likely demand at the break-even/reserved price of saleable areas. The findings of the study were expected to influence not only the air-conditioned market at Laxmi Nagar, but also provide guidelines for similar projects planned in various parts by Delhi Development Authority.

2.0 THE CONTEXT :

Planned District Centres Vis-a-vis Natural Growth of Shopping Areas

2.1 Commercial property development in cities all over the world has defied the Master plans. These have responded to natural urban forces rather than conforming to Master plans. There have been failures on the part of the planners to estimate the intensity and locational preferences of commercial activities as well as the dynamics of the consumer preferences.

2.2 In the city of Delhi, natural commercial Districts such as Karol Bagh have grown phenomenally. People have responded better to such Centres than those which have been planned such as Bhikaji Kama Place and Rajendra Place. Yet, planned commercial districts have a major role in decentralising concentration of activities away from the natural centres. In newly developed areas, commercial development takes place in a haphazard manner, causing severe traffic problems. Planned district centre has some definite and viable advantages. It could effectuate a rational balance between distribution of work locations and places of residence. It could avoid unnecessary travel thereby bringing efficiency and economy to the city's transport and circulation system; and finally it may create a 'community feeling' and 'social belonging' in a large metropolis, where anonymity and apathy are the general social characteristics.

2.3 Context of Laxmi Nagar District Centre :

The Master Plan of Delhi, 1961 outlined that while natural growth of commercial development cannot be avoided, its segregation into suitable structures in appropriate locations would favour decentralisation into the proposed district and sub-district centres to some extent. These centres were expected to play an important part in the integrated development of the commercial sectors and to effectuate a logical distribution of shopping facilities, minimise traversing period, and obviate the necessity of travelling to central city areas.

2.4 During the last two decade, with the establishments of I.T.O. Bridge across the Yamuna, a link was established with the Eastern area to accommodate rapidly growing population and activities in Delhi. There was a spurt in various residential schemes of Co-operative and Group Housing Societies in Trans-Yamuna area. Colonies such as Vivek Vihar, Yamuna Vihar, Dilshad Garden and Preet Vihar have attracted middle and upper income group households in the area.

2.5 As far as commercial development is concerned, the area has linear unauthorised commercial development along major roads. The area lacks identity in terms of commercial development. Imageability of an area is considered to be manifestation of the Urban forms. Every locality can be said to have a certain urban form based on its morphology

and aesthetics. This particular aspect needs to be focussed upon as far as Trans-Yamuna Area is concerned, as its Urban form is still in search of identity and lacks coherence.

2.6 Planned Commercial Centres in Trans-Yamuna Area

According to Delhi Master Plan, 2001, a total of four District Centres are proposed in Trans-Yamuna Area. They are:-

1. Laxmi Nagar District Centres
2. Dilshad Garden, New Seema Puri
3. Shastri Park District Centre (near New I.S.B.T. Bridge)
4. Mayur Vihar District Centre.

The Delhi Development Authority (DDA) has helped to change the face of residential developments in the Trans-Yamuna Area by laying out major plotted developments of the Vivek Vihar (105 Ha), Yamuna Vihar (83.6 Ha) and allocating about 434 Ha to other Cooperative Housing Societies. The urban pattern in the surrounding areas of Laxmi Nagar District Centre presents a mixed development. There are unauthorised colonies such as Shakarpur and re-settlement colonies such as Seemapuri, Seelampur, Gokulpuri, Nand Nagri, Trilokpuri, Kalyanpuri, etc. On the other hand, one finds wide roads and cleaner environment of the plotted developments of Vivek Vihar, Yamuna Vihar, Preet Vihar and other Cooperative Housing Societies.

2.7 In addition, the Delhi Development Authority (DDA) has constructed houses in 21 colonies such as Dilshad Garden, Himmatpuri, New Seemapuri, Vivek Vihar, Shahdrara, Nirman Vihar, Loni Road, Jhilmil and Kondli etc. As per the plan, out of the 11.2 million population of DUA in the year 2001, three million persons were expected to be settled across the Yamuna. In addition, population in the industrial area of Noida is expected to be around one million in the year 2001.

2.8 Thus, the demand for commercial spaces in the Trans-Yamuna area is expected to grow quite rapidly. With the growth of better residential areas in the Trans-Yamuna area, the middle and higher income-group households have moved to this area. However, commercial activities catering to these income groups are lacking. They have to generally cross the Yamuna Bridge to fulfil their shopping needs.

3.0 PROPOSED MARKET COMPLEX

The Air-Conditioned market in the Laxmi Nagar District Centre positioned on Vikas Marg is expected to set a trend in the Trans-Yamuna Area that will be followed by the other District Centres yet to come. It is one of the first to come up in the Trans-Yamuna area and will influence the surrounding areas in a positive way.

The air-conditioned circular shopping complex is planned to have about 400 shops of various sizes and is designed as an ultra modern multi-level shopping mall with escalators and arcades. With this shopping complex, the imageability of the entire district centre will be enhanced. Annexure-I provides details of the proposed Air-conditioned market.

3.1 Delineation of Influence Zone/Catchment Area

Every commercial enterprise has its influence area from where it draws most of its clientele. The hierarchy of commercial centres - such as C.B.D., District Centre, Local Centres etc.- also reflect the nature of influence zones that planners envisage for a planned commercial centre. The Laxmi nagar District Centre, as per the plan, is expected to serve the entire area of East Delhi along with the three other proposed centres.

For assessing feasibility of the proposed centre, it is necessary to identify the catchment area of the centre. There are various methods available to demarcate the influence zone of a commercial centre. Most normative methods use distance and/or time criteria to demarcate a zone.

As an example, one could define the catchment to be area the area within 6-8 km. radius around a Shopping Complex. It is from this zone that people could easily approach the Centre either by their own vehicle or by public transport within 5 to 10 minutes.

In the Master Plan of Delhi, 2001, it is proposed to develop District Centres with shopping areas in outlying areas of various Planning Divisions, each District Centre being within easy travelling distance of a catchment population of 4 to 7 lakhs.

Another way of delineating the catchment would be to include all areas that lie on a certain line of movement which includes the district Centre in its path. This makes the district Centre easily accessible from these points. In other words, the catchment of a District Centre would also depend on the existing circulation of that area.

For the purpose of delineating the catchment area of Laxmi Nagar District Centre, a field survey was undertaken. The field survey of consumer households in the surrounding area regarding the distance travelled for their daily and weekly shoppings suggested that a distance of 5 km to 8 km is travelled by the consumers for their weekly shopping.

