

THE UNIVERSITY OF MANITOBA

A RETAIL IMPACT ANALYSIS OF UNICITY FASHION SQUARE,  
A REGIONAL SHOPPING CENTRE,  
CITY OF WINNIPEG

by

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TO  
MY DECEASED FATHER  
MAY HE REST IN PEACE

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## ABSTRACT

The purpose of this thesis is to assess the consequences of the introduction of a new shopping centre at a location not previously contemplated in the development of a city. A more systematic approach for shopping centre planning and development can thus be derived.

Unicity Fashion Square, a regional shopping centre which was developed against the advice of Winnipeg's City planners, was chosen as an illustrative case study. A detailed literature review shows income and distance are the major factors affecting retail consumer patronage; hence, the Lakshmanan-Hansen model of retail location was used in this study.

Findings show that Unicity Fashion Square 1976 sales were below those estimated by management: proof that city planners were correct in objecting to this regional shopping centre development. Recommendations regarding general shopping centre location policy are deduced from the findings of the study.

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	i
ABSTRACT.....	ii
LIST OF TABLES.....	vi
LIST OF ILLUSTRATIONS.....	viii
LIST OF MAPS.....	ix
CHAPTER	Page
INTRODUCTION.....	1
I THEORIES OF RETAIL CONSUMER PATRONAGE.....	5
1. Consumer Behaviour Theories.....	5
2. Retail Location Theories and Models....	11
2.1 Central Place Theory.....	12
2.2 Retail Gravity Models.....	17
2.3 Statistical Formulation of Retail Location Theories.....	23
3. Integrated Planning Models.....	27
4. Summary and Conclusion.....	33
II BACKGROUND OF THE UNICITY FASHION SQUARE ISSUE.....	37
1. Chronological History of Unicity Fashion Square.....	37
2. The Planners' Role in This Issue.....	47
3. Justification of this Research on a City Planning Basis.....	50
III RESEARCH METHODOLOGY--THE STEP BY STEP APPROACH.....	59
IV RETAIL IMPACT ANALYSIS OF UNICITY FASHION SQUARE.....	73
Step I Examine the existing shopping centre development of the City of Winnipeg.....	73

CHAPTER	Page
Step II Outline the perceived impact of this regional shopping centre prior to its opening in 1975.....	80
1. The market of the regional shopping centre as perceived by the Unicity Fashion Square authority.....	80
2. The market of the regional shopping centre as perceived by others.....	83
Step III Delineate its trade adrea by means of consumer survey and licence plate survey.....	88
Step IV Estimate the sales of the shopping centre by adopting a model as discussed in Chapter I .....	101
Step V Test the viability of the shopping centre by converting sales to required floorspace.....	110
Conclusion.....	116
 V THE RETAIL IMPACT OF UNICITY FASHION SQUARE ON OTHER COMMERCIAL DEVELOPMENT IN THE CITY OF WINNIPEG AND OTHER AREAS.....	 118
1. Impact on other communities in Manitoba.....	118
2. Impact on other community shopping centres in western Winnipeg.....	121
3. Impact on the other regional shopping centre--Polo Park.....	125
4. Impact on CBD.....	128
5. Impact on the City of Winnipeg as a whole.....	134
6. Conclusion.....	138
 VI CONCLUSION AND RECOMMENDATIONS.....	 142
APPENDICES.....	151
BIBLIOGRAPHY.....	168

## LIST OF TABLES

TABLE		Page
1	Consumer Patronage--Theories and Models....	34
2	Retail Sales City of Winnipeg 1966, 1971...	54
3	Step-by-step Approach to Unicity Fashion Square Impact Study.....	62
4	Actual Shopping Centre Square Footage by Type, by Year Periods.....	74
5	New Construction (in Square Feet) of Shopping Centres by Type, by Year Periods.....	75
6	Relationships among Residential Acreage, Shopping Centre Footage and Population by Community Committees 1976.....	81
7	Net Retail Sales of Polo Park Shopping Centre.....	87
8	Trade Market of Unicity Fashion Square (by Distance from the Centre).....	91
9	Consumer Survey--Mode of Transportation....	93
10	Trade Market of Unicity Fashion Square (By Location in or out of Town).....	94
11	Population of the Trade Market of Unicity Fashion Square.....	95
12	Trade Market of Unicity Fashion Square (by Rural Municipalities).....	96
13	Trade Market as Perceived by Unicity Fashion Square (by Census Tract).....	98
14	Primary Trade Area of Unicity Fashion Square.....	100
15	Gross Leasable Floor Area of Retail Location Under Study.....	104

TABLE	Page
16	Consumer's Preference for Unicity Fashion Square..... 105
17	Consumer's Preference for Unicity Fashion Square (within the 3 miles radius zone).. 107
18	Estimation of Sales on Grocery of Unicity Fashion Square..... 108
19	Estimation of Sales on DSTM of Unicity Fashion Square..... 109
20	Regional Shopping Centres in Canada--Sales per Square Foot of Gross Leasable Area... 111
21	Retail Sales for Unicity Fashion Square Using Mr. Diller's Estimate..... 112
22	Sales of Unicity Fashion Square..... 114
23	Change of Shopping Location in Grocery to Unicity Fashion Square..... 122
24	Change of Shopping Location in DSTM to Unicity Fashion Square..... 123
25	Functional Duplication of Unicity Fashion Square and Polo Park Shopping Centre..... 126
26	Retail Sales Figure 1966, 1971..... 130
27	Decentralization Index for City of Winnipeg Suburb 1966-1971..... 133
28	Retail Sales, City of Winnipeg, 1971-1976.. 135
29	Relation Between per Capita Retail Sales and per Capita Income, City of Winnipeg 1966, 1971 and 1976..... 136
30	Relation Between Change in Retail Square Footage and Retail Sales..... 137
31	Retail Sales and Population, City of Winnipeg 1966, 1971 and 1977..... 139
32	Retail Gross Leasable Floor Area, City of Winnipeg 1966, 1971 and 1975..... 140

## LIST OF ILLUSTRATIONS

FIGURE		Page
I	A Hierarchy According to Christaller's Marketing Principle.....	14
II	The Three Smallest Market Area Sizes in Lösch's System.....	15
III	An Integrated Model for Shopping Centre Study.....	28
IV	Relationships Among Various Actors in a Shopping Centre Decision.....	51
V	Trade Market of Unicity Fashion Square.....	92

LIST OF MAPS

MAP		Page
I	Retail Commercial Locations--Shopping Centres: City of Winnipeg 1977.....	39
II	Location of Unicity Fashion Square.....	41
III	Trade Area of Unicity Fashion Square.....	42
IV	Retail Commercial Locations--City of Winnipeg 1977.....	148



## INTRODUCTION

The purpose of this thesis, using a case study approach, is to assess the consequences of the introduction of a new shopping centre at a location not previously contemplated in adopted development guidelines. From thence, it is hoped that a more systematic approach can be derived for shopping centre development.

Planned shopping centre<sup>1</sup> development is a post World War II phenomenon. Its major function is to cater to the automobile driving public, that is, the suburbia dwellers. The problem of shopping centre overdevelopment is not a new one. As early as 1954, an article entitle "Shopping Centre: How Many Are Enough?"<sup>2</sup> discussed the situation that shopping centre development leapfrog each other in rising competition for the shoppers' dollars. It pointed out the fact that the main influence of the burgeoning shopping centres had been simply to provide more push and more pull. The consumers' purchasing power remained constant<sup>3</sup> independent of the creation of more

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<sup>1</sup>For definition, please refer to Appendix A.

<sup>2</sup>Architectural Forum, Vol. CI, August, 1954.

<sup>3</sup>Statistics Canada's survey on urban family expenditure 1974 revealed that family expenditures remained fairly constant as certain percentage of household income.

places to purchase. The basic competitive proposition of shopping centres was not to increase consumer expenditure but only intercept them on their way to the location where they were spent originally. Chicago's Milwaukee Avenue was quoted as an example of leapfrogging shopping centre development. It was pointed out that the store group nearest the City became virtually a "ghost centre".

As to Winnipeg, shopping centre development did not pose any problem as late as 1968. The Metropolitan Development Plan 1968<sup>4</sup> did not mention regional shopping centres in its commercial development policy. Probably regional shopping centre development would not be of the City's specific concern if it was not for the development application of the Unicity Fashion Square in 1972. The issue periodically occupied the headlines in daily newspapers for almost a year.<sup>5</sup> The issue at hand is far more extensive than the one regional shopping centre under consideration.

"The immediate significance in such concept (land use planning) is the purpose it serves to focusing attention on slighted or overlooked considerations in technical procedures and in indicating the potentialities of fitting plan

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<sup>4</sup>The Metropolitan Corporation of Greater Winnipeg, The Metropolitan Development Plan, 1968.

<sup>5</sup>For exact dates and headlines, please refer to Robert Kent, The Process of Urban Government Decision: The Winnipeg Experiment, Department of Urban Affairs, Province of Manitoba, Oct. 1974.

effectuation activities more successfully and less blindly to action processes.<sup>6</sup>

Commercial developments, especially shopping centre developments, are hot issues in most Canadian metropolitan cities. A cross-Canada metropolitan city survey on commercial developments<sup>7</sup> showed that in September, 1977 at least five Canadian metropolitan cities were undertaking studies in commercial developments or had just completed them.<sup>8</sup> The City of Winnipeg is paying special attention to commercial developments in the formulation of its new development plan.<sup>9</sup>

This thesis is orientated towards testing a number of hypothesis relating to the number, location and impact of new regional shopping centres:

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<sup>6</sup>F. Stuart Chapin Jr., Urban Land Use Planning, 2nd Edition, Urbana: University of Illinois Press, 1965, p. 41.

<sup>7</sup>Shirley Kwan and Paul Smith, Retail Commercial Study: City of Winnipeg, S.T.E.P. report for Manitoba Department of Urban Affairs, Sept., 1977.

<sup>8</sup>The five cities are: St. John, New Brunswick; St. Catherines, Ontario; Hamilton, Ontario; London, Ontario; and Ottawa, Ontario.

<sup>9</sup>The new Winnipeg Unicity Development Plan is projected to be finished by 1979. Background papers on commercial development include:

Department of Environmental Planning, Long Range Planning Section, "Commercial Development, City of Winnipeg", 1976 (for study purpose only).

S. Kwan and P. Smith, 1977, op. cit.

- 1) Unplanned Shopping Centre Development is detrimental to the business community.
- 2) A suburban shopping centre situated at the periphery of the town intercepts business from out-of-town, adversely affecting the Central Business District and shopping centres closer to the town centre.
- 3) A shopping centre development not previously contemplated in planning guidelines will coerce the City to provide infrastructure not formerly designated for.

The approach taken in this study is rather quantitative than qualitative. The analysis will be carried out as follows:

- 1) review the various theories and impact studies done on shopping centres so as to identify the scope of this study,
- 2) examination of the background of the Unicity Fashion Square issue in order to clarify the problems under consideration,
- 3) establishment of a methodology to test the hypotheses bases on the literature review and the background story,
- 4) analysis of the result of the study,
- 5) discussion of the relationship between city planning and regional shopping centre development, and
- 6) overall conclusion and recommendations.

## CHAPTER I

### THEORIES OF RETAIL CONSUMER PATRONAGE

According to Webster's Dictionary, a theory is,

"A general principle, formula, or ideal construction, offered to explain phenomena, and rendered more or less plausible by evidence in the facts or by the exactness and relevancy of the reasoning."<sup>1</sup>

In order to have a clear understanding of shopping centre development, it is important at this point to review the principles inherent in the general retail consumer patronage theories. From thence, variables necessary for this study can be detected. There are a number of schools of retail consumer patronage theories. For the purpose of this study, only the consumer behaviour theories and retail location theories are examined.

#### 1. Consumer Behaviour Theories

According to micro-economic theory, consumer decision on purchase is based on the price of goods. Consumers will consume more when the price is lower.<sup>2</sup> But

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<sup>1</sup>Webster's Third New International Dictionary  
Unabridged Edition, Springfield, Mass.: G & C Merriam  
Company, 1971.

<sup>2</sup>Micro-economic theory of consumption is much more complex than what is presented here. No attempt has been made to elaborate it since analogy is only drawn at the primitive level of the theory.

when the consumer is faced with the choice of alternative locations of purchase, the decision will be made on the balance between commodity cost and convenience cost. According to Eugene Kelly<sup>3</sup> commodity cost refers to the monetary price paid to the seller in order to obtain the possession of goods and services. Convenience cost on the other hand is incurred through the expenditure of time, physical and nervous energy, and money required to overcome the frictions of space and time in order to obtain possession of goods and services. The underlying principle is to minimize both costs. But trade-offs have to be made sometimes in order to obtain the maximal benefit. In the present day economy, it is apparent that convenience costs are assuming more importance as patronage determinants.

It is natural to assume that the consumer will shop at the nearest available outlet. So distance may be the prime variable for retail patronage. But this simple analogy is subjected to constraints, Donald L. Thompson suggested that the actual distance travelled by the consumer to the place of purchase may be different from the consumer's perceived distance.<sup>4</sup> He termed this the

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<sup>3</sup>Eugene Kelly, "The Importance of Consumer Purchasing," The Journal of Marketing, July 1958, pp. 32-38.

<sup>4</sup>Donald L. Thompson, "New Concept: Subjective Distance," Journal of Retailing, Vol. 39, 1963, # 1, pp. 1-6.

consumer's "subjective distance." His study in four San Francisco Bay area communities showed that a consumer's subjective feelings about a retail establishment affected his ability to evaluate its geographic position. As shown in the finding, the discount houses generally offered less consumer convenience and fewer services, and usually were more crowded and less desirable to shop than the competing department stores. This brings another aspect of consumer behaviour, that is, the character of goods theory.

The American Marketing Association laid down the distinction between convenience goods, shopping goods and specialty goods.<sup>5</sup> The definitions are based on the amount of effort a consumer is willing to spend to obtain that particular item of goods. Richard H. Holton<sup>6</sup> stated that the essence of the distinction between convenience goods and shopping goods lies in the gain resulting from price and quality comparison relative to the searching cost. For convenience goods this ratio is low, but for shopping goods the probable gain is large enough to call forth more extensive searching. Specialty goods seem to overlap both of the above mentioned categories and are distinguished only

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<sup>5</sup>American Marketing Association, "Report of the Definition Committee," Journal of Marketing, Vol. 13, Oct. 1948, pp. 202-217.

<sup>6</sup>Richard H. Holton, "The Distinction Between Convenience Goods, Shopping Goods and Specialty Goods," The Journal of Marketing, July 1958, pp. 53-56.

by the limited size of the market demand for the goods. In order to minimize the searching cost, the consumer will shop where more choices are offered instead of the nearest available outlet. Also a consumer will minimize the convenience cost by "clustering" his purchases.<sup>7</sup> Ideally, one would shop where all kinds of goods can be obtained in the same location. Under such conditions, it is tempting to assume that consumer choice is a linear function of items available at the shopping centre. But David Huff<sup>8</sup> pointed out that such a function is curvilinear. This situation is the result of the fact that as more and more goods are offered by shopping centres, it becomes increasingly difficult for the consumer to make a rational selection of the shopping centre he will patronize in preference to others.

Shopping is becoming more and more a family affair. Shopping centres are playing an increasingly important role in the community's social life. Richard L. Nelson<sup>9</sup> viewed this as a revival of one of the functions of the ancient market place. Present day shopping centres are designed to

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<sup>7</sup>Reavis Cox, "Consumer Convenience and the Retail Structure of Cities," The Journal of Marketing, April 1959, pp. 355-362.

<sup>8</sup>David L. Huff, "Ecological Characteristics of Consumer Behaviour," Papers and Proceedings of the Regional Science Association, Vol. 7, 1961.

<sup>9</sup>Richard L. Nelson, The Selection of Retail Locations, New York: F. W. Dodge Corporation, 1958.



create an environment of community identification.<sup>10</sup> Charles Thomas Moore and Joseph B. Mason<sup>11</sup> thus found that consumer patronage is strongly influenced by social class perception.

It is apparent that consumer behaviour theory is greatly hampered by the subjectivity of the consumer. Donald Thompson<sup>12</sup> tried to calculate a convenience indice<sup>13</sup> to consumer patronage. The convenience indice was a ratio between the retail food sales population (resident and non-resident) equivalents for any community and its resident population. His study in the San Francisco Bay Area showed that the convenience indices failed to explain consumer patronage in a growing area. His findings also showed that consumer behaviour theory greatly oversimplifies the concepts of utility and convenience that little descriptive or predictive result can be obtained. William A. Mindak<sup>14</sup>

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<sup>10</sup>James W. Rouse, "The Regional Shopping Centre: Its Role in the Community it Served." Urban Land, Vol. XII, 1953.

<sup>11</sup>C. T. Moore, and J. B. Mason, "A Research Note on Major Center Patronage," Journal of Marketing, July 1969, pp. 61-63.

<sup>12</sup>Donald L. Thompson, "Consumer Convenience and Retail Area Structure," Journal of Marketing Research, Vol. IV, February 1967, pp. 37-44.

<sup>13</sup>This is the term used by the writer in his article.

<sup>14</sup>William A. Mindak, "Fitting the Semantic Differential to the Marketing Problem," Journal of Marketing, Vol. 25, April 1961.

and P. Ronald Stephenson<sup>15</sup> suggested to use semantic differential method to obtain information of consumer patronage. Their analyses showed that it could only be best done on a specific basis, i.e. comparison should be made between the operations of a specific store and its identified direct competitor. The results of the empirical study were ambiguous when the general case was applied.

Summing up, consumer behaviour theories have not yet been able to be compiled into a formal model. There are just sketchy findings supporting the importance of socio-economic variables affecting retail consumer patronage. Distance is an important variable but is greatly affected by the mobility and subjective perception of the consumer. The income level of the consumer and the range of goods offered in the shopping centre are two other important variables. The basic assumption of micro-economic theory is consumer rationality but behavioural theories cannot be applied. So these theories can be used to obtain information concerning the market potential but no quantitative model can be formulated. The whole aspect of transactional psychology<sup>16</sup> has potential value for evolving new theories

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<sup>15</sup>P. Ronald Stephenson, "Identifying Determinants of Retail Patronage," Journal of Marketing, July 1969, pp. 57-61.

<sup>16</sup>A term used by National Economic Development Office, Urban Models in Shopping Studies, 1970.

of shopping behaviour and has been adopted by few researchers into models of spatial behaviour.<sup>17</sup>

## 2. Retail Location Theories and Models

Some planners think the ultimate use of a theory is its ability to approximate the reality. In analyzing retail locations, theories are usually expressed in the form of models, which represent "constructs" of real world, in order to test their applicability.

The retail location system can be analyzed through two approaches: trade area and shopping pattern.<sup>18</sup> The trade area approach implies a nominally closed system. The system is divided into a hierarchy of sub-systems depending on the types of goods sold. The Central Place Theory is associated entirely with this approach. The shopping patterns approach assumes a more open system in which consumer can principally shop at any centre within the system. Patronage of centres is distributed in a probabilistic fashion. The gravity model overlaps these two approaches and contains common elements in both.

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<sup>17</sup>Eg., Roger Downs, Department of Geography, Bristol University towards the Broadmead Centre; Howard Andrews at Sussex University.

<sup>18</sup>M. Cordey-Hayes, Retail Location Models, London: Centre for Environmental Studies Working Paper 16, October 1968.

## 2.1 Central Place Theory

Walter Christaller formulated the empirically observed regularities in the provision of goods and services from central places into what is now known as the "Central Place Theory."<sup>19</sup> August Lösch refined and expanded the theory. The theory provides a formalized classification of the size, location and nature of commercial centres. Based on the assumption of homogeneous distributed purchasing power, a theoretical hierarchical system is formed in a well-defined hexagonal pattern (see Figure I). Each centre is defined by the range of goods it supplies and each hierarchy has its own threshold population which made up its trade area. By definition, each higher level centre in the hierarchy provides all goods supplied from successively lower level centre of the system and thus the trade area of lower level centres nested to from the market of higher level centre. This is the  $K = 3$  marketing principle of Walter Christaller where each successive higher ranked centre is three times larger than the preceding one. However, Lösch said that the real situation is more complex than this. Various retail functions have different nesting patterns, eg.,  $K = 4$  and  $K = 7$ , etc. Their correlation construct the Löschian economic landscape (see Figure II).

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<sup>19</sup>M. Yeates and B. Garner, The North American City, Harper and Row, 1971, Chapter 7.

Traditionally, the term "central place" refers to "urban centres." Brian Berry<sup>20</sup> suggested that the theory can be used in understanding the spatial structure of retail and service within cities. The theory, especially the Löschian version which allows the rotation of the hexagonal trade area network corresponds to the real world structure of shopping centres.<sup>21</sup> Based on "Central Place Theory"<sup>22</sup> and using population and distance as the major variables, Berry analyzed the commercial structure of Chicago by means of a simple linear model.<sup>23</sup> The result is satisfactory for the goodness of fit or coefficient of

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<sup>20</sup>Brian J. L. Berry and W. L. Garrison, "Recent Developments of Central Place Theory," Papers and Proceedings of the Regional Science Association, Vol. IV, 1958, pp. 108-120.

Brian J. L. Berry, "The Retail Component of the Urban Model," American Institute of Planners Journal, May 1965, pp. 150-155.

<sup>21</sup>Brian J. L. Berry, Geography of Market Centres and Retail Distribution, Englewood Cliffs, New Jersey: Prentice Hall Inc., 1967.

<sup>22</sup>But there is no assumption of uniform purchasing power.

<sup>23</sup>Brian J. L. Berry, Commercial Structure and Commercial Blight, The University of Chicago, Department of Geography, Research Paper No. 85, 1963.

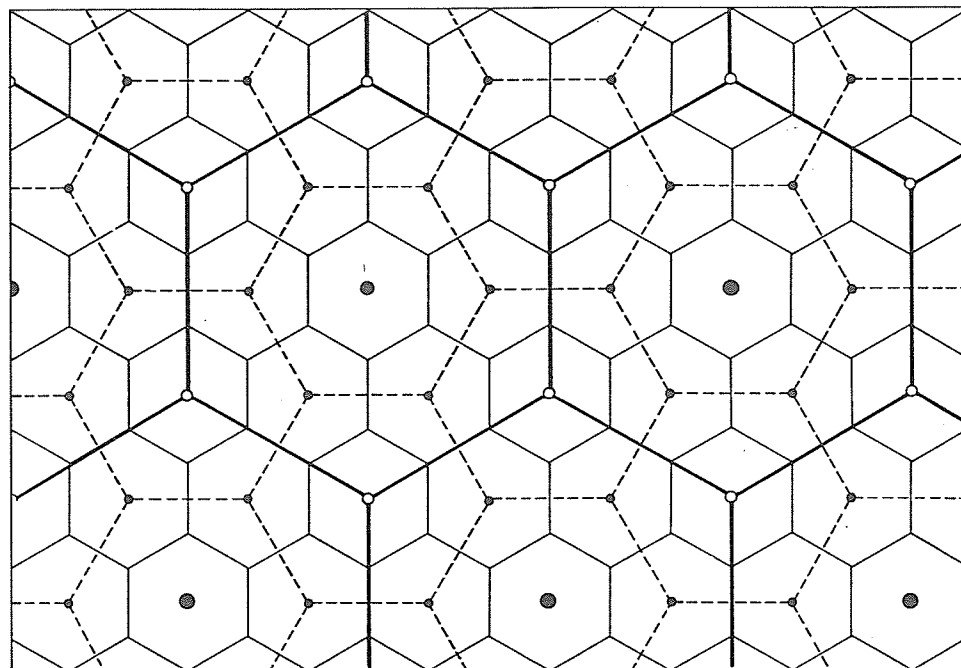


FIGURE I: A Hierarchy According to Christaller's Marketing Principle.

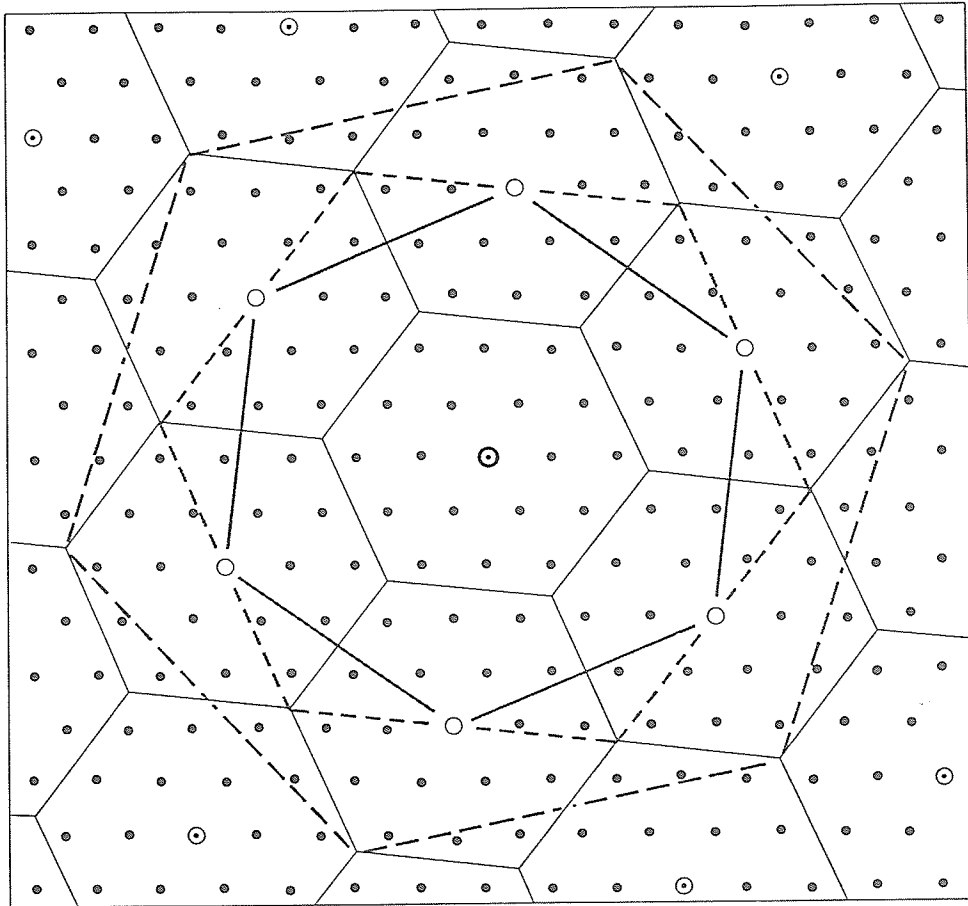


FIGURE II: The Three Smallest Market Area Sizes in Lösch's System.

determination<sup>24</sup> is 0.84. Subsequent studies done by Simmons<sup>25</sup> revealed that the change of number of retail establishments could be accounted for by the change of income and population.

But the "Central Place Theory" suffers from two shortcomings which limit its effectiveness as a planning model. Firstly, the theory implies that an equilibrium can be achieved when the network of hierarchical centres is completed. In planning new shopping centres, it raises the following question: should the gaps be filled in order to complete the hierarchy or should large centres be developed to create new centroids? Secondly, "Central

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<sup>24</sup>The degree of correlation with real situation is measured by the correlation coefficient, which is defined as:

$$r = \frac{\sum_{i=1}^n x_i y_i - \sum_{i=1}^n x_i \cdot \sum_{i=1}^n y_i}{\sqrt{\left[ n \cdot \sum_{i=1}^n x_i^2 - \left( \sum_{i=1}^n x_i \right)^2 \right] \left[ n \cdot \sum_{i=1}^n y_i^2 - \left( \sum_{i=1}^n y_i \right)^2 \right]}}$$

$r^2$  = coefficient of determination.

Formula obtained from: William Mendenhall, Introduction to Probability and Statistics, Third edition, Belmont, California: Duxbury Press, 1971, p. 276.

<sup>25</sup>James W. Simmons, The Changing Pattern of Retail Location, University of Chicago, Department of Geography, Research Paper No. 92, 1964; Toronto's Changing Retail Complex, University of Chicago, Department of Geography, Research Paper No. 104, 1966.



Place Theory" can only be formulated into a descriptive model which is static and cross-sectional, and which presents the state of the system at a particular point in time. The two basic characteristics of planning are integration of parts and projection into the future.<sup>26</sup> So this theory lacks the dynamic element which is essential for a planning model. However, the above shortcomings notwithstanding, Central Place Theory does provide a geographical framework for the study of shopping centre location.

## 2.2 Retail Gravity Models

The use of empirically derived mathematical formulations to delineate intra-urban retail trade area is generally referred to as retail gravity models. These models are closely similar to the physical as well as conceptual properties of the traditional Newtonian gravity models in physics. Such models are preferred over subjective judgements based on observations for at least two reasons. Firstly, gravity models have a rather extensive historical background<sup>27</sup> in trade area analysis. Indeed,

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<sup>26</sup>M. C. Branch, Planning: Aspects and Applications, New York: John Wiley & Sons Inc., 1966.

<sup>27</sup>It was used by H. C. Carey as early as 1858. H. C. Carey, Principles of Social Science, Philadelphia: J. B. Lippincott & Co., 1858-1859.

empirical models<sup>28</sup> based on this principle have provided over the years a fairly good approximation of the limits of retail trade areas. Secondly, such models are easy to use and relatively inexpensive, thus adding to their appeal.

One of the first to formally apply the gravity concept to retail trade area analysis was William J. Reilly. His original Law of Retail Gravitation stated that two cities attract trade from an intermediate town in the vicinity of the breaking point approximately in direct proportion to the populations of the two cities and in inverse proportion to the squares of the distances from these two cities to the intermediate town.<sup>29</sup> This is expressed in a formula as:

$$\frac{B_a}{B_b} = \left( \frac{P_a}{P_b} \right) \cdot \left( \frac{D_b}{D_a} \right)^2 \quad (1)$$

---

<sup>28</sup>For examples, studies done by:

P. D. Converse, "Retail Trade Areas in Illinois," University of Illinois Bulletin, Business Studies, No. 4, 1946;

F. Strohkarck and Katherine Phelps, "The Mechanics of Constructing a Market Area Map," Journal of Marketing, April 1948, pp. 493-496;

William Wagner, "An Empirical Test of Reilly's Law of Retail Gravitation," Ph.D. Dissertation, The Ohio State University, 1967;

B. A. Kipnis, "Application of the Reilly Retail Gravity Model in delineating urban market areas for planning: a case study in Israel," ITCC Review, Vol. 1, January 1976.

<sup>29</sup>William J. Reilly, The Law of Retail Gravitation, New York: William J. Reilly, 1931.

where:

$B_a$  = the proportion of trade from the intermediate city attracted by City A

$B_b$  = the proportion attracted by City B

$P_a$  = the population of City A

$P_b$  = the population of City B

$D_a$  = the distance from intermediate town to City A

$D_b$  = the distance from intermediate town to City B

Based on this formula, P. D. Converse derived the breaking point or the boundary of a trading centre's trade area.<sup>30</sup> The new derivation omitted the intermediate town concept and stated that a trading centre and a town in or near its trade area divide the trade of the town approximately in direct proportion to the populations of the two towns and inversely as the squares of the distance factors. The distance of a breaking point from Town B ( $d_B$ ) could thus be expressed as:

$$d_B = \frac{d_{AB}}{1 + \sqrt{\frac{P_A}{P_B}}}$$

conversely:

$$d_A = \frac{d_{AB}}{1 + \sqrt{\frac{P_B}{P_A}}}$$

(2)

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<sup>30</sup>For detail mathematical derivation, refer to P. D. Converse, "New Law of Retail Gravitation," The Journal of Marketing, Vol. XIV, October 1949, pp. 379-384.

This model has been used to analyze inter-city shopping pattern. Physical distance may be substituted by travel time. Drawing power which is formally represented by the population of the city is substituted by the size of the shopping centre.<sup>31</sup> The results proved quite satisfactory and the model has been widely adopted by market analysts in planning new shopping centres. On the whole this model suffered from the fact that the exponential value of two in formula (1) as derived by Reilly from field investigation was an estimated value. Actually, it was the average of the exponents that fell between 1.5 and 2.75 but there is no empirical proof that the exponent is constant.<sup>32</sup> Also the breaking point concept conveys the false impression that a trading area has a fixed boundary. Various studies have indicated that a trading area would be more accurately represented by a series of radial zones in which the proportion of consumers patronizing a given

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<sup>31</sup> Leon Ellwood, "Estimating Volume of Proposed Shopping Centres," The Appraisal Journal, October 1954, pp. 581-589.

T. R. Lakshmanan and W. Hansen, "A Retail Market Potential Model," American Institute of Planners Journal, May 1965, pp. 134-143.

J. A. Brunner and J. L. Mason, "The Influence of Driving Time upon Shopping Centre Preference," The Journal of Marketing, Vol. 32, April 1968, pp. 57-61.

<sup>32</sup> A. F. Jung, "Is Reilly's Law of Retail Gravitation Always True," The Journal of Marketing, October 1959, pp. 62-63.

retail facility varies from zone to zone.<sup>33</sup> Louis P. Bucklin<sup>34</sup> suggested that instead of a precipitous halt at contact with competing centres of influence, there is a sharing of patronage which creates an area of overlap between zones. This school of thought was formulated by David L. Huff<sup>35</sup> who showed empirically that a retail trade is not a fixed line circumscribing a shopping centre but rather a series of zonal probability contours radiating away from it:

$$P_{ij} = \frac{\frac{S_j}{T_{ij}^\lambda}}{\sum_{j=1}^n \frac{S_j}{T_{ij}^\lambda}} \quad (3)$$

where:

$P_{ij}$  = the probability of a consumer at a given point of origin  $i$  travelling to a given shopping centre  $j$

$S_j$  = the size of a shopping centre  $j$

$T_{ij}$  = the travel time involved in getting from a consumer's travel base  $i$  to shopping centre  $j$

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<sup>33</sup>David L. Huff, "A Note on the Limitations of Intraurban Gravity Models," Land Economics, February 1961, pp. 64-66.