Thus, on the basis of this survey, if a 5 km. radius be drawn around the Laxmi Nagar District Centre it would include settlements on its north upto Krishna Nagar, not including Gandhi Nagar and on its south include all settlements extending upto Mandawali area.

On the basis of the general circulation pattern around the District Centre, it is found that the major lines of movement are the Patparganj Road and Vikas Marg. Most of the to and fro traffic takes place on this road. The District Centre is located on the Vikas Marg, and is within easy reach of everyday commuters and office-goers.

The other most commonly used road is the Patparganj Road which forms one of the edges of the site. It is used by people to go to Krishna Nagar, Gandhi Nagar and beyond. It could therefore, provide a link between the residents of these colonies and the district Centre. The catchment area was identified by including the major traffic corridors as its edges.

The Influence area as described above is found to lie within zones E-8, E-9, E-12, E-10, E-11 and part of E-1 and E-13 of the Delhi master plan.

CATCHMENT AREA CHARACTERISTICS

3.2 Location and Surroundings

The site for the Air-Conditioned market in the District Centre is located on Vikas Marg, in Trans-Yamuna area. On the other edge of Vikas Marg opposite the District Centre lies the residential colony of Nirman Vihar (C.B.H.S.). On the side of Patparganj, opposite the District Centre lies the unauthorised-regularised colony of Lakshmi Nagar and some informal building material shops that line the road.

The North-Eastern edge of the site contains the unauthorised regularised colony of East Guru Angad Nagar. The master plan has proposed a district park on this location. The South-Eastern edge of the site contains the site for a neighbourhood Park and the C.B.H.S. colony of Shankar Vihar.

3.3 Circulation Pattern

In the existing circulation the Vikas Marg and Patparganj Road play a major role. Vikas Marg is a two way road. The road takes the major morning and evening peak hour load. It has high-speed traffic at all times of the day and has narrow carriageways.

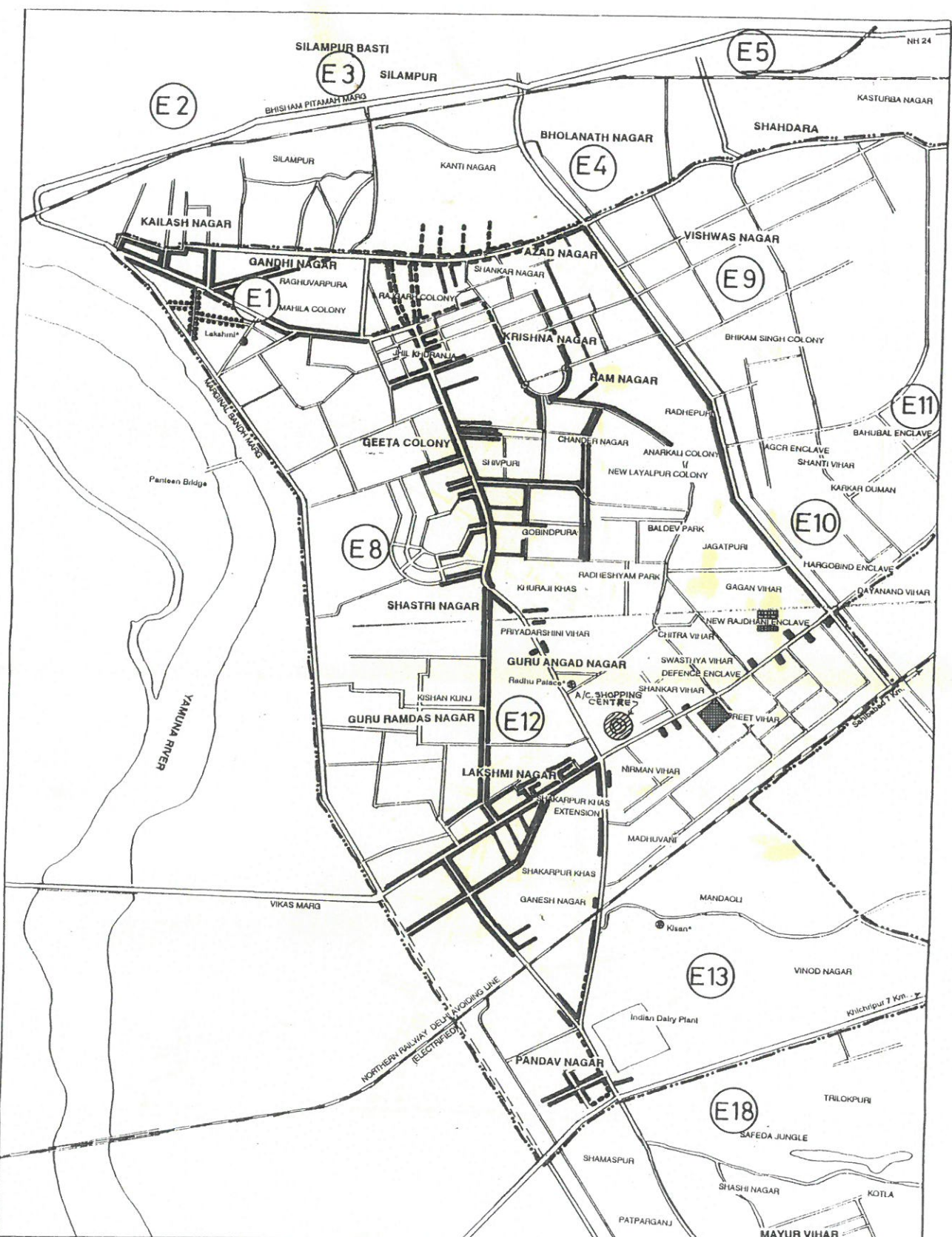
The Patparganj Road intersects the Vikas Marg making a congested junction with it which needs to be resolved. It is a 30 m. road and is equally congested as it has not been developed to its full right of way.




3.4 VIKAS MARG - Approach Corridor to the Air-conditioned Market in the Laxmi Nagar District Centre

It would be necessary to study Vikas marg not only because it goes through an array of various types of developments and forms one edge of the District Centre but also because it forms an approach corridor from I.T.O. right upto the District Centre. It has also developed as a major commercial spine. It contains a large number of shops of mixed character.

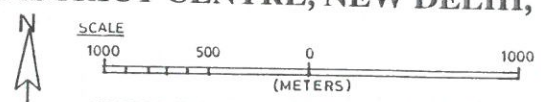
Table : 1
Shops on Vikas Marg

S.No.	Type of Shops	Number
1.	Building material	110
2.	General Stores	50
3.	Showrooms Cloth/Shoes	40
4.	Chemists	18
5.	Wine & Beer shops	4
6.	Dhabas	40
7.	Restaurants	15
8.	Photography shops	31
9.	Doctors clinics	51
10.	Nursing Homes (3 storey)	15
11.	Juice stalls	45
12.	Paan Waala	92
13.	Offices Insurance agencies Property dealers	173
14.	Banks	15
15.	Typing colleges	11
16.	Beauty parlours	9
17.	Auto Workshops	21
18.	Toy shops	5
19.	Crockery and utensil shops	8
20.	Photostat, Electrostat shops	18
	Total	766 shops



- Unauthorised Commercial Developments 
- Location of Community Centres 
- Automobile Shops 
- Readymade Garments Shop 

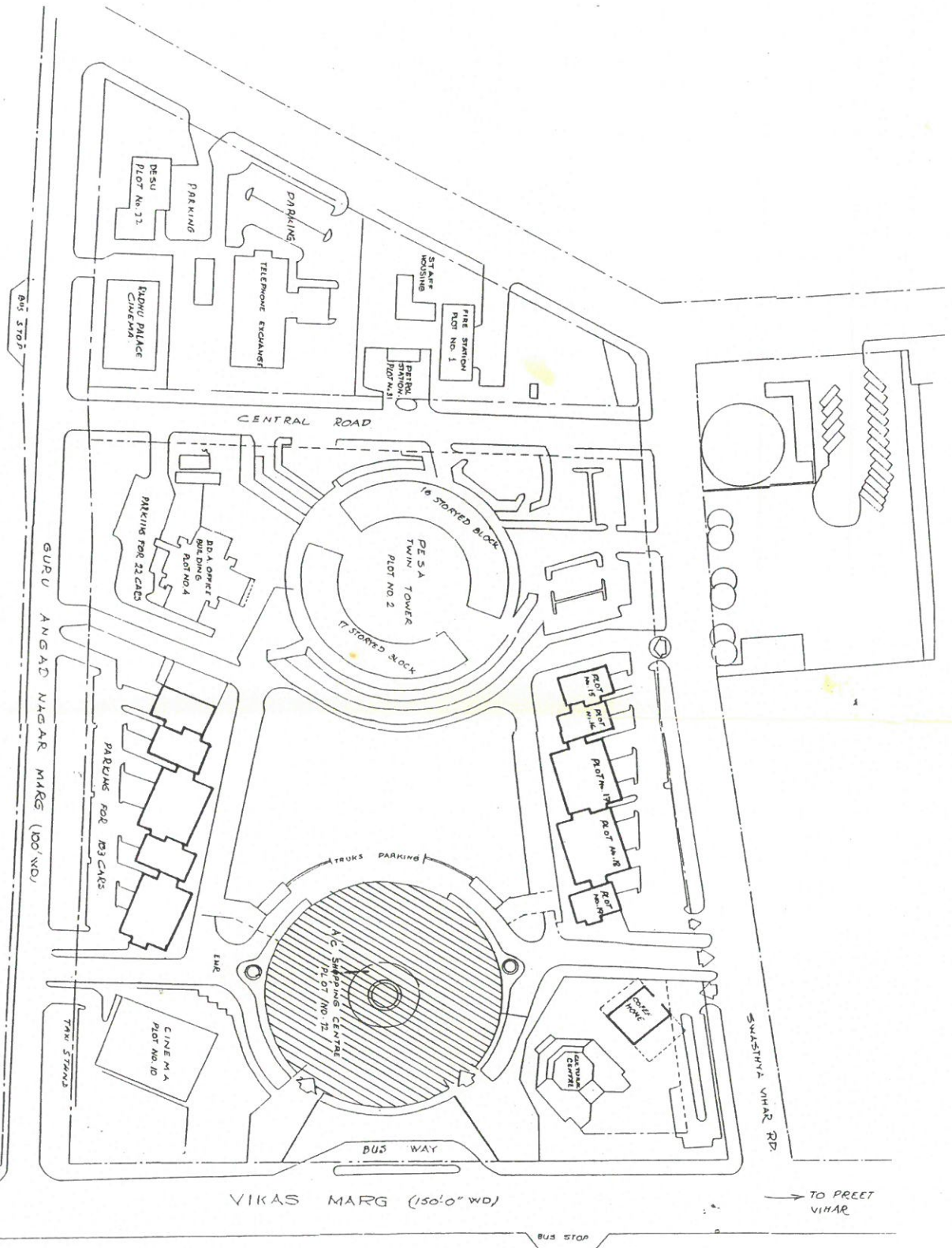
**AIR - CONDITIONED MARKET
AT LAKSHMI NAGAR,
DISTRICT CENTRE, NEW DELHI,**



NATIONAL INSTITUTE OF URBAN AFFAIRS
81 NYATA MARG, CHANAKYAPUR, NEW DELHI-110011. TEL. : 801 8860/801 1810 GRAHS : URBANST