<sup>34</sup>L. P. Bucklin, "Trade Area Boundaries: Some Issues in Theory and Methodology," Journal of Marketing Research, Vol. VIII, February 1971, pp. 30-37.

<sup>35</sup>David L. Huff, Determination of Intraurban Retail Trade Areas, Graduate School of Business Administration, Division of Research, University of California, Los Angeles, 1962.

$\lambda$  = a parameter which is to be estimated empirically to reflect the effect of travel time on various kinds of shopping trips.

The only shortcoming of this model was that it is determined by a calibration on the basis of some data obtained in the past. For the planning of shopping facilities subjected to an incremental growth, the parameter had to be assumed unchanged with time. This assumption is far from realistic. However, this model incorporated some elements of consumer behavioural theory, namely convenience cost in the form of travel time involved and the choice available in the shopping centre.<sup>36</sup> Consequently, this model has been widely adopted by planning agencies. Huff performed an empirical test of his model in the Los Angeles metropolitan area.<sup>37</sup> The model worked well and he was able to determine an exponent for the travel function. But Wiginton<sup>38</sup> tested Huff's model in the Vancouver area of British Columbia and he concluded that the model was not capable of predicting retail trade area. M. James

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<sup>36</sup>The assumption here is that the larger the size of a shopping centre the more the functions are offered. The range of consumer choices is wider.

<sup>37</sup>David L. Huff, op. cit., 1962.

<sup>38</sup>J. C. Wiginton, "An Empirical Test of a Probabilistic Model of Consumer Spatial Behaviour," Unpublished M.B.A. Thesis, University of British Columbia, Vancouver, 1966.

Dunn and Derek J. McCune's<sup>39</sup> study in Edmonton showed that the Huff model was able to predict consumer movements only to a limited extent. A similar study done by McCabe<sup>40</sup> for the Toronto region also found this model less than satisfactory in achieving an immediate close replication of the actual conditions. The model's predictions weakened as the distance from the neighbourhood to the shopping centre increased. It was obvious that this model did not incorporate all the relevant variables. William Applebaum<sup>41</sup> suggested that topography and competition are two other variables which may be incorporated as affecting drawing power of a shopping centre.

### 2.3 Statistical Formulation of Retail Location Theories

Probabilistic theories on gravitational retail interaction were further developed through vigorous statistical formulation. The most important ones are

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<sup>39</sup>M. James Dunn and Derek J. McCune, Consumer Spatial Behaviour in Edmonton Retail Trade Area, The Department of Extension, The University of Alberta, Edmonton, Canada, 1973.

<sup>40</sup>Robert W. McCabe, Planning Applications of Retail Model, Ontario: Ministry of Treasury, Economics and Intergovernmental Affairs, 1974.

<sup>41</sup>William Applebaum, "Methods for Determining Store Trade Area, Market Penetration and Potential Sales," Journal of Marketing Research, Vol. III, May 1966, pp. 127-141.

Harris' modification of intervening opportunities model<sup>42</sup> and Wilson's maximum entropy model.<sup>43</sup> Harris' model is based wholly on probabilistic assumptions as to human behaviour.<sup>44</sup> The theory suggests that as a consumer moves away from the place of origin, the probability of trip terminations is proportional to the number of remaining unsatisfied trips and to the number of opportunities. So the number of shopping trips from zone  $i$  to destination  $j$  is:

$$T_{ij} = K_i O_i (e^{-LV_{ju-1}} - e^{-KV_{ju}}) \quad (4)$$

where:

$T_{ij}$  = the number of shopping trips

$K_i$  = a constant

$O_i = \sum_j T_{ij}$

$L$  = the probability that a consumer will be satisfied by a particular opportunity

$V_{ju}$  = the cumulative number of opportunities up to and including zone  $ju$ .

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<sup>42</sup>Britton Harris, "A Note on the Probability of Interaction at a Distance," Journal of Regional Science, Vol. 5, No. 2, 1964, pp. 31-35. The concept of intervening opportunity was first introduced by Stouffer in 1944.

<sup>43</sup>A. G. Wilson, "A Statistical Theory of Spatial Distribution Models," Transportation Research, Vol. 1, 1967, pp. 253-269.

<sup>44</sup>Harris, op. cit., 1964.



The Harris model contains a specific provision to vary demands for different classes of population and as well as a provision to vary consumer behaviour in accordance with the density of shopping opportunities. He adopted a gamma distribution<sup>45</sup> for the value of L. The model was tested by comparing the projected distribution of each category at a number of centres. The result was fairly satisfactory as the coefficient of determination was approximately 0.85. But the larger centres were fitted more accurately with a very close correspondence in the Central Business District.

While this model has the attractive feature of producing centres of trade, it puts these centres where they "should be" and disregards the inertia of historical influence. Perhaps there should be a more accurate specification of distance to correct this.

Wilson's maximum entropy approach is one of the most recent statistical model of retail location theories.<sup>46</sup> It is essentially a transport gravity model. The

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<sup>45</sup>The gamma function for which the distribution was named is:

$$(\tau) = \int_0^{\infty} y^{t-1} e^{-y} dy \quad 0 < t$$

<sup>46</sup>A. G. Wilson, op. cit., 1963. A. G. Wilson, Notes on Some Concept in Social Physics, Centre for Environmental Studies, Working Paper 4, 1968.

basic hypothesis is that the probability of a particular trip distribution occurring is proportional to the number of states that can give rise to the distribution.

$$T_{ij} = \frac{O_i e (\beta W_j - \beta C_{ij})}{\sum_j (\beta W_j - \beta C_{ij})} \quad (5)$$

where:

$T_{ij}$  = the distribution of trips

$O_i$  = the trips originate from  $i$

$W_j$  = a measure of scale economics available to the shoppers at the centre  $j$

$C_{ij}$  = the transport cost.

An attractive feature of the maximum entropy model is the generality of procedure. It is essentially a method of making the best estimate from the information that is available, everything that is known about the system is expressed in terms of the constraints. Thus, the key to the method is a judicious definition of a set of variables. But since this model is basically a transportation model, further research is necessary for its application as a retail model. M. Cordey-Hayes has suggested that this model is a tentative first step towards the study of disequilibrium, contact and dynamic retail models.<sup>47</sup>

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<sup>47</sup>M. Cordey-Hayes, op. cit., 1968, p. 61.

### 3. Integrated Planning Models

In the above section, five important approaches to retail location have been considered:

- (1) consumer behaviour
- (2) central place theory
- (3) retail gravity model --
  - i. Reilly's Law
  - ii. Huff's variation
- (4) intervening opportunity model
- (5) maximum entropy model.

The values and shortcomings of each theory were discussed. Inevitably each theory portrays a model which represents a construct of the real world. But each in turn tends to exclude some factors<sup>48</sup> which have a bearing on the problem at hand.

The five approaches are not mutually exclusive and indeed can complement each other in planning application. Figure III portrays Cordey-Hayes' integrated model.

A few planners had formulated models which best approximated this integrated model, notably Lakshmanan and Hansen<sup>49</sup> and Cullen.<sup>50</sup>

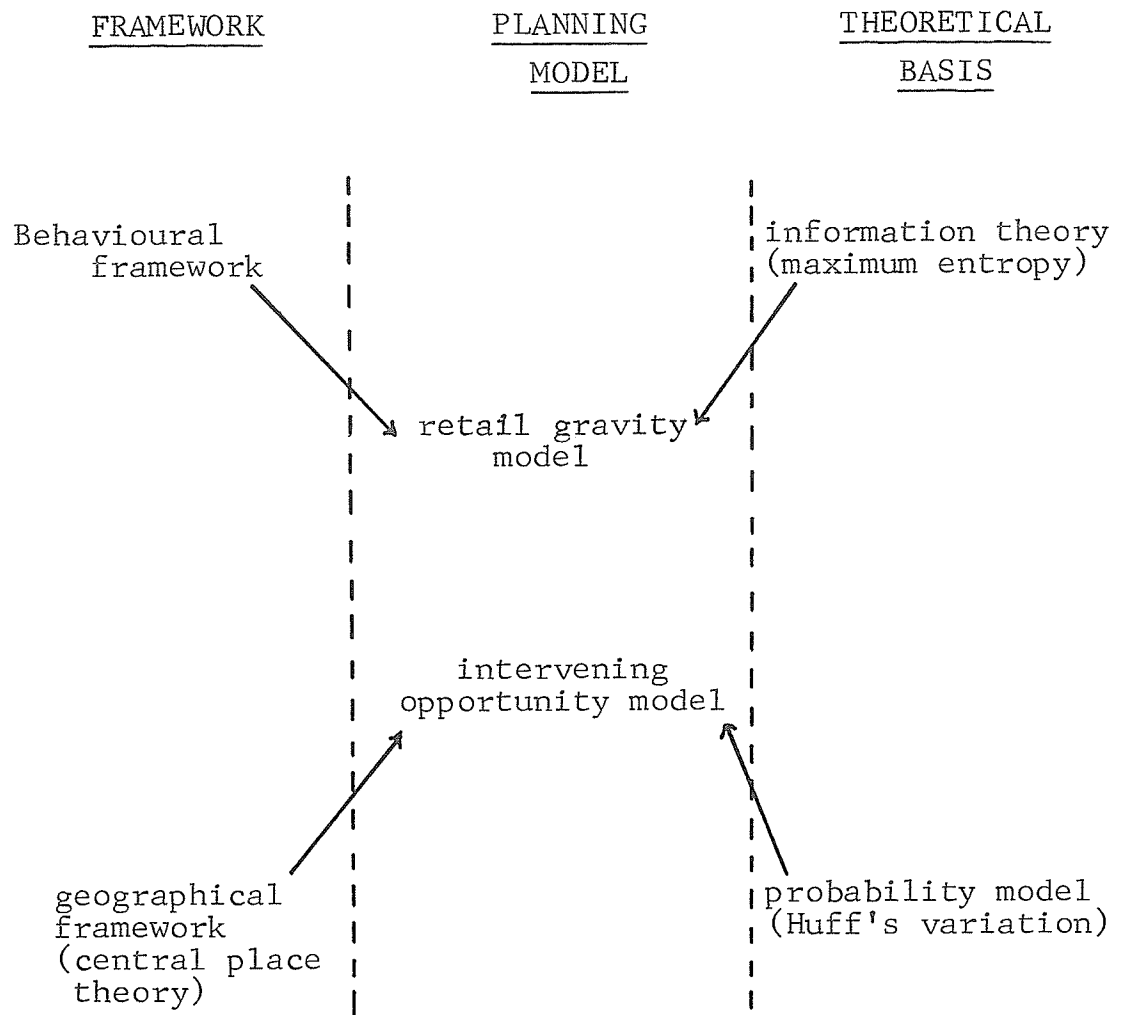
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<sup>48</sup>Not the same factors are slighted but behaviour of individual consumer seems to be the hardest to include in such models.

<sup>49</sup>T. R. Lakshmanan and Walter Hansen, op. cit., 1965.

<sup>50</sup>Ian Cullen, A Mathematical Study of Retail Impact, University College London, Department of Town Planning, Discussion Paper 3, 1969.

FIGURE III: An Integrated Model for Shopping Centre Study.



SOURCE:

M. Cordey-Hayes, Retail Location Models, Centre for Environmental Studies, October 1968, p. 62.

Lakshmanan and Hansen tried to explore possible equilibrium distributions for large retail trade centre in the Baltimore metropolitan area in 1965. Possible sites for centres were selected on general planning grounds and tested for feasibility and balance. Balance was determined in terms of the volume of business attracted to each centre in relation to its size. By repeated trials, it was established that there existed a balance distribution in which the size of the centres were related to their drawing power, which in turn depended on the distribution of purchasing power projected for the area and the transportation facilities for trip makers. This land use model was intimately related to transportation models by ways of network tracing and a gravity model trip distribution theory.

$$S_{ij} = C_i \frac{\frac{F_j}{d_{ij}^a}}{\sum_{k=1}^n \frac{F_j}{d_{ik}^a}} \quad (6)$$

where:

$S_{ij}$  = the consumer retail expenditures of population in zone i spent at zone j

$C_i$  = the total consumer retail expenditures of population in zone i

$F_j$  = the size of the retail activity in zone j

$d_{ij}$  = the distance between zone i and zone j

$a$  = an exponent applied to the distance variable.

The above model states the retail centre in zone  $j$  ( $F_j$ ) attracts consumer dollars ( $S_{ij}$ ):

- a) in direct proportion to the consumer expenditure  $C_i$
- b) in direct proportion to its size  $F_j$
- c) in inverse proportion to distance to the consumers ( $d_{ij}^a$ )
- d) in inverse proportion to competition

$$\left( \frac{F_j}{\sum_{k=1}^n d_{ik}^a} \right)$$

The relevance of the model to the real world was verified by applying it to the existing shopping patterns in terms of dollar sales and shopping trips in the Baltimore region. The comparison of the actual and estimated patterns of current shopping sales and trips demonstrates that the model performed reasonably well. Projection was made on the basis of calibration of sales from past sales figures.

I. G. Cullen in 1969 adopted the Lakshmanan-Hansen model for the Brent Cross Shopping Centre in London, England. He modified the model by making it slightly more flexible from the point of view of calibration and marginally different in its definition of variables.

$$S_{ij} = \frac{C_i P_i e^{\alpha w_i - \beta d_{ij}}}{\sum_{j=1}^n e^{\alpha w_i - \beta d_{ij}}} \quad (7)$$

where:

$S_{ij}$  = the expenditure by residents of the zone  $i$  in the shopping centre  $j$

$Y_i$  = the per household income of the zone  $i$

$P_i$  = the population of the zone  $i$

$C$  = the constant of retail consumption

$d_{ij}$  = some measure of the cost of travelling from zone  $i$  to shopping centre  $j$

$\alpha$  = a shopping centre attractiveness parameter

$\beta$  = a travel cost parameter

$w$  = an index of shopping centre attractiveness.

I. G. Cullen made use of an exponential function instead of the power function of the Lakshmanan-Hansen Model. At the calibration stage of his impact study, he found that this exponential version produced better results. He also incorporated  $W_j$ , an index of the attractiveness of a centre  $j$  into the model. This attractiveness index was first introduced by Wilson<sup>51</sup> who postulated that  $W_j$  is best regarded as a measure of the scale economies available to shoppers in large scale.

McCabe<sup>52</sup> adopted this model in his Ontario study and found that the Cullen adaptation was far superior model than the Huff model. Cullen's model has been adopted by

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<sup>51</sup>A. G. Wilson, 1963, 1968, op. cit., also refer to pp. 25-26.

<sup>52</sup>R. McCabe, op. cit., 1974.

planners in shopping centre studies and this is the one model which best approximated the integrated model shown above. Yet this model is not without its weakness. First, the assumption of equal annual increases in population and income, calculated from base and design year total, is not realistic and so must affect the accuracy of the model. One obvious solution is the combination of the retail gravity model with population and income projection sub-models. This involves the modelling of the whole urban system in which the retail model forms one of the sub-models. The Lowry models<sup>53</sup> and the SCOPE models<sup>54</sup> of Ottawa are some of the successful ones. A second problem is that of cumulation of error. Inefficiencies of the calibration will tend to have a cumulative effect upon the project. A final difficulty derives from the fact that growth and decline of centres as conceived by the model is completely unconstrained. In real world situations, no matter how attractive a centre is, there is bound to be some limit on its annual rate of growth or decline even if this is just a purely physical one. Yet, the results achieved by this model are probably better as indicators of tendencies than those of most previous studies, and are certainly better guides than inspired guesswork.

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<sup>53</sup>I. Lowry, Model of the Metropolis, Rand, RM 4125-Rc.

<sup>54</sup>Decision Science Corporation, The SCOPE System for the City of Ottawa, December 1974.



#### 4. Summary and Conclusion

Table 1 summarizes the theories and model discussed in the preceding section in a tabulated form.

Theories and models for retail studies had been developed through period of thirty some years. It is impossible to arrive at one universally-accepted perfect model. It is therefore the duty of the concerned to improve these models.

Evidently the Cullen's adaptation of Lakshmanan-Hansen model is the newest integrated model used and proves to be of considerable success. But since this model requires an elaborate estimation of two parameters and, most studies will find it difficult to collect sufficient data to make use of this model. On the other hand, the original model by Lakshmanan-Hansen requires much simpler data and the operation of this model proves far easier. For the Winnipeg scene, the adoption of the Cullen's adaptation will be unrealistic since retail data base necessary to do this is either non-existent or not available in a meaningful or relevant form.

On the other hand, the Lakshmanan-Hansen model has been more widely accepted<sup>55</sup> and the data requirement is

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<sup>55</sup>Eg. in Benjamin Reif's textbook Models in Urban and Regional Planning, the Lakshmanan-Hansen model is presented but not Cullen's adaptation.