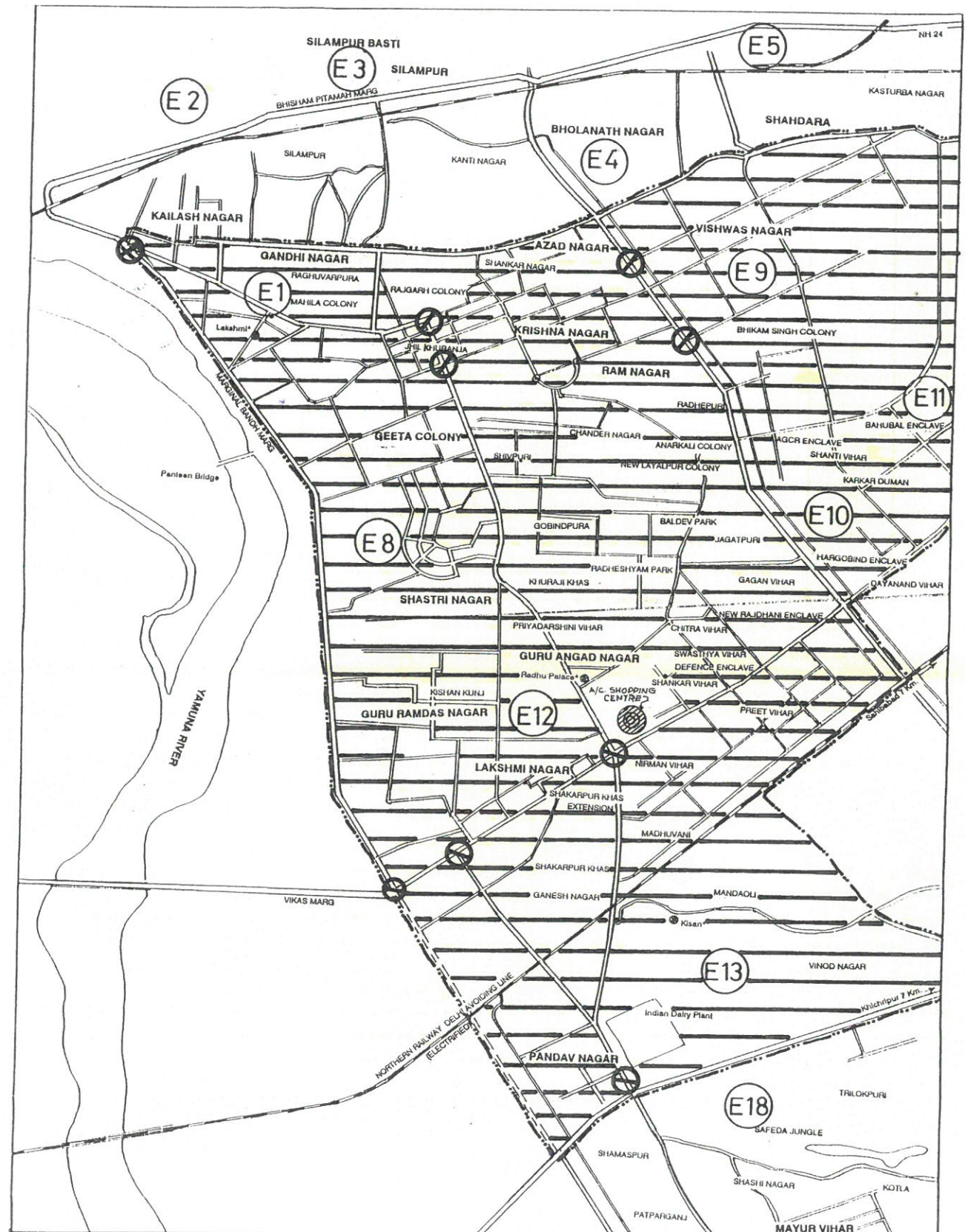
**AIR - CONDITIONED MARKET
AT LAKSHMI NAGAR,
DISTRICT CENTRE, NEW DELHI,**

National Institute of Urban Affairs,



FROM I.T.O.

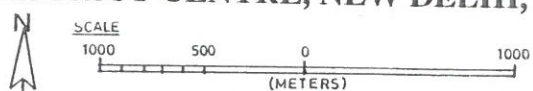
TO PREET VIHAR



Traffic Bottlenecks.
Catchment Area



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A brief glance at the above list will show that of the total shops, there are large number shops of incompatible use e.g. building material shops. These shops cause a lot of inconveniences along the service road due to their storage of building material on the road itself. Similarly, the auto-repair shops, which spill out their activities on to the road hamper free movement. If some adjustments are made and the building material shops are shifted to a more suitable location such as Loni Road, where a wholesale market for building material is being proposed, then the shopping area will have a more consistent character.

Another factor contributing to an uneven form of the shopping on this road is its irregular urban profile. Although, it is not permissible to build more than a 2-storey shop, traders have built upto 3 and 4 storeys. So, one finds shops that have a small area on ground going upto 4 floors. These thin 4-storied blocks alternate with double and single storied blocks. Hoardings are displayed not only on the shop front but also along the road and above the roofs of the shops. All this leads to a haphazard facade. If certain guidelines are laid for building heights, shop sizes and signage, the image of Vikas Marg would alter dramatically.

Markets and shopping areas in the Trans-Yamuna are mostly of the informal kind. There is no planned commercial area except a sub C.B.D in Preet Vihar, which is still in the developmental stage. Majority of movement corridors are lined with numerous small shops. The shops cater mostly to everyday consumption goods such as grain, vegetables and edible oil. A large number of them are also service shops engaged in autorepair and repair of household goods. Shops dealing with high quality goods and consumer durables are absent.

3.5 Popular markets of the catchment area

The catchment area of the district Centre also exhibits similar characteristics of commercial development as described earlier. Vikas Marg, Patparganj Road and other interior roads in Krishna Nagar are all lined with numerous shops, and vegetable/fruit sellers. Most of these roads are already congested with traffic. Commercial activities that have come up in an unorganised manner have further contributed to the traffic congestion.

Nevertheless, certain markets have become quite popular over a period of time. These are the Khureji Khas market, Jheel khuranja Market and the most popular of all is the Lal Quarter Market, Krishna Nagar. The weekly markets that take place on Mondays and Wednesday are also quite popular.

The Khureji Khas market comprises of shops selling vegetables and fruits. It has more of a rural character as it is located in Khureji village. The Jheel Khuranja market sells mostly consumer goods. It also has a large quantity of service shops such as auto-repair shops.

The most popular market is the catchment is the Lal Quarter Market, Krishna Nagar. It is the only market in trans-Yamuna area that has a good shopping environment and has a large number of shops catering to the varied demand of middle and higher income households. The Lal Quarter Market is comparable in the size of its shops and quality of goods to Central Market, Lajpat Nagar. It is famous for its readymade woollens and other garments and offers a variety of textile shops besides showrooms of jewellery and footwear. The range of goods sold in this market are indicative of the nature of shopping activities that will take place in the proposed market complex at Laxmi Nagar.

Another interesting feature of the catchment is its weekly markets. In these markets, people come mostly from surrounding rural areas to sell locally made wares. Their products suit the pockets of the poor section of society. Nevertheless, despite their usefulness, they create congestion on roads.

4.0 FEASIBILITY OF THE AIR-CONDITIONED MARKET AT LAXMI NAGAR

Feasibility of a commercial development can be assessed in terms of potential demand that exist for the property. There are two aspects to such a demand. One related to the size of the market, i.e. the total population that the market is expected to serve and the disposable income levels of this population. Secoindly, a prospective buyer of shops would also be influenced by the selling price of the property in comparison to the prevailing market prices of other commercial properties in that location.

4.1 Potential Population

As stated earlier, although the potential population that could be served by the proposed market could be the whole of Trans-Yamuna area, and when the ITO bridge capacity is doubled, it may attract residents of Central and South Delhi as well. However, it is expected to primarily cater to the local population of the catchment area.

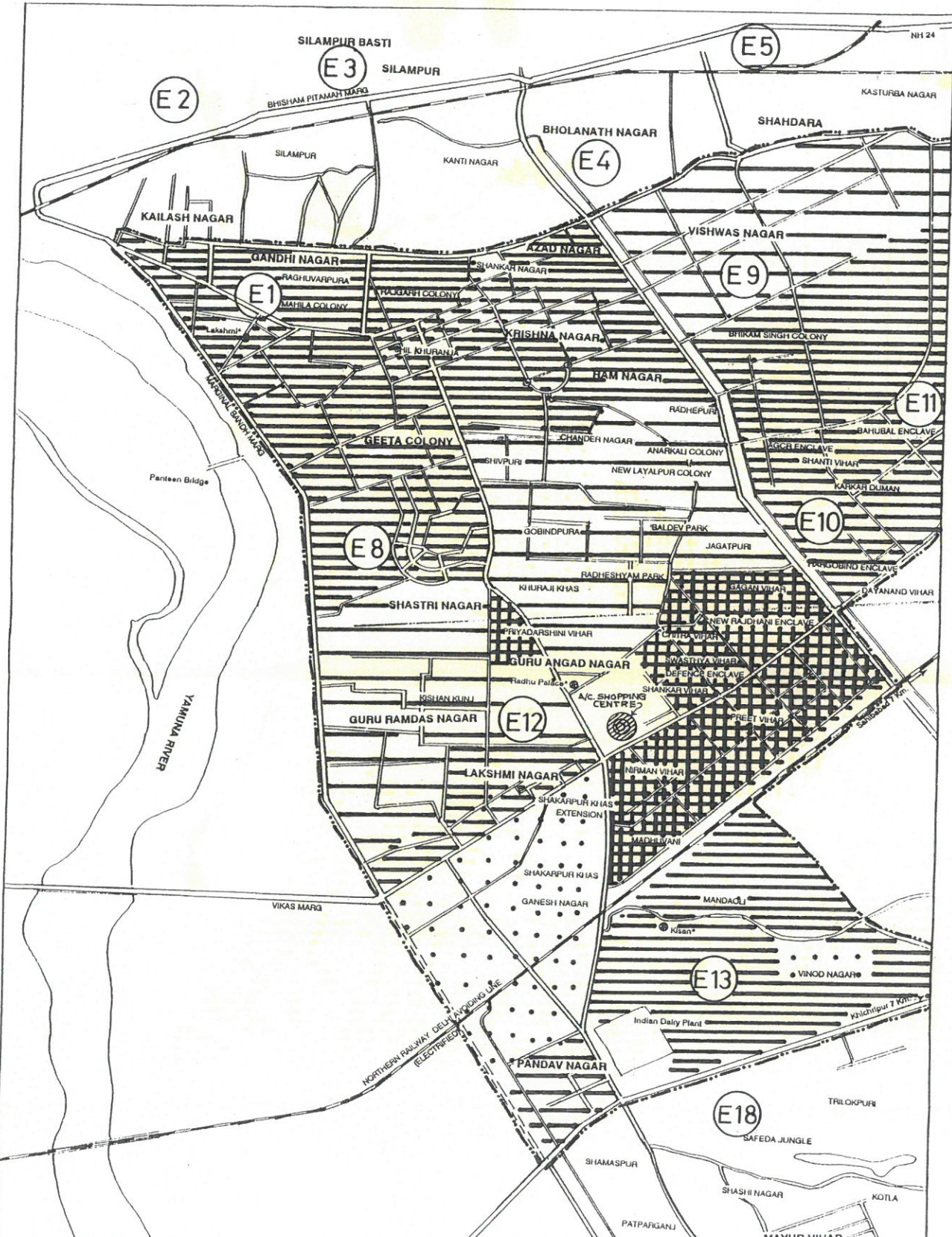
As the table below indicates, the catchment area population, as per the 1991 census is 656,873 persons. This population is already much higher than the planned population as per the holding capacities identified for each zone in the Delhi 2001 plan. Details of our calculations are presented below.

Catchment Area Population according to Master Plan





ZONE	NUMBER OF PERSONS	
	CENSUS 1991	HOLDING CAPACITY
E-I (part)	51,927	2,20,000 (E-1)
E-8 & E-12	2,72,273	2,45,200
E-9, E-10 & E-11	1,27,052	1,54,500
E 13 (part)	1,05,621	-
Total	6,56,873	6,19,700+Holding capacity of E-13

4.2 Income Pattern in the Catchment Area

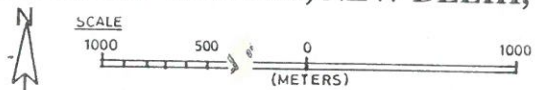
Household incomes levels also determine the demand for commercial enterprises of a specific type. Income pattern of the households in the catchment area of air-conditioned market revealed a wide range of income levels. The distribution of income pattern in catchment area is depicted on the enclosed map no.3. In the unauthorised colonies, incomes range from Rs.200/- per month to Rs.2000/- per month. Their standard of living is low and their demand for goods is met with by the small shops within the colonies. This group of households are unlikely to use the shops of the proposed market complex.



Distribution of Average Income of Households Per Month

-  up to 2000
-  2000 - 5000
-  5000 - 10000
-  10000 and above

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On the other hand, the income levels in the planned areas of the plotted developments of the D.D.A. colonies are very high and fall within the range of Rs.5000/- per month to Rs.10000/- per month. These households are expected to have a high demand for up-market goods and services that is expected to come in the air-conditioned shopping complex. It has been noticed over the past 5 to 8 years that the informal market that was heretofore selling poor quality goods has slowly started taking to better and more expensive goods as a response to the arrival of the elite class of residents. Big showrooms are now found interspersed with the innumerable building material and juice shops. The row of informal shops is undergoing a slow transition towards becoming a more improved Shopping Mall.

4.3 Feasibility based on Market Conditions

The rapidly growing population and the influx of higher income groups in Trans-Yamuna area has led to a spurt of demand for commercial properties.