TABLE 1

Consumer Patronage-Theories and Models

THEORIES OR MODELS	FORMULATION	NATURE	SITUATION MOST APPLICABLE
CONSUMER BEHAVIOUR	NOT FORMULATED	DYNAMIC	UNIVERSAL
CENTRAL PLACE THEORY	FORMULATED THROUGH EMPIRICAL STUDY	DETERMINISTIC	RURAL AREA (UNIFORM LANDSCAPE)
RETAIL GRAVITY MODEL			
(1) REILLY'S LAW	$\frac{B_a}{B_b} = \left( \frac{P_a}{P_b} \right) \cdot \left( \frac{D_b}{D_a} \right)^2$	STATIC	RURAL AREA (UNIFORM LANDSCAPE)
(2) HUFF'S VARIATION	$P_{ij} = \frac{S_j}{\sum_{j=1}^n \frac{S_j}{T_{ij}^\lambda}}$	PROBABILISTIC	URBAN AREA
INTERVENING OPPORTUNITY MODEL	$T_{iju} = K_i \cdot 0_i (e^{-LV} j^{u-1} e^{-LVju})$	STATISTICAL	URBAN AREA

TABLE 1 (Continued)

THEORIES OR MODELS	FORMULATION	NATURE	SITUATION MOST APPLICABLE
MAXIMUM ENTROPY MODEL	$T_{ij} = \frac{O_{ie} (\beta w_j - \beta c_{ij})}{\sum_j (\beta w_j - \beta c_{ij})}$	STATISTICAL	URBAN AREA
LAKSHMANAN-HANSEN MODEL	$S_{ij} = C_1 \frac{\frac{F_j}{d_{ij}^a}}{\sum_{k=1}^n \frac{F_k}{d_{ik}^a}}$	INTEGRATED	URBAN AREA
CULLEN MODEL	$S_{ij} = \frac{(C Y_i P_i^{\alpha w_j} - \beta d_{ij})}{(\sum_j e^{\alpha w_j} - \beta d_{ij})}$	INTEGRATED	URBAN AREA

\*\* For explanation of notations, please refer to the text.

minimal. So this model has been selected as the most appropriate one for the study of shopping centre development in the City of Winnipeg.

## CHAPTER II

### BACKGROUND OF THE UNICITY FASHION SQUARE ISSUE

In the light of prevailing consumer and retail location behaviour discussed in the previous chapter, it is now possible to fully appreciate the significance of the area selected as an illustration case study, namely Winnipeg's "Unicity Fashion Square", and of the events which had led to its inception.

#### 1. Chronological History of Unicity Fashion Square

The first planned commercial development in Winnipeg, the Wildwood Shopping Centre, opened for business in 1947. But it was not until the late 1950's that planned shopping centres became the major commercial development in the City of Winnipeg. In 1959, Polo Park, the largest planned shopping centre for western Canada at that time, opened for business. It was a suburbia location featuring Simpsons Sears as its major tenant store. With the addition of the Eaton's store in 1968, it became one of the most successful regional shopping centres in Canada. Since then, shopping centres were built serving all parts of the City. St. James-Assiniboia, the fastest growing area in the City,<sup>1</sup>

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<sup>1</sup>In the period of 1956 to 1971 the population of Winnipeg grew by 30.8 percent while St. James-Assiniboia grew by 110 percent (statistics obtained from Statistics Canada).

was well served by one regional shopping centre, Polo Park; two community shopping centres, Westwood and Crestview; and four neighbourhood shopping centres, Silver Heights, Sturgeon Park, Village Inn and Courts of St. James.<sup>2</sup>

In October, 1972, an application for rezoning for a regional shopping centre (the first one after Polo Park), was presented to the City of Winnipeg.<sup>3</sup> The application was submitted by the Trizec Corporation Limited of Montreal. The rezoning involved 36 acres of land bounded on the north and south by Fairlane and Portage Avenues, and on the east and west by David and Knox Streets. The application requested that this area be rezoned from "A", "RM-2" and "C2" to "C6" thus permitting construction of a major regional shopping centre to be known as the Unicity Mall.

The Greater Winnipeg Metropolitan Development Plan, 1968 did not specifically mention regional shopping centres thus there was no legal restriction on the rezoning of the land. But without a specific amendment to the Plan, persons objecting to the proposed development could ask whether the development was contrary to the intent of the official development plan.

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<sup>2</sup>For location, please refer to Map I. For definition, please refer to Appendix A.

<sup>3</sup>Information concerning the Unicity Mall issue is obtained from: Robert Kent, 1974, op. cit.; Unicity Fashion Square file, Environment Planning Branch, City of Winnipeg; newspaper clippings, May 1972 to September 1975, Winnipeg Free Press and Winnipeg Tribune.



RETAIL LOCATIONS

▨ DOWNTOWN

SHOPPING CENTRES

- ★ Regional
- Community
- ▲ Neighbourhood
- Other Planned Centre

== STRIP DEVELOPMENT

July , 1977

MAP I: Retail Commercial Locations -- Shopping Centres;  
City of Winnipeg 1977.

1. It was contrary to the Downtown Development Plan<sup>4</sup> since a shopping centre of this scale would undoubtedly lead to retail decentralization from the Downtown.
2. It was contrary to the objectives set forth for the "Areas of no Urban Expansion."<sup>5</sup> Since the proposed shopping centre is only 1/4 mile from the Perimeter Highway, the developer might be speculating on residential development in the Addition Zone, thus encouraging urban sprawl.
3. It was contrary to the objectives set forth for the "Living Area."<sup>6</sup> The area concerned was a designated residential area with one elementary school and two high schools in the vicinity. The privacy and protection of the surrounding home owners and their families would be destroyed.

Opposition for the development were expected to come from the school board, local residents and owners of surrounding business establishments, especially adjacent planned shopping centres. Two citizen petitions bearing

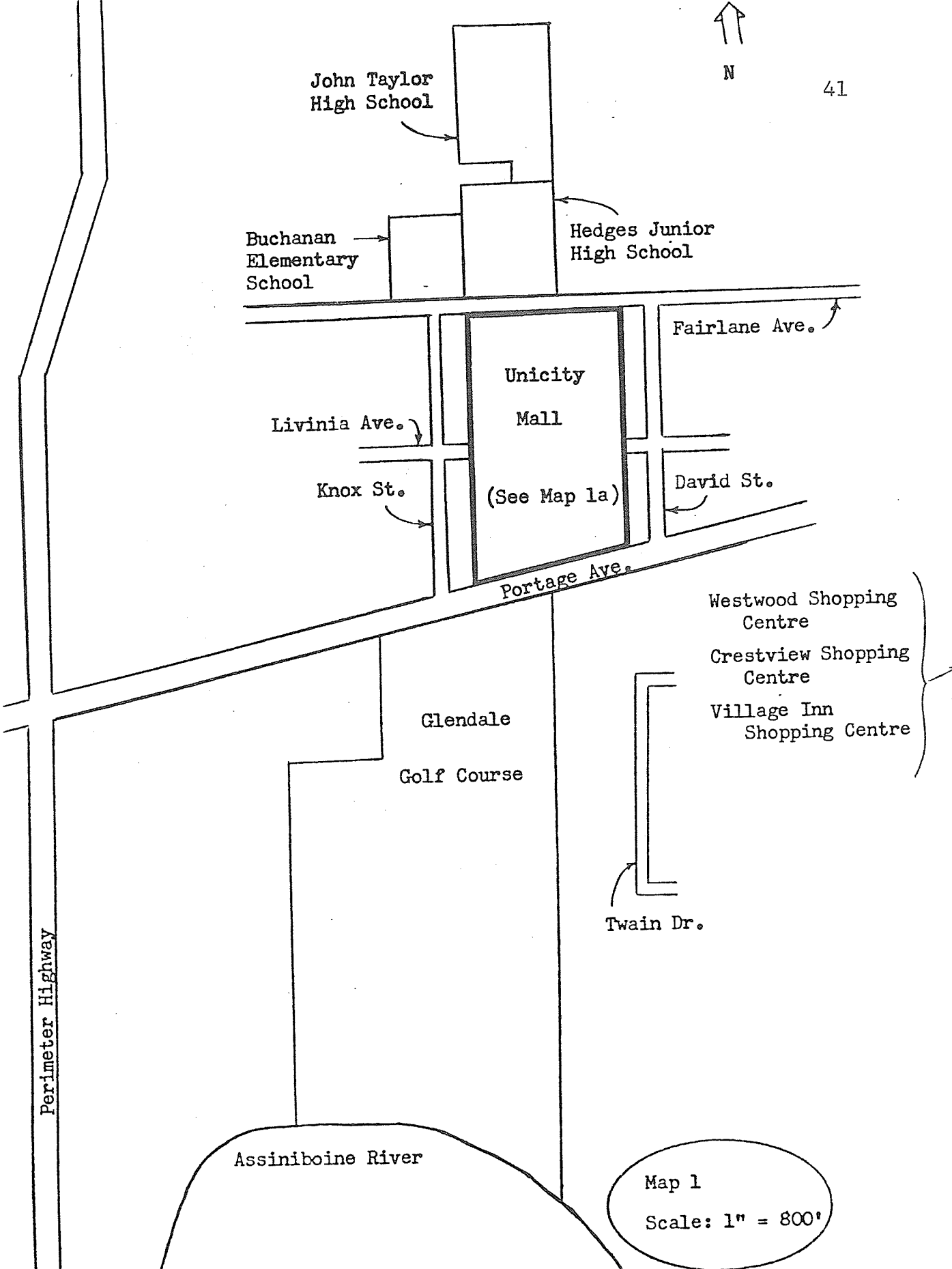
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<sup>4</sup>The Metropolitan Corporation of Winnipeg, The Metropolitan Development Plan, 1968, C5.1; C5.3-C5.9, pp. 59-60.

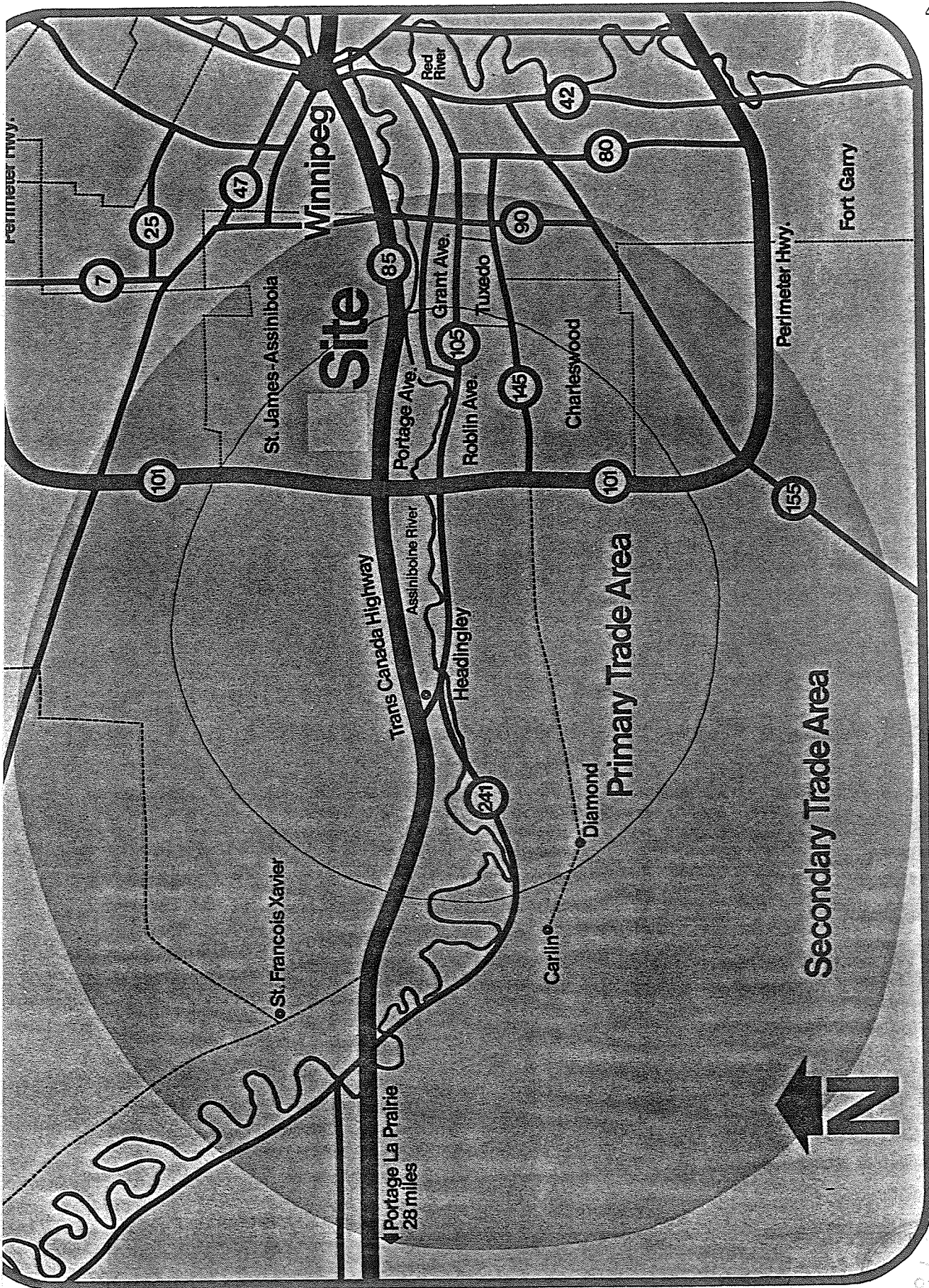
<sup>5</sup>Ibid., C9.1-C9.4, p. 74.

<sup>6</sup>Ibid., C2.5, subsection 4.





MAP II: Location of Unicity Fashion Square.



MAP III: Trade Area of Unicity Fashion Square.

SOURCE: Unicity Fashion Square advertising material.



the signatures of 403 area residents objected to this application. Unfortunately, their rationale was mainly based on increased traffic in the local streets. This problem was easily laid aside in the Community Committee hearing level with a vague promise of technical solutions. No other objection was filed. The Fairview Corporation, which owns the Polo Park regional shopping centre, had conducted a market analysis in 1972 on the Unicity site. The study took into account future development west of the Perimeter Highway. The study showed that the land had a good potential site for a regional shopping centre in another five years. But Fairview would have no advantage in developing the site since it was only five and a half miles away and in Polo Park's primary trade area. Nevertheless, Fairview felt that there was no valid argument against the development. Since the opposition was rather weak, the application passed the Community Committee level and was then forwarded to the Committee of Environment for approval.

On December 11, 1972, a report prepared by Winnipeg's Environment Commissioner was received as information by the Committee on Environment. The report stated that although Polo Park was the only regional shopping centre in Winnipeg, the Garden City Shopping Centre would eventually reach this potential,<sup>7</sup> and the Grant Park Plaza

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<sup>7</sup>Garden City Shopping Centre did become a regional shopping centre with the opening of a new annex featuring the Eaton's Company on 10th August, 1976.

could easily become one.<sup>8</sup> Thus, once these three centres had all reached their potentials, and given the number of neighbourhood and community centres,<sup>9</sup> the Winnipeg-suburbs were well serviced commercially. Only one area of the City was said to be capable of supporting another regional shopping centre--the area east of the Red River. In other words, the report did not recommend the development of Unicity Mall.

This report underwent severe criticism, especially from the developers who regarded this as an intrusion into the economic sector by the City which might eventually restrict competition in the retailing industry. Mr. Fred Morton, one of the Unicity Mall developers, said that his company had spent at least \$150,000 on options, land acquisitions, plans and legal cost.<sup>10</sup> He further expressed his concern that if developers in Winnipeg were continued to be harnessed by controversies, red tape and administration, there was a danger of development slowing down or even

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<sup>8</sup>The Grant Park Plaza has the required acreage to become a regional shopping centre. Its status is hampered by the fact that its leading store, Woolco, is a semi-discount store and cannot be classified as a major department store.

<sup>9</sup>As of 1972, there are 14 neighbourhood shopping centres and 8 community shopping centres in the City of Winnipeg.

<sup>10</sup>The Winnipeg Tribune, December 12, 1972.

stopping. Thaddius Charne, a developer who wanted to build another shopping centre in the same vicinity, was quoted as saying,

"City Planners can say all they want about where shopping centres should go, but who is to say how the private sector invests its money."<sup>11</sup>

The report was thus rejected on January 15, 1973 based on Environment Committee Chairman D. A. Yanofsky's statement that protection from competition should not be a function of planning. The Committee recommended that the Commission prepare another report to allow a minimum of six regional shopping centres to be built within the next twenty-five years.

On January 29, 1973, the Council of the City of Portage la Prairie, about 52 miles west of Winnipeg, passed a resolution "...that the City of Portage la Prairie requests the Premier, through his planning branch, to make a study of the impact of the proposed shopping centre at the west end of Winnipeg on the future development of Portage la Prairie, and its effect on the government support of regionalization."<sup>12</sup> On January 30, 1973 the Portage la Prairie Council presented a letter to the Premier of Manitoba expressing its concern over the retail impact of

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<sup>11</sup>Ibid.