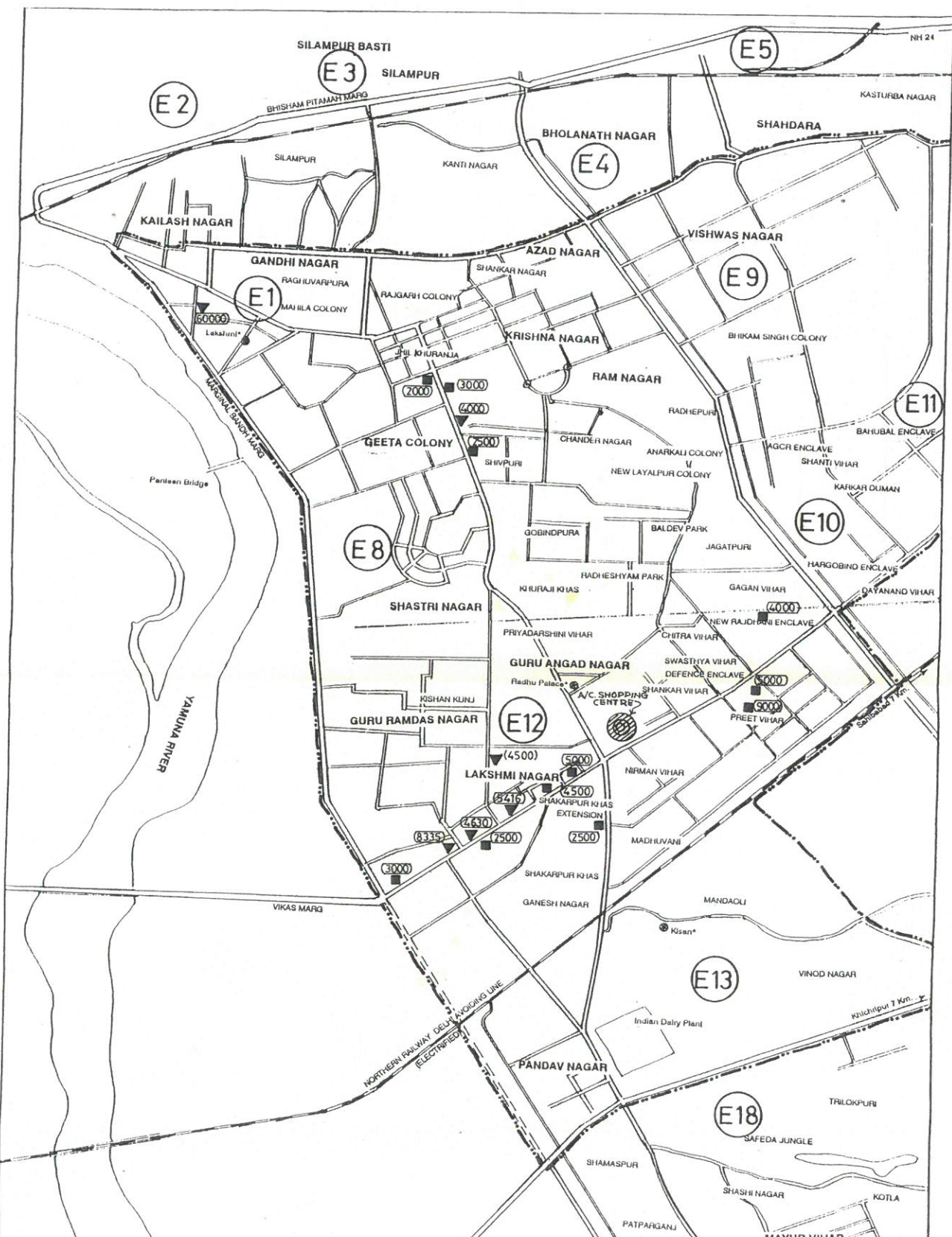
Market based demand for commercial properties can be gauged from the prevalent prices. These prices reflect the buyers willingness to pay for certain distinct characteristics of the property. Rapid rise in these prices are also a reflection of the relative scarcity of commercial properties.

Market prices also reflect speculative demand for real estate. The speculative demands are generally higher when the supply of real estate does not match the demand or when the selling price of real estate is far below the market price.

True estimates of market price of real estate is difficult in Indian condition as a substantial portion of the quoted market price is demanded in unaccountable (or Black) money. Most sales of commercial properties in Delhi are also not registered, as they are made generally through power of attorney. Thus, registered values of such property transactions do not have adequate samples and wherever available, they do not reflect the true market price.

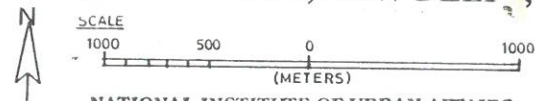
Under these circumstances, the approach chosen in this study was to undertake a primary survey of the commercial properties in the area. The prices obtained through the survey are the "offer prices", i.e. the prices expected by the seller. The true market prices may be slightly lower than these offer prices.

The results of the survey of the prevailing market prices is shown on the enclosed map No.4. It can be seen that the market prices vary from Rs.20,000/sq.mtr. in the interiors to Rs.80,000/sq.mtr. on the arterial roads. Some specialised shopping areas, like the wholesale garment market near Gandhinagar, the prices are as high as Rs.600,000/sq.mtr.



RATES PER S. FT. (Rs.)
 AS PER SHOPKEEPER (2500) ▽
 AS PER PROPERTY DEALAR ■

**AIR - CONDITIONED MARKET
 AT LAKSHMI NAGAR,
 DISTRICT CENTRE, NEW DELHI**



These market prices reflect general scarcity of organised commercial spaces in the locality. It is clear from these trends that the proposed shopping centre of DDA will find a ready market.

It must, however, be noted that nearly 90 per cent of the quoted market price has a black money component. If the reserved price/break even price of DDA for the shopping complex is closer to these market prices, there will be difficulties for the prospective buyers to bid for the property in official money. The DDA shall have to devise some suitable alternatives to tap the full market prices.

4.4 Reserved Price/Break-even Price

The concept of break-even price is the price at which the agency will be able to just recover its cost. The commercial properties are also avenues for the agency to generate surpluses, which can be used to cross-subsidise social housing and related projects. The reserved prices, i.e. the minimum price expected by the agency can be higher than the break-even prices.

For the purpose of this analysis, we have attempted to compute the break-even price, as the DDA's methodology of computing reserve price was not made available to us.

Break-even price as per project report :

From the project report based on preliminary estimates, the total project cost is estimated to be Rs.50 crores, inclusive of the land component. Table-2 provides the details of the cost components. Based on these estimates, the break-even price for the saleable carpet area of 11,069 sq.mtr works out to Rs.44524/- per sq.mtr.

Table - 2

Estimated Cost of Project : Air-conditioned Market in Circular Shopping Complex at Laxmi Nagar

Sl.no.	Detail	Amount (Rs.)
1.	Cost of land 20,620 sq.mt.(FAR) @Rs.7,000/-per sq.mt.	 14,43,40,000.00
2.	Cost of Project as per preliminary estimate	25,25,34,000.00
3.	Add for Departmental charges @15%	3,78,80,100.00
4.	Add for Administrative charges @2%	50,50,680.00
5.	Add for Interest @14%for 1-1/2 years (1/2 of the constructuion period of 3 years)	5,30,32,140.00
	Overall estimated cost of the project	----- 49,28,36,920.00 -----
	Say Rs.	4928 lacs.