<sup>12</sup>City of Portage la Prairie Council Minutes, January 29, 1973, Resolution No. 80.

Unicity Mall on business in Portage la Prairie. Subsequently, a letter was sent to the Minister of Urban Affairs on March 1973, objecting to the construction of the shopping centre.

Apparently, these pressure groups did not have sufficient effect. On April 9, 1973 the Winnipeg Committee on Environment put forth a proposed amendment to the Greater Winnipeg Development Plan allowing "the greatest possible flexibility and freedom from restriction for those who choose to compete in the market place."<sup>13</sup> The report, The City of Winnipeg Shopping Centre 1972, was modified under political pressure to become The City of Winnipeg Shopping Centre 1973. The research was the same but the conclusions were different. The 1973 report recommended six regional shopping centres:

1. Polo Park
2. in the west St. James-Assiniboia area
3. in the Charleswood-Fort Garry area to serve southwest Winnipeg
4. in the St. Vital area to serve southeast Winnipeg
5. Garden City Shopping Centre to serve northwest Winnipeg
6. the East Kildonan-Transcona area to serve the northeast section of the City of Winnipeg.

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<sup>13</sup>Committee on Environment, City of Winnipeg, 1973, op. cit., p. 46.

On May 30, 1973 rezoning bylaw 272/73 to permit construction of the Unicity Mall Shopping Centre was given third and final readings. At the same time, Mrs. E. Eatons, a St. James resident who had been fighting persistently against this issue since 1972, filed an application asking Manitoba Court of Queen's Bench to quash City of Winnipeg zoning bylaw 272/73. Mrs. Eatons was financially aided by a local businessman who was widely believed to be working for the Comax Corporation which owned two shopping centres, Westwood and Village Inn, on Portage Avenue. On November 7, 1973 the Environment Committee's proposal to amend the Greater Winnipeg Development Plan to include the regional shopping centre concept was approved in principle as bylaw 506/73. On December 14, 1973 the action from Mrs. Eatons was dismissed and the Unicity Fashion Square<sup>14</sup> development was able to begin.

## 2. The Planners' Role in This Issue

The approach taken in the City of Winnipeg Shopping Centre 1972 report was merely to present data on the shopping centres of Winnipeg. The content relied heavily on technical definitions and standards developed by the Urban Land Institute in Washington, D.C.<sup>15</sup> Discussion was

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<sup>14</sup>This is the official name used when it opened for business in 1975.

<sup>15</sup>Notably The Community Builders' Handbook 1960 Edition and Urban Land Institute Technical Bulletins.

confined principally to the physical features of the shopping centre proper and did not include problems of location, market analysis, and trade area delineation. The conclusion stated that,

"New retail facilities in an area are justified by actual increments in population and purchasing power in that area. It can be detrimental for competing centres to delineate their trade areas based on the same market potential as this can only mean retail space saturation."<sup>16</sup>

But since the actual market delineation and its analysis of various shopping centres was not included, the conclusion arrived at was hardly convincing.

The report itself admitted that it lacked the data to substantiate the economic arguments that it made against the growth of more shopping centres. As a result, the politicians were able to criticize this report severely. At this point, some value judgement has to be given. It must be pointed out that all the Councillors who supported the rezoning application were either independent candidates or members of the I.C.E.C. association.<sup>17</sup> Their goals and objectives were rather short-termed, i.e., only last as long as their term of office. The majority of these Councillors saw their role as being first and foremost a

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<sup>16</sup>The City of Winnipeg, Planning Division, The City of Winnipeg Shopping Centre 1972, p. 46.

<sup>17</sup>For details, please refer to Robert Kent, op. cit., 1974.



representative of their ward and a supplier of information to their constituents. Policy setting was rarely regarded as their primary role. Furthermore, citizens were unfamiliar with the new planning process.<sup>18</sup> Thus residents' oppositions did not exert as strong a pressure as it should have.

Anyhow, planning and politics has been termed as an "uneasy partnership." This is the very nature of government. Both planners and politicians "planned" but there is a gap between what the politicians do and the planning that planners talk about. So, although the politicians termed shopping centre development a non-planning function, commercial development of any nature is a planning problem as applied to urban land use.

At a meeting on January 15th, 1973, The City of Winnipeg Shopping Centre 1972 report was rejected. The Planning Division was instructed to revise the report to meet the Committee on Environment's specifications of no severe limitations on the number or location of shopping centres in the City. Mr. R. Darke, the Director of Planning, took a firm position on this matter and insisted that the Planning Division's report would remain as written. If there were to be changes, these would be attributable to the Committee on Environment and not the Planning Branch.

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<sup>18</sup>The Metropolitan Corporation of Winnipeg became the Winnipeg Unicity in 1971.

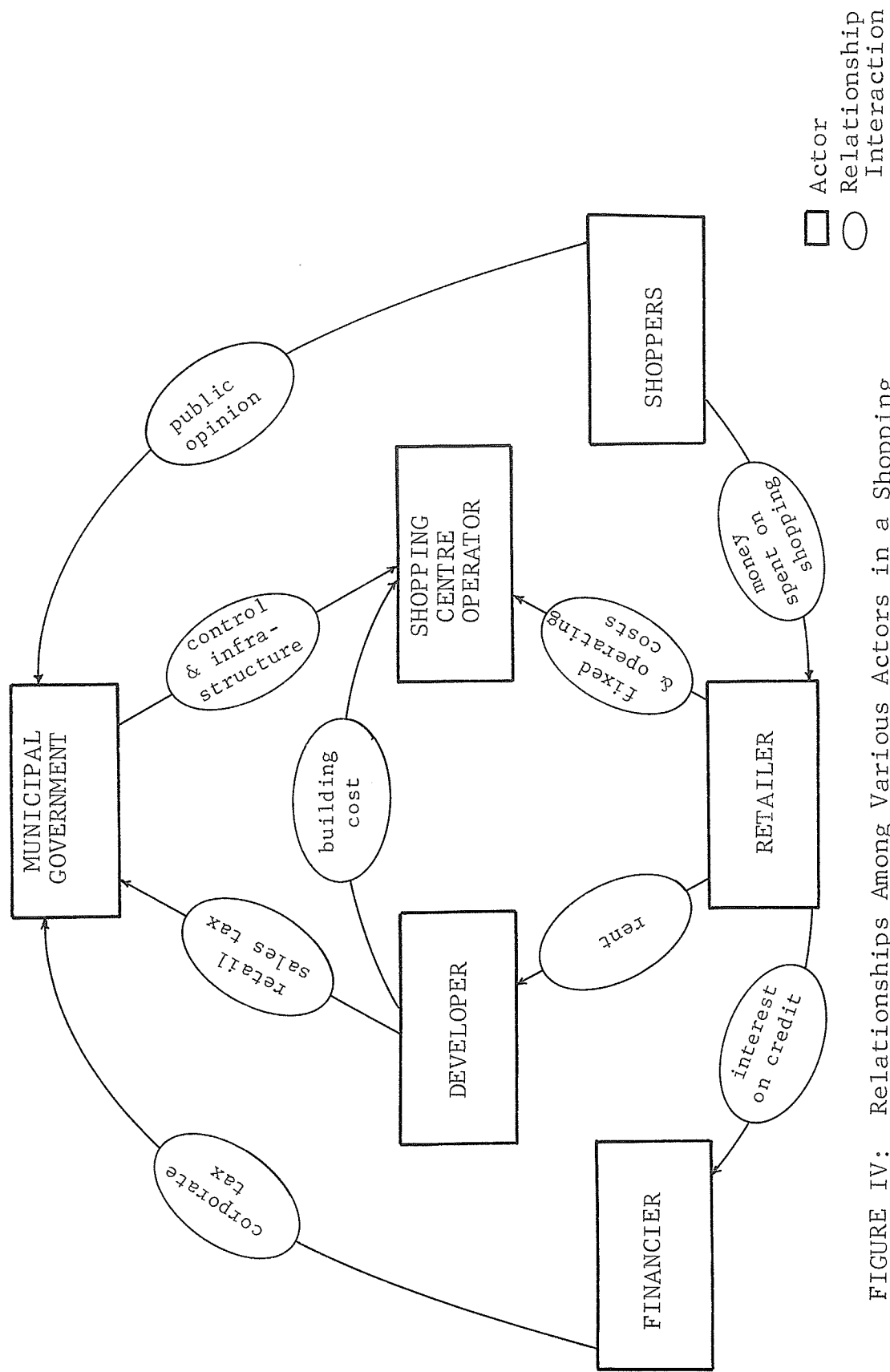
The second report The City of Winnipeg Shopping Centre 1973 was prepared merely changing a few pages of the first report. This was regarded as the product of the Committee on Environment.

Whether or not the firm stand taken by Mr. Darke had any effect upon the politician's decisions was not as important as the fact that his action clearly portrayed the ethics of the planning profession. Without the planner's aid, The City of Winnipeg Shopping Centre 1973 included recommendations which contradicted the substantive data which was retained from the first report.

The planners seemed to have lost the battle in this issue, but to their credit, had not submitted to political pressure. Perhaps this study would be a good proof that the planners were correct in rejecting the Unicity Fashion Square development in the first place.

### 3. Justification of This Research on a City Planning Basis

The simple graph on page 51 portrayed the relationships among the various actors in a shopping centre development. The location of the municipal government at the top of the graph does not signify that the planning agencies are the sole decision-maker. Retailers can only take action over their own business. Developers are only responsible for the building they erect. The planning authority has influence over a much wider field but this influence is more diffuse.



□ Actor  
 ○ Relationship  
 Interaction

FIGURE IV: Relationships Among Various Actors in a Shopping Centre Decision.

The flow chart shows that the municipal governments are responsible for the provision of the necessary infrastructure for the trade market of the centre and in return receive property tax from the developer and sales tax from the retailer. The actual planning process is more complicated for the issue at hand is three-fold: land use, regulatory control and public interest. These three are closely interrelated.

"In land use planning the purposes usually identify with the public interest are five: health, safety, convenience, economy and amenity."<sup>19</sup>

According to F. Stuart Chapin Jr., the term "economy" as used is closely associated with efficiency in the land use pattern and its public cost implication—municipal expenditures, e.g., in transportation improvement and cost to the residents in general. In other words, the land use planner has to examine land development from the viewpoint of the community as a whole as opposed to the viewpoint of the entrepreneur or the collective actions of many people functioning in the urban land market.

The scope of public interest is broad. The land use planner's concern is with the public interest in land development, more particularly with public action that seeks to assure livability and sound development in the city as land is put to urban use. It involves the notion of

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<sup>19</sup>F. Stuart Chapin Jr., 1965, op. cit., p. 41.

control for public ends as may be distinguished from private economic or social ends.

Is Winnipeg heading the direction of commercial overdevelopment? Whether a shopping centre is economically viable may not be the planner's concern but a shopping centre with its improved infrastructure which is underutilized is contrary to the principle of efficiency of land use mentioned above. A shopping centre situated in an already saturated market may just dilute the businesses of surrounding commercial developments. This would lead to lower assessment value, thus reducing the tax base. On top of this, the downtown<sup>20</sup> retailing business is seriously retarded relative to the growth of retailing in the City as a whole due to uncontrolled suburban commercial development. Table 2 clearly indicated that downtown was declining in relation to the rest of the City.

The Greater Winnipeg Development Plan (Bylaw 1117) emphatically supported the strengthening and revitalization of the downtown. Accordingly, a Downtown Development Plan was adopted in 1969. This Plan suggested means which would reverse the trend of a declining downtown. But how can this policy be effectively carried out when there is no efficient regulatory control over suburban commercial development?

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<sup>20</sup>Definition for downtown is adopted from that used by the City of Winnipeg Environmental Planning Branch. Area defined by: Red River, Assiniboine River, Colony Street, Notre Dame Avenue, Princess Street, and Logan Avenue.

TABLE 2

Retail Sales City of Winnipeg 1966, 1971  
 (\$'000: non-constant)

<u>AREA</u>	<u>YEAR</u>				<u>% CHANGE</u>
	1966		1971		
	RETAIL SALES	%	RETAIL SALES	%	
CBD	208,913.5	33.84	149,163.0	20.60	-28.6
WINNIPEG minus CBD	408,482.7	66.16	574,884.0	79.40	+40.7
WINNIPEG total	617,396.2	100.0	724,047.0	100.0	

Based on Statistics Canada, Census 1966, 1971.

As to the problem of public interest, Mr. M. Eliason, a resident of Winnipeg, reflected some citizens' concern.<sup>21</sup> He stated that if the City was already over-built in retail outlets, adding more stores could only result in higher prices for food and other consumer goods.

"It must be remembered that the only person who can pay for unnecessary expansion and costs of stores is the person at the wrong side of the cash register."<sup>22</sup>

The Unicity Fashion Square<sup>23</sup> was opened for business in summer 1975. Is the shopping centre as successful as it was perceived? Or are the shopping centre developers adopting a "foot-in-the-door" strategy of hoping for more residential development beyond the Perimeter Highway?

The Garden City Shopping Centre extension featuring an Eaton's store opened on August 10, 1976. The extension construction started on June 16, 1975, two months before the opening of the Unicity Fashion Square. This might be Eaton's strategy to secure its market in the northern part of the City since The Bay in Unicity Fashion Square provided a potential threat. So there is a high probability that the Unicity Fashion Square triggered the expansion of

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<sup>21</sup>Mr. M. Eliason, "Letter to the Editor", Winnipeg Tribune, January 13, 1973.

<sup>22</sup>Ibid.

<sup>23</sup>This is the official name used when it opened.

Garden City Shopping Centre to its regional capacity. The regional shopping centre in St. Vital area<sup>24</sup> had received its approval and is at present under construction. There are at least two other applications for regional shopping centre developments.<sup>25</sup> It can be argued that a bad precedent was set by Unicity Fashion Square and there is a lack of policy guidelines in the governmental context.

How can the planning department judge the validity of all these applications since there is no legal shopping centre development policy? Since the Unicity Fashion Square has set the precedent of burgeoning shopping centre development, it is perhaps the best starting point to the study of the whole problem of shopping centre development in the City of Winnipeg. The problem under consideration is three-fold:

- (a) Since the development of Unicity Fashion Square was a political decision rather than a decision based on research, can it acquire the volume of business it perceived? In other words, is it economically viable? The problem here is whether this 36 acre

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<sup>24</sup>The exact location is east of St. Mary's Avenue and south of Sterling Road. The developer is the Trizec Equities Ltd. same as the Unicity Fashion Square.

<sup>25</sup>The first one is at northeast corner of Lagimodiere and Regent and the second one is at west of Lagimodiere between Crozier and Couler.



parcel of urban land has been designated to its most efficient use.

- (b) What is the retail impact of this regional shopping centre on other commercial development?
1. The report, The City of Winnipeg Shopping Centre 1972 stated that retail decentralization from downtown would result from further shopping centre development. Is it true?
  2. Polo Park, the only other regional shopping centre during the time of the study boasted that Unicity Fashion Square would not exert too much pressure on its operation. Will Polo Park retain the same volume of business as before?
  3. Other community shopping centres along Portage Avenue, eg. the Comax Corporation was allegedly involved in fighting against the Unicity Fashion Square development by financially supporting a lawsuit against it. To what degree is their business jeopardized?
  4. What is its retail impact on near-by communities eg. Portage la Prairie?
- (c) What is the impact of this shopping centre on the City of Winnipeg's Development Plan? What is the relationship between city planning and shopping centre development?

All these problems deserve careful research for they may affect the healthy growth of the whole city, not only its commercial but also its residential and other developments as well.

## CHAPTER III

### RESEARCH METHODOLOGY--THE STEP BY STEP APPROACH

The purpose of this chapter is to outline the research methodology necessary to prove the following hypothesis:

1. Unplanned Shopping Centre development is detrimental to the business community.
2. A suburban shopping centre situated at the periphery of the town intercepts business from out-of-town adversely affecting the Central Business District and shopping centres closer to the town centre.
3. A shopping centre development not previously contemplated in planning guidelines will coerce the City to provide infrastructure not formerly designated for.

The problems involved were quite complex and a systematic approach was essential to bring the concern into focus. The research methodology aimed at adopting one of the models discussed in Chapter I to estimate the retail sales of Unicity Fashion Square.

The potential for retail sales at a specific site can be approximated by study carried out step by step, proceeding from the delineation of the estimated trading area of the centre from which its trade is expected to be drawn,

to a final calculation of the number of square feet of retail floor space by store type which will optimize the sales potential at the site. This method is sometimes referred to as the "step-by-step" method because of the sequential nature of the analysis. Nelson first suggested this method in 1958.<sup>1</sup> His basic assumptions were:

1. Shoppers move towards the dominant trading centre.
2. Shoppers will not go through one trading centre to get to another centre with equal facilities.
3. Shoppers will patronize the closest centre with equal facilities.
4. Shoppers tend to follow traditional circulation pattern.