It may be noted that the project designed itself is quite inefficient and the cost of construction is much higher than the prevalent costs.

The total plinth area of the project, according to the project report, is 35010 sq.mtr. This is used in the preliminary cost estimates to arrive at the construction cost of Rs.8007 per sq.mtr. at 1990-91 prices. It may not be out of place to mention that for the India Habitat Centre project on Lodhi Road, the construction costs at 1992-93 prices will be around Rs.7000 per sq.mtr.

Secondly, the design of the building is such that of the total plinth area of 35010 sq.mtr., nearly 12,750 sq.mtrs. is for basement that is used for parking and another 11,192 sq.mtr. will go in circulation spaces. Thus the available carpet area for sale is only 11,068 sq.mtr. This ratio of saleable area to plinth area is only 0.316. Such a ratio is considered abysmally low for a commercial spaces.

4.5 Incremental Break-even Prices :

An alternative way of working out the break-even price per saleable area is to load the costs of the project in an incremental manner.

The construction costs of Rs.8007 per sq.mtr of plinth area, work out to Rs.25,338 per sq.mtr of saleable area. To this, if one adds the land costs of an FAR of 20,620 sq.mtrs at Rs.7000 per sq mtr. the land cost per saleable area will be Rs.13,041 per sq.mtr. Thus the land and construction cost per saleable area will be Rs.38,379 per sq.mtr.

If the overheads charges (17%) contingencies (5%) and interest on capital employed (8%) or average of default payments are added, the break-even costs for the project is estimated to be around Rs.50,000 per sq.mtr. per saleable area.

While our market survey indicates that these break-even prices are well within the range of the prevalent prices, one must take account of the fact that these prices have a large share of unaccounted money transaction.

4.6 Reduction in Break-even Cost :

We, however, feel that it is possible for DDA to reduce its break-even price by increasing saleable area of the complex through design modifications and also bringing about greater efficiency in construction methods to reduce the construction costs to the comparable levels prevalent for similar projects in the city of Delhi.

The modifications in design and reductions in the construction costs will pave way for subsequent projects of commercial complexes to be taken up by DDA.

4.7 Profitability of the Project :

The ultimate test of project feasibility will be based on the demand for the space in the complex from the potential buyers. As we have already mentioned, the market prices are quite high and we see no reason why DDA should not be able to generate reasonable profits from the project.

4.8 Tender bids Vs Auction :

In order to ensure saleability of the project, it is suggested that DDA should modify its present practice of sale of commercial properties by auction for such high cost projects.

As it happens today, at the DDA's auctions of commercial properties, the reserved prices are announced only at the time of the auction. The prospective buyers are often unprepared for the "high" reserved prices and are unwilling to come forth with their bids.

Given the high reserved price for the air-conditioned market at Laxmi Nagar, it would be more appropriate for DDA to invite tender bids, just as it does for hotel and other commercial plots. We would even like to suggest that DDA may have to campaign for marketability of the project by inviting prestigious consumer durable companies, up-market shops in other parts of the cities and major industrial houses located in Delhi to bid for the space.

SUMMARY

1. The proposed project is viable as the catchment area population is 650,000. The income level of residents near the project site is quite high. The high population and high income level will sustain the demand for such facility in Trans-Yamuna area.
2. The proposed project will create an attractive urban environment and provide an up-market image to the whole of Trans-Yamuna area.
3. The prevailing market price per sq.mtr. of commercial properties in the area are quite high and range from Rs.40,000 to Rs.80,000 on Vikas Marg and upto Rs.600,000 in wholesale garment market.
4. However, at present nearly 90% of the transactions for commercial properties are in "Black money". DDA will not be able to capture the prevailing market prices. It will need to evolve a different strategy to sell the commercial properties to prestigious firms and companies by inviting tender bids, instead of current procedure of auction.

5. DDA's own estimates for cost of construction of the project is higher in comparison to similar projects of public and private agencies in Delhi. Added to this, the space utilization in the designed building is very poor with a saleable carpet area to built-up area ratio of 0.316. Efforts should be made to alter the internal space allocations to maximise saleable area.

6. The break-even price for project according to our calculations, will be around Rs.46,000/sq.mtr. This is quite high and the agency may find it difficult to attract buyers as per its normal practice. Despite this high break-even price, DDA should strive to sell the space at the rates comparable to prevalent market rates of Rs.50,000 to Rs.80,000/-.

7. It is proposed that DDA should invite dealers and shop owners of other up-market shopping areas of Delhi - like Connaught Place, South Extension, Karol Bagh - to bid for space now. The payment schedule can be staggered over the construction period to ensure adequate cash flow for the project.

8. Parking provision in the complex building is not as norms of DDA master plan. Even though common parking facilities within the district centre may suffice, there will be congestion along Vikas Marg, unless strict enforcement is observed. A pedestrian walk-way (sub-way) across Vikas Marg will be needed at a later date, when the complex is fully functional. Adequate design provisions should be made for this.

9. The positive attributes of the project regarding its location, creating an up-market image, fulfilling the long-standing need for the Trans-Yamuna area, far outweigh some of the negative attributes of the projects like inefficiency in saleable space and high construction costs.

We recommend that the project should be taken up by DDA and a suitable disposal process to fetch prices close to prevailing market price should be evolved by DDA.

Annexure-I

CIRCULAR SHOPPING COMPLEX
LAXMI NAGAR DISTRICT CENTRE, DELHI

SCHEDULE OF PROPOSED COVERED AREAS

	Total covered Area in Sq.mt.
(1) Ground Floor (+ 1.5 m level) =	6,439.78
(2) First Floor (+ 5.65 m level) =	5,603.92
(3) Second Floor (+ 9.80 m level) =	6,150.00
(4) Third Floor (+ 13.95 m level) =	2,120.00
	----- 20,313.70 -----
(5) Basement Floor (-3.5 m level) =	12,750.00

GROUND FLOOR : GROSS AREA : 6439.78 Sq.mt.