This method has been carried out at various levels of sophistication by retailers, developers and economic consultants, and a number of local planning authorities and university exercises have employed similar techniques.<sup>2</sup> The steps taken are mainly oriented towards projecting sales

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<sup>1</sup>Richard L. Nelson, The Selection of Retail Location, New York: F. W. Dodge Corporation, 1958.

<sup>2</sup>Coventry City Planning Department, Shopping in Coventry, First Quinquennial Review of the Development Plan, 1964.

Department of Town Planning, Manchester University, Regional Shopping Centres in North West England, 1964.

Robert W. McCabe, Shopping Centre Decision: Evaluation Guide, Ministry of Treasury, Economics and Intergovernmental Affairs, Ontario, Canada, 1971.

for a proposed shopping centre. Since Unicity Fashion Square was already opened for business and the question at hand was to assess its impact on the commercial developments of Winnipeg, the steps had to be revised for the purpose of this thesis.

STEP I: Examine the existing shopping centre developments of the City of Winnipeg.

It was necessary as a first step of this study to have a clear picture of commercial developments in the City of Winnipeg. A complete inventory of commercial developments was provided in Retail Commercial Study: City of Winnipeg.<sup>3</sup> This report was used to understand the pattern of growth of shopping centres in the City of Winnipeg.

The shopping centre development of the City of Winnipeg would be examined. Were there any specific legal by-laws governing such developments? What kind of effect did these by-laws have on the present growth pattern?

In short, this first part of analysis concentrated on the historical aspects of shopping centre growth in the City of Winnipeg. It was hoped that a certain trend or pattern could be detected from such an analysis.

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<sup>3</sup>Shirley Kwan and Paul Smith, Retail Commercial Study: City of Winnipeg, S.T.E.P. Report for the Manitoba Department of Urban Affairs, September 1977.

TABLE 3

Step-By-Step Approach to Unicity Fashion Square  
Impact Study

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STEP I	:	Examine the existing shopping centre developments of the City of Winnipeg
STEP II	:	Outline the perceived impact of this regional shopping centre prior to its opening in 1975
STEP III	:	Delineate its trade area by means of pavement survey and licence plate survey
STEP IV	:	Estimate the sales of the shopping centre by adopting a model as discussed in Chapter I
STEP V	:	Test the viability of the shopping centre by converting sales to required floorspace
STEP VI	:	Assess its impact on other commercial development in the City of Winnipeg and other areas

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STEP II: Outline the perceived impact of this regional shopping centre prior to its opening in 1975.

The perceived impact of Unicity Fashion Square could be viewed from two different angles. To the Unicity Fashion Square authority, it would definitely be a success. A trade market analysis was done by the Unicity authority. It was printed and enclosed in a tri-colour folder to be distributed to the perspective tenant retailers. What was the trade market as perceived by the Unicity Fashion Square authority?

On the other hand, its impact was viewed with awe by some competitors, eg. Crestview and Westwood Shopping Centres, but with contempt by others, eg. Polo Park. How and why were their views different?

Also, the City of Winnipeg's Committee on Environment, Planning Branch first objected to its development only later yielded under political pressure. Based on what reasons did the Planning Branch object to its development?

In this section, different views concerning the market of the Unicity Fashion Square were presented. It was the purpose to investigate whose perceived impact is more accurate, also to what extent are these perceived impacts realized.

STEP III: Delineate its trade area by means of pavement survey and licence plate survey.

R. L. Nelson<sup>4</sup> recognized that a trade area is not a permanent geographical fact but is created entirely by the response and behaviour of individuals, and that the size and shape of the arbitrary trade may change as a result of changes in consumer behaviour. He further suggested that if the centre is already established, the initial trade area estimate may be based on pavement interviews. This is preferred to household surveys, for a regional shopping centre is where a significant portion of the centre's trade is made up of rare trips involving large purchases and originating over a large area. In such a case, a pavement survey would give a far better picture of the situation. On the other hand, the pavement survey would only include the shoppers of the shopping centre under consideration. It is difficult to estimate the change of consumer behaviour in the City as a whole.

A personal household survey was quite impossible for this study since the amount of time and finance involved were too great. A mail survey would incline to have a bias since the number of refusals would probably be high. So balancing the advantages and disadvantages, it was felt that a pavement survey would be best for the study.

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<sup>4</sup>R. L. Nelson, The Selection of Retail Location, New York, 1958.



The surveys were undertaken by Mr. Robert Deyman and the writer for the Manitoba Department of Urban Affairs in the summer of 1976,<sup>5</sup> one year after the opening of the Unicity Fashion Square. This was a good time to assess its initial impact on the nearby business. The pavement survey was divided into two parts: licence plate survey and consumer survey.

The objective of the licence plate survey was to determine the spatial distribution of consumers attracted to Unicity Fashion Square. The methodology employed to gather the data consisted of recording the licence plate number of a representative sample of automobiles entering or leaving the shopping centre property. The sample for this study was one out of every ten departing cars. The rationale for using only departing cars was that cars were required to stop at the road exits from the shopping centre, thus ensuring accurate recording of plate numbers. The survey was conducted during the week of June 7th to 12th, 1976. The surveyors<sup>6</sup> alternated locations in order to cover all exits for approximately the same amount of time each day. The six day survey period was broken down into

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<sup>5</sup>For detail, please refer to the S.T.E.P. report "Retail Impact of Unicity Fashion Square", Manitoba Department of Urban Affairs, 1975.

<sup>6</sup>There were four surveyors but only three surveyors were on duty at the same time.

alternating day or night shifts in order to eliminate any time factor bias in the sample.<sup>7</sup> The raw data was collected on standardized survey sheets and forwarded to the Motor Vehicle Branch, Manitoba Department of Highways. An address for each licence plate was obtained and the results were tabulated according to distance and census tracts.

The consumer survey had a little different orientation from the licence plate survey. In addition to spatial information, this survey questionnaire provided information regarding frequency of visits, shifts in the pattern of consumption, consumer profiles and consumer attitudes.<sup>8</sup> Similar to the licence plate survey, all entrances to the Mall were surveyed with regard to eliminating any time bias, eg. alternating day or night and approximately equal time at all entrances. In contrast, the consumer survey sampled one out of ten consumers entering the Mall. This was done to facilitate the time scheduling and to increase the accuracy of the sample by decreasing the number of refusals. The assumption here was that consumers were more responsive without the burden of packages. This survey was also conducted for six days during the week of June 14th to 19th. The data obtained was tabulated by using

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<sup>7</sup>Please refer to Appendix B.

<sup>8</sup>Ibid.

a computer Statistical Package for the Social Sciences, frequency run, Option 8.

From these two surveys, the primary and secondary trade market of Unicity Fashion Square might be delineated. From thence, the estimated market established by the Unicity authority and the real market would be compared.

STEP IV: Estimate the sales of the shopping centre by adopting a model as discussed in Chapter I .

A lot of effort had been spent in trying to obtain retail sales figures,<sup>9</sup> yet all were in vain. Statistics Canada had been publishing retail sales figures for the Metropolitan Winnipeg area on a census tracts basis in 1966 and 1971. Unfortunately this had been discontinued for the 1976 census. The only possible way to arrive at a certain estimate sale was by applying a planning model.

After careful scrutiny, it was decided that the Lakshmanan-Hansen model should be adopted. Firstly, this model included two most important schools of theories: consumer behaviour and retail gravitation. Secondly, the best model, the Cullen's model, which has to depend on calibration could not be used since data were insufficient.

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<sup>9</sup>Contacts include: Statistics Canada, Manitoba Bureau of Statistics, Provincial Finance Department--Retail Sales Tax Section, Anti-Inflation Board, Assessment Office (City of Winnipeg), Chamber of Industry and Commerce, Damas and Smith (consulting firm).

Reynolds<sup>10</sup> in 1935 and 1949 making use of the Converse's<sup>11</sup> variation of retail gravitation, found in that the percentage of variance explained by the law of retail gravitation was the highest for women's clothing: 79 percent in 1935 and 90 percent in 1949 and it was closely followed by men's suits, 76 percent in 1935. Since the regional shopping centre under consideration posed as a fashion square, the use of the law became inevitable.

The general formulation of the Lakshmanan-Hansen model had been briefly explained in Chapter I . But the equation could be modified to state the consumer expenditures available in all zones of the region that would probably be spent in a particular shopping centre.

$$S_j = \sum_{i=1}^n C_i \frac{\frac{F_j}{d_{ij}^a}}{\sum_{k=1}^n \frac{F_k}{d_{ik}^a}}$$

where:

$S_j$  = total sales in retail centre  $F_j$

$C_i$  = total consumer retail expenditures of population in zone  $i$

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<sup>10</sup>R. B. Reynolds, "A Test of the Law of Retail Gravitation," The Journal of Marketing, XVIII, no. 3, January 1953.

<sup>11</sup>P. D. Converse, "New Laws of Retail Gravitation," The Journal of Marketing, XIV, October 1949.

$F_j$  = size of shopping centre

$F_k$  = size of competing centres

$d_{ij}$  = distance between zone i and zone j

a = an exponent applied to the distance variable

This equation implied that there was no trade area boundary but a shopping interaction between all zones, though this might fall off sharply with distance. So this model was a good tool to estimate the market potential of a shopping centre in a metropolitan region. The input variable for the model included:

- a) shopping goods demand of small area,
- b) supply of competing shopping goods facilities, and
- c) spatial links between the retailers and the consumer.

To compute the demand for shopping goods, population figure and household expenditures were essential. Since 1976, the year of the study, was also the census year, population figures were easily obtained on census tract basis. A report published by Statistics Canada "Urban Family Expenditure 1974" was also of considerable use. All cash values were updated to 1976 standard by applying the inflation factor. This was quite accurate since wage and price control has been in effect since 1974.

A study on retail commercial development for the City of Winnipeg<sup>12</sup> gave a complete inventory of competing

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<sup>12</sup>Kwan and Smith, op. cit., 1977.

shopping goods facilities. The inventory was most appropriate for the study since the locations, gross leasable floor areas and years of opening were all available.

The spatial links between the retailers and the consumers were measured by travel time obtained from the Transportation Department, City of Winnipeg.

The real market of Unicity Fashion Square had been delineated in Step III. So the application of the model would be much simpler. It ought to be more accurate than the Lakshmanan-Hansen study since the market in their study was established hypothetically.

STEP V: Test the viability of the shopping centre by converting sales to required floorspace.

This was a second step to test the viability of the shopping centre. The Urban Land Institute, Washington, D.C. published the Dollars and Cents Shopping Centre<sup>13</sup> every few years. It was a basic guide to the measurement of retail space requirement, cost of development and operation, rental arrangements, the mix of stores in a centre and the essential conversion tables required by the planner and market analyst in any study of retail centres. Although this book was an American publication, it included Canadian Shopping Centres data. By making use of the average sales per square feet for food and department store type merchandise (DSTM)

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<sup>13</sup>The latest issue was published in 1975.

the sales of the shopping centre was converted to square footage. This derived footage might be used to compare with the existing footage to test for viability.

STEP VI: Assess its impact on other commercial development in the City of Winnipeg and other areas.

This would take the form of historical trend of retail sales in the City which was available by census tract basis for 1966 and 1971.<sup>14</sup> The total figure for metropolitan Winnipeg was available on a quarterly basis.<sup>15</sup> This would be used in conjunction with the increase of commercial square footage over the years.<sup>16</sup> This step might prove the fact that the market of Winnipeg remained fairly stable and increase in commercial development would mean diluting the revenue of individual business.

#### CONCLUSION:

The advantage of using the step by step approach in this thesis was that it managed to give a systematic approach to the analysis of the whole problem. From this detailed analysis, the hypotheses listed in the beginning of the chapter would be tested.

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<sup>14</sup>Statistics Canada Census 1966 and 1971.

<sup>15</sup>Statistics Canada.

<sup>16</sup>Kwan and Smith, op. cit.

The step-by-step approach as used in this thesis had departed to a great extent from the original one proposed by Nelson. This was due to the fact that the question under consideration was basically different. But the general framework was essentially the same. This approach could also be further adopted to be used for impact study for proposed and existing shopping centres.



## CHAPTER IV

### RETAIL IMPACT ANALYSIS OF UNICITY FASHION SQUARE

This chapter focuses on analyzing the retail impact of Unicity Fashion Square by following Step I through V discussed in Chapter III. Retail Sales of Unicity Fashion Square was estimated by adopting the Lakshmanan-Hansen Model. The findings were important since it was the first attempt to test if this model was applicable in the Winnipeg situation.

STEP I: Examine the existing shopping centre development of the City of Winnipeg.

In 1947 the first shopping centre, the Wildwood Shopping Centre, opened in Winnipeg, but it was not until 1956 that construction of shopping centres "took off" at a great speed. A close examination of Table 4 and Table 5 will show the trend in which shopping centre developments have been taken place in the past thirty years.<sup>1</sup> For the first ten years, 1946-1956, shopping centre development was negligible. But in 1959, with the construction of the Polo Park regional shopping centre, shopping centre development

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<sup>1</sup>For the definitions of regional, community, neighbourhood and other shopping centres, please refer to Appendix A.

TABLE 4

## Actual Shopping Centre Square Footage by Type, by Year Periods

TYPE	'46 - '51	'52 - '56	'57 - '61	'62 - '66	'67 - '71	'72 - '76
Regional	-	-	694,384	694,384	1,123,011	1,696,618
Community	-	-	-	1,227,609	1,227,609	1,773,160
Neighbourhood	-	29,118	228,273	539,314	630,962	746,231
Other	12,000	12,000	29,600	309,425	675,650	1,196,400
TOTAL	12,000	41,118	952,257	2,770,732	3,657,232	5,412,409
Change %		242.65%	2,215.9%	190.96%	31.99%	47.99%

SOURCE: Shirley Kwan and Paul Smith, Retail Commercial Study: City of Winnipeg, 1977.

TABLE 5

New Construction (in Square Feet) of Shopping Centres by Type,  
by Year Periods

TYPE	'46 - '51	'52 - '56	'57 - '61	'61 - '66	'67 - '71	'72 - '76
Regional	-	-	694,384	-	428,627	573,607
Community	-	-	-	1,227,609	-	545,551
Neighbourhood	-	29,118	199,155	311,041	91,648	115,269
Other	12,000	-	17,600	279,825	366,225	520,750
TOTAL	12,000	29,118	911,139	1,818,475	886,500	1,755,177

SOURCE: Shirley Kwan and Paul Smith, Retail Commercial Study: City of Winnipeg, 1977.

really began. This phenomenal growth: 911,139 square feet in the five year period from 1957 to 1961, represented an increase of 2,215.9 percent. The major increase from 1962 to 1966 period was mainly due to the construction of seven community shopping centres. This might be called the era of community shopping centre development because seven out of the eleven shopping centres of this type were built in this period. The 1967-1971 period was a slow period of shopping centre growth. If it was not for the extension of Polo Park Shopping Centre and the construction of Garden City Shopping Centre, the growth would be really negligible. But this declining trend was reversed again in 1972-1976 period. The percentage growth might not be very impressive but the real increase was the highest since 1962-1966. This showed that the shopping centre development was again taking a fast pace. This might be due to the fact that The Metropolitan Development Plan<sup>2</sup> specifically prohibited the extension of older commercial strip areas and the establishment of new ones. It also encouraged the elimination of incompatible uses within existing commercial strips.<sup>3</sup> On the other hand, the Plan promoted the grouping of local retail and commercial services in living areas for the

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<sup>2</sup>The Metropolitan Corporation of Greater Winnipeg, The Metropolitan Development Plan, 1968.

<sup>3</sup>Ibid., C.4, pp. 57-58.

purpose of increasing convenience to residents.<sup>4</sup> The Plan further stated that the provision of these services in recently developed areas indicated that their grouping in a local or community shopping centre resulted in improved and unified design and usually a higher standard of maintenance. This greatly encouraged shopping centre developments. It must be noted that attention was focused on community shopping centres without the consideration of the needs for regional shopping centres.

A close examination of the City of Winnipeg by-laws reveals that there are four by-laws that direct and promote the development of commercial enterprises:

1. The Greater Winnipeg Development Plan,
2. The Downtown Plan,
3. The City of Winnipeg Shopping Centres 1973, and
4. The October Guidelines.

The City of Winnipeg Shopping Centres deals totally with commercial developments. The other three are concerned with a wide range of subjects of which commercial development forms a part.

The Greater Winnipeg Development Plan (By-law 1117) is the official plan stating the City's policies, objectives and guidelines concerning the extent, direction and character of future growth and development of the City and its

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<sup>4</sup>Ibid., C2.31-C2.32, pp. 48-49.

environs. The Plan states policies and objectives which promote the development of grouping local retail and commercial services in residential areas and discourages the extension of strip commercial sites. The Plan quite emphatically supports the strengthening and revitalization of the Downtown. The Development Plan, adopted in 1968, also recommended the need for a concept plan for the Downtown. Accordingly a Downtown Development Plan was adopted in 1969.

Due to the change of city government the Downtown Development Plan was never officially adopted as a by-law.<sup>5</sup> It identifies the trend of a declining downtown primarily through statistical data on the economic, demographic, social and physical aspects of the area. The Downtown Development Plan strengthens and enlarges upon the objectives and policies found in the Greater Winnipeg Development Plan.

The Greater Winnipeg Development Plan and the Downtown Development Plan specifically support the strengthening of Downtown. So it was quite surprising that in 1973 the Greater Winnipeg Development Plan was amended under By-law 506/73 to include policies for a system of regional shopping centres for the City of Winnipeg. The City of Winnipeg

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<sup>5</sup>The Downtown Development Plan was approved in principle but never officially adopted mainly due to the incorporation of the Metropolitan Corporation of Winnipeg into Unicity in 1971.

Shopping Centre 1973 presented factual data with respect to existing shopping centres and defines criteria for the differentiation between local, community and regional shopping concepts. The policies set forth by the Committee on Environment in By-law 506/73 deal with size of trade area, general locations, urban design, climate controlled pedestrian areas and also provided for shopping centre proposals to be dealt with individually. The amendment was an attempt to remove possible barriers confronting the private sector in commercial development in suburban areas.

In July 1973 a committee composed of representatives from all city departments drafted a set of policy guidelines which reflected an update on existing city policy. The guidelines were adopted as policies in October. The only guidelines that directly relate to commercial development are those dealing with the Downtown. There was an extension of existing downtown policy and once again a statement of commitment by the City to revitalize and strengthen the Downtown.

The examination of the City's commercial policies showed that there was an obvious contradiction. The revitalization of Downtown was a traditional policy which could be clearly seen in the Greater Winnipeg Development Plan, the Downtown Development Plan and the October Guidelines. Yet there was a by-law permitting the development of six regional shopping centres, a sign of retail decentralization. The trend of shopping centre development

also showed that there seemed to be random development without special reference to the population of specific area. Table 6 lists shopping centre areas in the City of Winnipeg and indicated their relationships to residential acreage and population. There was conspicuously little relationship among these data but one obvious fact was that St. James-Assiniboia Community Committee was the area which possessed the highest relationship among the three factors. Did it mean that this area was best serviced commercially or was it over-serviced? This question logically led us to Step II of this study which examined the markets of the shopping centres.

STEP II: Outline the perceived impact of this regional shopping centre prior to its opening in 1975.

1. The market of the regional shopping centre as perceived by the Unicity Fashion Square authority.

The market as shown on Map III was divided into a primary and a secondary trade area. The primary trade area was approximately seven minutes driving time from the site while the secondary trade area was 15 minutes driving time. The primary trade area included St. James-Assiniboia, Tuxedo and Charleswood and showed a shopping population of over 100 thousand population.<sup>6</sup> With the addition of the secondary trade area the total market population was

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<sup>6</sup> According to Census 1976, these areas have a total population of 116,849.



TABLE 6

Relationships Among Residential Acreage, Shopping Centre Footage  
And Population by Community Committees 1976

COMMUNITY COMMITTEES	RESIDENTIAL ACREAGE (App.)		SHOPPING CENTRE		POPULATION	
	Number	Rank	Square Footage	Rank	Number	Rank
St. James-Assiniboia	9,651	1	1,124,057	1	74,046	2
Midland	2,756	8	828,834	3	40,573	7
Centennial	1,378	11	45,523	11	39,353	9
West Kildonan	2,074	10	965,192	2	33,856	11
Lord Selkirk	4,301	5	31,000	12	75,155	1
East Kildonan	8,147	2	510,560	4	63,043	3
Transcona	966	12	367,255	7	24,713	12
St. Boniface	2,611	9	405,354	6	46,192	5
St. Vital	3,661	6	167,821	10	39,744	8
Fort Rouge	2,886	7	495,088	5	49,927	4
Fort Garry	6,803	4	263,401	8	34,838	10
Assiniboine Park	7,322	3	208,324	9	42,803	6
<b>TOTAL</b>	<b>52,556</b>		<b>5,412,409</b>		<b>564,243</b>	

SOURCE:

Statistics Canada, Census 1976.  
Kwan and Smith, Retail Commercial Study, City of Winnipeg, 1977.

estimated to exceed 200 thousand people. The Unicity Fashion Square also forecasted that the Perimeter Highway would create a bonus population for the shopping centre's market. Shoppers from Fort Garry and St. Vital would have direct access to the centre via the Perimeter and would also be within 15 minutes driving time of the site. The D.S.T.M. (department store type merchandise) sales potential for the market area was expected to increase from almost \$55 million in 1974 to over \$73 million in 1984.

The Unicity Fashion Square also boasted that access was an important feature practically in itself guaranteeing the success of the shopping centre. Portage Avenue is the major east-west transportation route for Western Winnipeg. Virtually all roads in the St. James-Assiniboia area connected to Portage Avenue. Portage Avenue, in turn, connects to the Trans-Canada Highway just west of the shopping centre site at the Perimeter Highway. Roblin and Grant Boulevards in Charleswood will be important traffic arteries providing residents to the south of the Assiniboine River convenient access to the shopping centre via the Perimeter Highway.

The Perimeter Highway also would offer an opportunity for shoppers living in St. Vital and Fort Garry to travel southward to the Perimeter Highway and then west and north to the shopping centre on Portage Avenue which is less than a quarter of a mile east of the Perimeter Highway. This trip could be made in approximately 15 minutes driving

at 60 miles per hour. This would give a definite advantage for it takes a driving time of some 45 minutes through the City of Winnipeg to reach other competitive shopping facilities.

Excellent public transportation was available along Portage Avenue and was expected to be further improved with the opening of the shopping centre.

The Trans-Canada Highway placed Unicity Fashion Square in the ideal location to intercept traffic approaching Winnipeg from the south and west.

In short, the perceived market of Unicity Fashion Square as seen by its developers consisted of: St. James-Assiniboia, Charleswood-Tuxedo, Fort Garry and St. Vital.

2. The market of the regional shopping centre as perceived by others.

The City of Winnipeg Planning Department viewed the Unicity Fashion Square a threat to the objectives laid down by the Metropolitan Development Plan. The following few quotations succinctly portray the feelings of the City planners.<sup>7</sup>

"It will be noted...that the St. James Assiniboia area is well served with all three types of (shopping) centres. With a limited potential for development of only

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<sup>7</sup>Letter from R. P. Darke, Deputy Director of Planning, City of Winnipeg to St. James-Assiniboia Community Committee, October 3, 1972.

a further 6,300 dwelling units<sup>8</sup> because of the need for additional sewage treatment facilities, the requirement for a large regional shopping centre does not appear necessary.

Increased pressure for development west of the Perimeter is a consequence which must be expected as a result of the proposed Unicity Mall Shopping Centre and any traffic and underground service consideration should allow for such an extension. It is difficult at this time to estimate the magnitude of demand which might be stimulated; but there seems little doubt that such demand will be encouraged by a commercial centre of such magnitude in order to increase the size of its market area.

If it is the policy of Council to continue to contain development within the Perimeter Highway in accordance with the Greater Winnipeg Development Plan, then the development of the Unicity Mall Shopping Centre should not proceed."

It was evident that the planning department thought that the Winnipeg market would not be strong enough to support another regional shopping centre and the developers were speculating on development outside the Perimeter Highway. It was therefore not surprising that the City of Portage la Prairie protested against its development. Its close proximity to the Perimeter Highway shortened the out-of-town shoppers' trips by nine miles to downtown Winnipeg and by five miles to Polo Park. The City of Portage la Prairie saw this as a major threat to its own downtown development which features the Robinson Store as its major

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<sup>8</sup>As of June 1976, there was only 25 acres of vacant land approved for development in the St. James-Assiniboia Community Committee.

department store. Both City governments perceived the Unicity Fashion Square would have impact outside the Perimeter Highway.

What would be its impact on the City of Winnipeg? The major shopping centres would probably be Polo Park, the only other regional shopping centre and the two community shopping centres, Westwood and Crestview. Westwood has a Kresge store and a Dominion supermarket as its major tenant while Crestview features the Zeller and a Safeway. These two shopping centres are only about 1/4 mile away from the Unicity site. Unicity Fashion Square, featuring the Bay, Woolco and a discount store<sup>9</sup> would for sure divert a lot of shoppers from these two smaller centres. Therefore, the Comax Corporation, the owner of Crestview and Village Inn Shopping Centre was strongly believed to be financially supporting a law suit against the Unicity development. This to a certain extent, and assuming the suspicions were correct, reflected their fear of the Unicity competition.

On the other hand, Polo Park was viewing the case with more confidence. The Fairview Corporation which owns the Polo Park Shopping Centre had assessed the Unicity Mall situation and felt that there was no valid argument against the development. The Polo Park shopping centre was

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<sup>9</sup>There is a discount store space of approximately 30,000 square feet adjacent to the supermarket but as of December 1977 (two years after its opening), the space is still not rented.

operating extremely successfully at that time. The following table shows the net sales of the census tract in which Polo Park is located.

The Fairview Corporation's market analysis in 1972 on the Unicity Fashion Square site took into account future development west of the Perimeter Highway. It showed the land should be a good potential site for a regional shopping centre five years from thence, i.e. 1977. But Fairview would have no advantage in developing the site since it was within its primary trade area. By opposing the Plan, Fairview could have delayed the Unicity Fashion Square development for up to two years but they saw no advantage in this. But this apathetic attitude was changed when the City of Winnipeg Shopping Centre 1973 recommended six regional shopping centres. A spokesman for Polo Park Shopping Centre in a December 17, 1973 meeting asked the Committee on Environment to delete its recommendation for a regional shopping centre area in Charleswood-Fort Garry to serve the south-west part of Winnipeg. He stated that shopping facilities then provided was adequate and therefore a regional shopping centre located to serve both Charleswood and Fort Garry was unsound, in fact punitive approach to centres then existing. He told the Committee that west central Winnipeg, River Heights, Tuxedo,

TABLE 7

Net Retail Sales of Polo Park  
Shopping Centre

CENSUS TRACT	YEAR	NET SALES	PERCENTAGE CHANGE
C.T. 29	1961	25,508,600	
			164%
C.T. 29	1966	41,883,400	
			148%
C.T. 19*	1971	61,944,000	

## SOURCE:

Statistics Canada: Census 1961, 1966, 1971.

\*The census tract number was changed in 1971.

Charleswood, and St. James-Assiniboia,<sup>10</sup> containing 38 percent of the Winnipeg population, provide 62 percent of Polo Park's customers, and an estimated 65 percent of its total sales.

This attitude showed that the Fairview Corporation was more concerned about securing its market on the south-west of Winnipeg. It viewed the Unicity development as speculating on residential growth beyond the Perimeter Highway and its impact on Polo Park would be far less serious than the one located in the Fort Garry-Charleswood region.

So summing up, the perceived market of Unicity Fashion Square was restricted to the extreme west of the City of Winnipeg. Polo Park seemed to be the most competitive shopping centre. The Fort Garry-Charleswood was the area where the two centres were fighting for.

STEP III: Delineate its trade area by means of consumers survey and licence plate survey.

The consumer survey and licence plate survey were successfully carried out in the summer of 1976. The results were tabulated by computer using the Statistical Package for Social Sciences frequency run, option 8. Only simple statistics were used to answer the major question, "where do the shoppers of Unicity Fashion Square come from?"

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<sup>10</sup>This trade market had been empirically proved by Robert G. J. Morris, "An Evaluation of the Functions and Characteristics of a Regional Shopping Centre--Polo Park, Winnipeg," unpublished M.A. Thesis, Department of Geography, University of Manitoba, 1968.



The licence plate survey had the advantage of being able to get the exact addresses of the shoppers while consumer survey only managed to obtain the closest intersection. It also represented a more random sample since there was no refusal. On the other hand, the licence plate survey had eliminated those who reached the shopping centre not using an automobile. So the two surveys complemented each other to give a clear picture of the trade area of the shopping centre.

The total sample for the consumer survey was 454 while that for licence plate survey was 641. Although the survey durations were the same,<sup>11</sup> the major differences were probably due to weather variation between the two survey weeks. Also the incidence of refusal and the amount of time taken for the interviews<sup>12</sup> for the consumer survey lessened the number of samples taken.

Brian Berry's method of delineating the market at the point where the rate of accumulation "flattened off"<sup>13</sup> was used. His study on Chicago showed that the boundary

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<sup>11</sup>Each survey lasted for a shopping week--Monday to Saturday.

<sup>12</sup>The lengths of interviews varied from shoppers to shoppers. Some shoppers tended to carry on a conversation. The interviewers tried to keep the interview time down to three minutes per interview.

<sup>13</sup>Brian Berry, op. cit., 1963, p. 61.

line so drawn circumscribes the "intensive" trade area of the centre. In all cases more than 80 percent of the centre's customers were drawn from this area, the proportion increasing as size of centre diminished. Table 8 clearly showed that both surveys gave a trade market of around three miles from the shopping centre. This market area provided 62.6 percent of the customers in the consumer survey and 60.1 percent of the licence plate survey. This could be further explained by looking at Table 9, 84.6 percent of the customers arrived by cars, while 15.4 percent arrived by other means, i.e. walking, by public transit or cycling. This might explain the slight difference in percentage between the two surveys.

Yet, the figures still fell short of the percentage given by Brian Berry. This probably was due to the fact that a system of regional shopping centres was not completed in Winnipeg. Unicity Fashion Square served the whole City of Winnipeg. Table 10 showed that 13.9 percent of the customers from the consumer survey and 10.9 percent from the licence plate survey came from outside the City of Winnipeg. This figure might not be too impressive but if we again examined the population figure in Table 11, it was clear that a substantial number of shoppers came from out-of-town. The out-of-town customers also came from a widespread area. Table 12 showed that 7.3 percent of the consumer survey and 6.1 percent of the licence plate survey came from more than 50 miles away.

TABLE 8

Trade Market of Unicity Fashion Square  
(By Distance From the Centre)

SHOPPERS' HOMES (Distance from the centre)	NUMBER OF SHOPPERS		RELATIVE FREQUENCIES		CUMULATIVE FREQUENCIES	
	C.S.	L.P.S.	C.S.	L.P.S.	C.S.	L.P.S.
0 - 1 mile	141	184	31.1	28.7	31.1	28.7
1 - 2 miles	88	136	19.4	21.2	50.4	49.9
2 - 3 miles	55	65	12.1	10.1	62.6	60.1
3 - 4 miles	8	15	1.8	2.3	64.3	62.4
4 - 5 miles	21	35	4.6	5.5	68.9	67.9
5 - 6 miles	17	32	3.7	5.0	72.7	72.9
6 - 7 miles	18	24	4.0	3.7	76.7	76.7
7 - 8 miles	13	30	2.9	4.7	79.5	81.3
8 - 9 miles	9	15	2.0	2.3	81.5	83.6
9 - 10 miles	18	18	4.0	2.8	85.5	86.4
Over 10 miles	66	87	14.5	13.6	100.0	100.0
TOTAL	454	641	100.0	100.0		

C.S. -- Consumer survey.

L.P.S.-- Licence Plate survey.