CARPET AREA OF SHOPS

TYPE	No. of shops	Area/Shop	Total carkpet are
A	11	14.77	162.47 sqm
B	14	33.41	467.74 Sqm
C	13	29.84	387.92 Sqm
D	2	93.67	187.34 Sqm
E	20	65.53	1310.60 Sqm
KIOSKS	46	8.00	368.00 Sqm
	-----		-----
	60 + 46 Kiosks		2884.07 Sqm
Eating Houses	16 No.		+ 1640.00 Sqm

			4524.07 Sqm

FIRST FLOOR : GROSS AREA = 5603.92 Sq. mt.

TYPE	No. of Shop	Area/Shop	Total Carpet Area
A	10	16.79	167.90 Sqm
B	2	28.43	56.86 Sqm
C	12	14.88	178.56 Sqm
D	12	13.54	162.48 Sq,
E	14	32.05	448.70 Sqm
F	8	24.02	192.16 Sqm
G	16	24.62	393.92 Sqm
H	14	18.80	263.20 Sqm
I	14	14.77	206.78 Sqm
J	12	19.89	238.68 Sqm
	----- 114 No. -----		----- 2309.24 Sqm. -----

SECOND FLOOR : GROSS AREA = 6150.00 mt.

TYPE	No. of Shop	Area/Shop	Total Carpet area
A	16	27.57	441.12 Sqm
B	2	28.43	56.86 Sqm
C	12	14.88	178.56 Sqm
D	12	13.54	162.48 Sqm
E	14	40.40	565.60 Sqm
F	12	34.20	410.40 Sqm
G	16	24.26	388.16 Sqm
H	14	18.80	263.20 Sqm
I	14	14.77	206.78 Sqm
J	12	29.83	357.96 Sqm
	----- 124 No. -----		----- 3031.12 Sqm -----

THIRD FLOOR : GROSS AREA : 2120 Sq.mt.

TYPE	No.	Area/Shop	Total carpet area
A	1 Restaurant	280.57	280.57 Sqm
B	1 Restaurant	36.21	36.21 Sqm
C	1 Restaurant	15.40	15.40 Sqm
D	1 Restaurant	109.41	109.41 Sqm
E	4 Offices	109.41	109.41 Sqm
F	2 Offices	162.52	325.05 Sqm
			----- 1204.28 Sqm -----

TOTAL CARPET AREA OF ALL SHOPS AT ALL FLOOR

Ground Floor	=	4524.05 Sqm
First Floor	=	2309.24 Sqm
Second Floor	=	3031.12 Sqm
Third Floor	=	1204.28 Sqm
		----- 11068.71 Sqm. -----

Annexure - II

POPULATION AND DENSITIES OF UNAUTHORISED/REGULARISED COLONIES OF THE CATCHMENT AREA

(A) Populations as per 1991 Census :

I	(i)	SHAKARPUR VILLAGE	-	2180 persons
	(ii)	Shakarpur Complex	-	41,238 persons
		Shakarpur Complex includes Shakarpur Khas, Shakarpur Extension, Dayanand Block, Sunder Block, Ganesh Nagar, Upadhaya Block, Nanakpura, Shakarpur etc.		
	(iii)	Total Area	-	76.38 Ha
	(iv)	Density	-	354 P.P.H.

II Laxmi Nagar Complex

This includes various sub-colonies such as Kundan Nagar, Guru Ramdas Nagar, East and West Guru Angad Nagar, Vijay Block, Lalita Park etc.

(i)	Total Area	-	140.82
(ii)	Total population	-	40,308 persons
(iii)	Density	-	287 P.P.H.

(III) Beyond Laxmi Nagar and also included in study area are Shastri Nagar, Jheel Khurja, Geeta Colony -
Total population = 43,850

C. Zonal Developmet Plan for E-8 & E-12

- (1) Master Plan Density 308 and 313 P.P.H.
- (2) Analysis of Gross Residential Area :
- | | | |
|----------------------------------|---|-----------|
| (i) Area under zonal roads | - | 5.21 Ha |
| (ii) Area under community Centre | - | 6.92 Ha |
| (iii) Area under Societies | - | 178.66 Ha |
| (iv) Area under Village | - | 2.63 Ha |
| (v) Area under Group Housing | - | 110.43 Ha |

D. Detailas of Zone E-10 as per Zonal Developmentg plan
Landuse Proposal

- | | | |
|-------------------------------------|---|-----------|
| (1) Residential | - | 194 Acres |
| (2) Government Offices | - | 96 " |
| (3) Recreational | - | 47 " |
| (4) Public/Semi-Public | - | 112 " |
| (i) University Centre | - | 72 " |
| (ii) Sewage Treatment Plant | - | 40 " |
| (5) Circulation - Master Plan Roads | - | 31 " |
| (6) Railway Tracks | - | 6 " |

Break-up of Gross Residential area on Master Plan

- | | | |
|----------------------------|---|-----------|
| (1) Gross Residential Area | - | 102 Acres |
| (2) Gross Density | - | 200 " |
| (3) Educational | - | 32 " |
| (4) Recreational | - | 18 " |
| (5) Commercial | - | 8 " |
| (6) Religious | - | 1 " |
| (7) Zonal Roads | - | 11 " |

(IV) Krishna Nagar Area consists of various other sub-colonies such as Chander Nagar, New Layalpur, Anarkali Colony, Radheypuri etc.

Total Population	-	55,237 persons
Total Area	-	295.8 Ha.
Density	-	283 P.P.H.

(V) The Colonies South of the Krishna Nagar are the Gobindpura group of colonies which include Khureji Khas, Gobindpura, Baldev Park, Brijpuri, Radhey Shyam Park, Rashid Market, Anarkali Garden.

Total Population	-	42,321
Total Area	-	912.15 Ha
Density	-	46 P.P.H.

Total population in unauthorised colonies : 2,08,622 persons

B. Analysis of Area Allotted to C.B.H.S. in Zone E-12 and E-8.

Total Area existing under Housing Societies

in Zone E 12 and E 8 = 110 Ha

Total Population - 33,978 persons.

Average Density - 308 P.P.H. in all Housing Societies except Chitra Vihar C.B.H.S (494 P.P.H)

E. Area Distribution under various Landuses in ZONE E-11

(1)	Residential	-	613 Acres
	(i) Gross Density	-	75 P.P.A.
	(ii) Gross Density	-	100 P.P.A.
(2)	Retail Business	-	13 Acres
(3)	District Parks, Playgrounds and open spaces.	-	112 Acres
(4)	Public and Semi-Public facilities	-	14 Acres
	(i) College	-	15 Acres
	(ii) Hospital	-	
(5)	Ciculation		
	(i) Master Plan Roads	-	67 Acres
	(ii) Railway Land	-	11 Acres