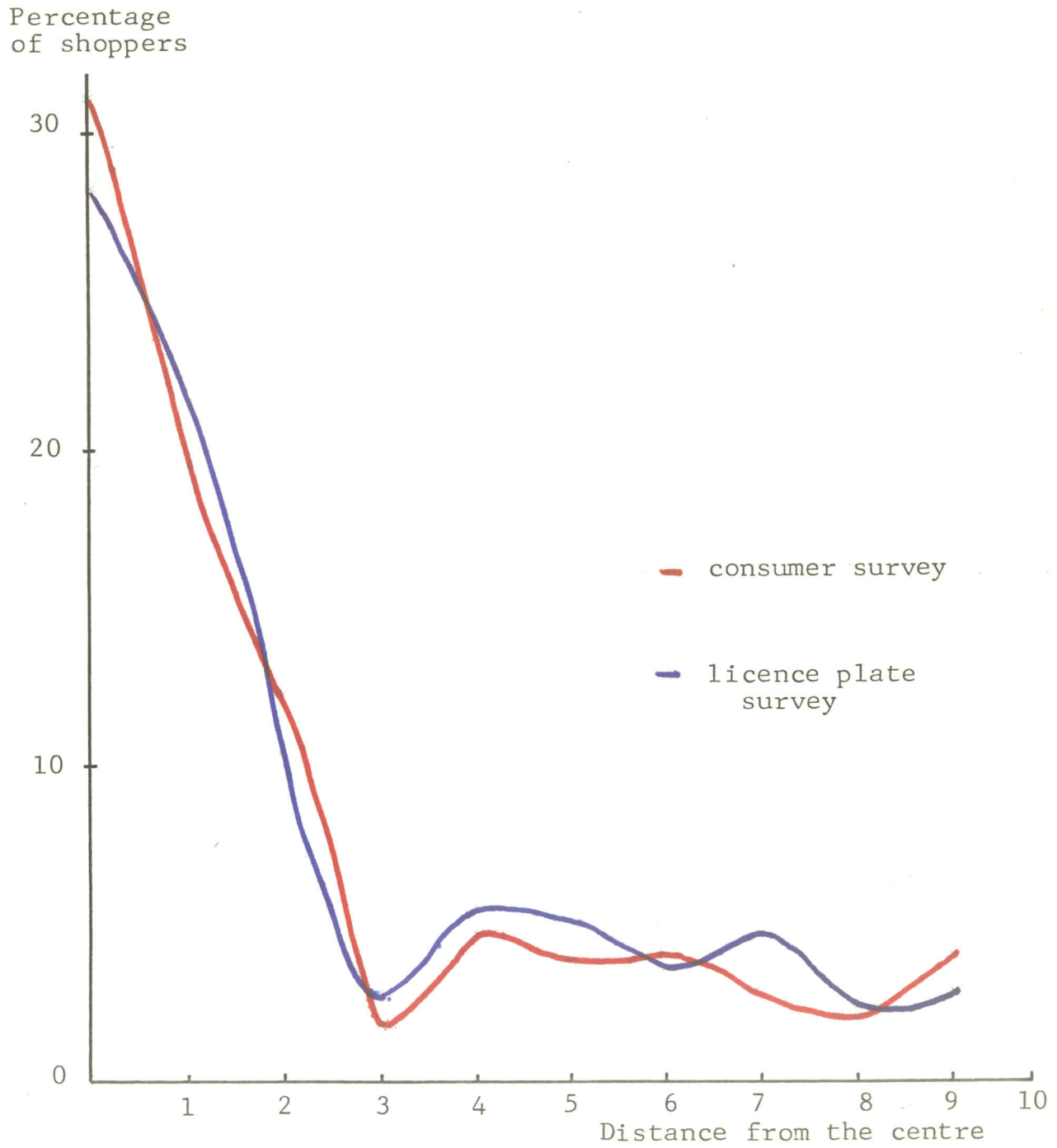


FIGURE V: Trade Market of Unicity Fashion Square

TABLE 9

## Consumer Survey--Mode of Transportation

MODE	NUMBER OF SHOPPERS	RELATIVE FREQUENCY
Bus	35	7.7
Car	384	84.6
Walk	30	6.6
Others	5	1.1
TOTAL	454	100.0

TABLE 10

Trade Market of Unicity Fashion Square  
(By Location in or out of Town)

SHOPPERS' HOMES	NUMBER OF SHOPPERS		RELATIVE FREQUENCIES	
	C.S.	L.P.S.	C.S.	L.P.S.
In - town	400	579	88.1	90.3
Out - of - town	54	62	11.9	9.7
TOTAL	454	641	100.0	100.0

C.S. -- Consumer survey.

L.P.S. -- Licence Plate survey.

TABLE 11

Population of the Trade Market of Unicity Fashion Square

SHOPPERS HOMES	POPULATION	NUMBER OF CUSTOMERS		RELATIVE FREQUENCIES		CUSTOMERS /000 Population Ratio	
		C.S.	L.P.S.	C.S.	L.P.S.	C.S.	L.P.S.
St. James-Assiniboia	71,070	241	361	53.1	56.3	3.39	5.08
Assiniboine Park	24,360	76	68	16.7	10.6	3.12	2.79
Fort Garry	34,838	10	9	2.2	1.4	0.29	0.26
St. Vital	39,744	4	12	0.9	1.9	0.10	0.30
R.M. St. Francois Xavier	692	-	2	-	0.3	-	2.89
R.M. Rosser	1,269	4	-	0.9	-	3.15	-
R.M. Cartier	2,896	4	4	0.9	0.6	1.38	1.38
R.M. MacDonald	3,247	3	3	0.6	0.4	0.92	0.92
R.M. Rockwood	5,962	4	6	0.9	0.9	0.67	0.67
R.M. Portage la Prairie							
(City of Portage la Prairie)	19,748	6	8	1.3	1.3	0.30	0.41
<b>TOTAL</b>		<b>352</b>	<b>473</b>	<b>77.5</b>	<b>73.7</b>		

TABLE 12

Trade Market of Unicity Fashion Square  
(by Rural Municipalities)

SHOPPERS' HOMES (ORDER BY DISTANCE FROM THE CENTRE)	NUMBER OF SHOPPERS		RELATIVE FREQUENCIES		RELATIVE FREQUENCIES (OUT OF TOTAL SAMPLE)	
	C.S.	L.P.S.	C.S.	L.P.S.	C.S. (454)	L.P.S. (641)
St. Francois Xavier	-	2	-	3.2	-	0.3
Rosser	4	0	7.4	-	0.9	-
Cartier	4	4	7.4	6.5	0.9	0.6
MacDonald	3	3	5.6	4.8	0.6	0.5
Rockwood	4	6	7.4	9.7	0.9	0.9
Portage la Prairie	6	8	11.1	12.9	1.3	1.3
SUB-TOTAL	21	23	38.9	37.1	4.6	3.6
More than 50 miles from the centre	33	39	61.1	62.9	7.3	6.1
TOTAL	54	62	100.0	100.0	11.9	9.7



After determining the intensive trade area of Unicity Fashion Square to be a three mile radius around the centre, it was the time to test if the perceived market of Unicity Fashion Square was correct. Table 13 showed the perceived market of Unicity Fashion Square authority. The area of St. James-Assiniboia, Assiniboine Park, Fort Garry and St. Vital provided 70.9 percent of the customers from the consumer survey and 69.0 percent from the licence plate survey. But referring to Table 11 again, the customer/population ratios for Fort Garry and St. Vital were so low that it could be said the trade market from these areas were not realized. Even adding the out-of-town market (shown in Table 11) the percentage still fell short of the 80 percent mark set by Brian Berry but it might be a function of population density. The trade market as perceived by the Unicity Fashion Square only provided 77.5 percent of customers from the consumer survey and 73.8 percent of the licence plate survey. It was clear that the real market of Unicity Fashion Square cover a much smaller area than was perceived by the developer.

For the purpose of this study, it was assumed that the intensive trade market of Unicity Fashion Square came from a three mile radius. Table 14 summarized the findings on which sales estimates will be based. The consumer per 1000 population index was used as an indicator for intensive trade. An arbitrary figure of one customer per 1000 population was used as point of delineation. This

TABLE 13

Trade Market as Perceived by Unicity Fashion Square  
(by Census tract)

SHOPPERS' HOMES	NUMBER OF SHOPPERS		RELATIVE FREQUENCIES		(OUT OF TOTAL) RELATIVE FREQUENCIES	
	C.S.	L.P.S.	C.S.	L.P.S.	C.S.	L.P.S.
St. James-Assiniboia	90	90	27.2	20.0	19.8	14.0
CT 539	14	26	4.3	5.8	3.1	4.1
CT 540	44	83	13.3	18.4	9.7	13.0
CT 537	38	62	11.5	13.8	8.4	9.7
CT 536	13	32	3.9	7.1	2.8	5.0
CT 535	5	27	1.5	6.0	1.1	4.2
CT 534	16	13	4.8	2.9	3.5	2.0
CT 541	-	2	-	0.4	-	0.3
CT 533	9	13	2.7	2.9	2.0	2.0
CT 532	-	-	-	-	-	-
CT 531	9	13	2.7	2.9	2.0	2.0
CT 530	3	-	0.9	-	0.7	-
SUB-TOTAL:	241	361	72.8	80.2	53.1	56.3
Assiniboine Park						
CT 520	52	33	15.7	7.4	11.4	5.2
CT 521	14	24	4.3	5.3	3.1	3.7
CT 522	5	10	1.5	2.2	1.1	1.6
CT 510	5	1	1.5	0.2	1.1	0.1
SUB-TOTAL:	76	68	23.0	15.1	16.7	10.6

TABLE 13 (Continued)

SHOPPERS' HOMES	NUMBER OF SHOPPERS		RELATIVE FREQUENCIES		(OUT OF TOTAL) RELATIVE FREQUENCIES	
	C.S.	L.P.S.	C.S.	L.P.S.	C.S.	L.P.S.
Fort Garry						
CT 500	5	3	1.5	0.7	1.1	0.5
CT 501	3	5	0.9	1.1	0.7	0.8
CT 502	2	-	0.6	-	0.4	-
CT 503	-	1	-	0.2	-	0.1
SUB-TOTAL:	10	9	3.0	2.0	2.2	1.4
St. Vital						
CT 100	-	1	-	0.2	-	0.1
CT 101	1	5	0.3	1.1	0.2	0.8
CT 102	3	5	0.9	1.1	0.7	0.8
CT 103	-	1	-	0.2	-	0.1
CT 104	-	-	-	-	-	-
CT 105	-	-	-	-	-	-
SUB-TOTAL:	4	12	1.2	2.8	0.9	1.8
TOTAL	331	450	100.0	100.0	72.9	70.1

TABLE 14

## Primary Trade Area of Unicity Fashion Square

SHOPPERS' HOMES	NUMBER OF CUSTOMERS		POPULATION	CONSUMER/ '000 POPULATION		RELATIVE FREQUENCIES	
	C.S.	L.P.S.		C.S.	L.P.S.	C.S.	L.P.S.
CT 539	90	90	4,708	19.12	19.12	19.8	14.0
CT 538	14	26	2,237	6.26	11.62	3.1	4.1
CT 540	44	83	14,641	3.01	5.67	9.7	13.0
CT 537	38	62	11,489	3.31	5.40	8.4	9.7
CT 536	13	32	7,986	1.63	4.01	2.8	5.0
CT 535	5	27	5,362	0.93	5.04	1.1	4.2
CT 534	16	13	4,392	3.64	2.96	3.5	2.0
CT 541	-	2	665	-	3.01	-	0.3
CT 520	52	33	8,468	6.14	3.90	11.4	5.2
CT 521	14	24	5,537	2.53	4.33	3.1	3.7
CT 522	5	10	6,290	0.80	1.59	1.1	1.6
R.M. St. Francois Xavier	-	2	692	-	2.89	-	0.3
R.M. Rosser	4	-	1,269	3.15	-	0.9	-
R.M. Cartier	4	4	2,896	1.38	1.38	0.9	0.6
R.M. Rockwood	4	6	5,962	0.67	1.01	0.9	0.9
TOTAL	303	414	82,594	3.67	5.01	66.8	64.7

again proved the fact that the three miles radius formed the intensive trade market. A few rural municipalities also possessed a fairly high customer population index. These were also included in the trade market.

With the market determined, the informations were all available for the application of the model in Step IV.

STEP IV: Estimate the sales of the shopping centre by adopting a model as discussed in Chapter I.

The Lakshmanan-Hansen model as used in this study takes the following form:

$$S_u = \sum_{i=1}^n C_i \frac{\frac{F_u}{d_{iu}^a}}{\sum_{k=1}^n \frac{F_k}{d_{ik}^a}}$$

where:

$S_u$  = total sales in Unicity Fashion Square

$C_i$  = total consumer retail expenditures of Population in zone  $i$

$F_u$  = size of shopping centre

$F_k$  = size of competing shopping centre

$d_{iu}$  = distance in travel time between  $i$  and  $u$

$d_{ik}$  = distance in travel time between  $i$  and  $k$

$a$  = an exponent derived from consumer preferences

The trade market for the model was summarized in Table 14. This did not reflect the whole market for Unicity Fashion Square, 66.8 percent in the consumer survey and 64.7 percent in the licence plate survey. But this

would be a good reflection of the real situation since this is an open system approach, a portion of the expenditures would be spent outside the zones under study. Also some money would be spent in non-centered commercial developments, eg. strip.

The total consumer retail expenditures of population in particular zone was calculated by first breaking down the population into certain number of households<sup>14</sup> and then multiplied by the average household expenditure on grocery and on DSTM (Department Store Type of Merchandise) by using the average family expenditure figures.<sup>15</sup>

Size of Unicity Fashion Square and other shopping centres were available.<sup>16</sup> In order to obtain the complete picture of grocery shopping, all major chain supermarkets

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<sup>14</sup>This is a constant ratio derived from:

$$\frac{\text{total population}}{\text{total number of dwelling units}} = 2.96$$

Information on total number of dwelling units obtained from Department of Environmental Planning, City of Winnipeg. For details, please refer to Winnipeg: 1981 by Master II City planning students project report 1977, p. 59.

<sup>15</sup>Statistics Canada, Consumer Income and Expenditure Division, Family Expenditure Section Urban Family Expenditure 1974. The data is updated by using the consumer price index. This is probably the best approximation, since wage and price control had been in exercise since 1973. Most government departments used this as the inflation factor.

<sup>16</sup>Kwan and Smith, 1977, op. cit.

were included.<sup>17</sup> Eleven competing supermarkets locations were considered. For DSTM<sup>18</sup> purpose, only the Central Business District, Polo Park Shopping Centre and three Community Shopping Centres were considered. The rationale behind was that the neighbourhood shopping centres did not offer much shopping goods and their inclusion might bias the whole picture. Table 15 summarizes the locations under study.

The distance in travel time was obtained from a travel time map compiled by the Transportation Department, City of Winnipeg. Since Unicity Fashion Square is one of the transportation nodes<sup>19</sup> its distance from other zone's centroid in travel time was obtained from the map with no further adjustment. The exponent "a" was obtained from the consumer attitude question in the consumer survey. The exponent was the ratio between locational convenience (distance of the shopping centre from the shoppers' homes) and all the other advantages which could be brought about by the increasing size of the shopping centre. Table 16 showed that locational convenience contributed to 42.5

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<sup>17</sup>That includes the major chain stores of Safeway, Dominion, Loblaws, Tom Boy and Economart.

<sup>18</sup>Department store type of merchandise.

<sup>19</sup>Such nodes are established to ease transportation research. Travel time is compiled on a node to node basis.

TABLE 15

Gross Leasable Floor Area of Retail  
Locations Under Study

NAME OF CENTRE	G.L.A. FOOD	G.L.A. DSTM
1. Unicity	37,522	415,838
2. Polo Park	133,100	686,284
3. Westwood	21,948	101,851
4. Crestview	21,463	77,438
5. Sturgeon	26,772	N.A.
6. Courts of St. James	13,203	N.A.
7. Tuxedo Park	20,700	N.A.
8. Park West	21,500	51,050
9. Silver Heights	5,110	N.A.
10. Economart, 2555 Portage Avenue	20,500	N.A.
11. *Tom Boy Store, Roblin Blvd.	7,890	N.A.
12. CBD*	N.A.	4,126,675

\*Information obtained from Department of Environmental Planning, Long Range Planning Section, "Commercial Development--City of Winnipeg 1976."



TABLE 16

Consumer's Preference for Unicity  
Fashion Square

REASONS	FREQUENCIES	RELATIVE FREQUENCIES	ADJUSTED RELATIVE FREQUENCIES
Convenience (Locational)	165	36.3	42.5
*Selection	53	11.7	13.7
*Price	3	0.7	0.8
Environment	21	4.6	5.4
*Services	18	4.0	4.6
Design	41	9.0	10.6
*Compactness and Climate Control	19	4.2	4.9
*Parking	17	3.7	4.4
Others	51	11.2	13.1
SUB-TOTAL	388	85.4	100.0
No response	66	14.6	
TOTAL	454	100.0	

\*Factors related to the size of the shopping centre.

percent of the customer's preference for Unicity Fashion Square while 27.6 percent of the customers gave reasons which were related to the size of the shopping centre. The ratio obtained was therefore 1.5. This was taken as the exponent for estimating DSTM sales. Whereas for grocery, a convenient and bulky goods, people are less willing to travel long distances for them. So more weight was assigned to the distance variable. This was substantiated by Table 17 showing the preference of customers from a three-mile radius. The ratio derived was 2.7. This was used for estimating sales of grocery. These empirically derived exponents were different from that of the Lakshmanan-Hansen model in their Baltimore study. But they were more appropriate for this study for these ratios truly reflected the consumer attitude. Also the calibration method used by Lakshmanan-Hansen could not be used since there was an insufficient data base.

With all the input variables prepared, the sales were calculated accordingly. The results were summarized in Tables 18 and 19. The total sales of grocery was estimated to be \$8,382,114 while that for DSTM was \$32,445,980. These figures certainly fell short of the \$55 million forecasted by the Unicity Fashion Square authority.

It was difficult to test the accuracy of this sales estimate. An interview with Mr. Ron Diller, the general manager of Unicity Fashion Square, in 1976 just before the empirical study, revealed the situation that The Bay,

TABLE 17

Consumer's Preference for Unicity Fashion Square  
(Within the 3 miles radius zone)

REASONS	ABSOLUTE FREQUENCIES	RELATIVE FREQUENCIES	ADJUSTED FREQUENCIES
Convenience (Location)	144	50.7	56.5
*Selection	24	8.5	9.4
*Price	1	0.3	0.4
Environment	10	3.5	3.9
*Services	10	3.5	3.9
Design	24	8.5	9.4
*Compactness and Climate Control	12	4.2	4.7
*Parking	5	1.8	2.0
Others	25	8.8	9.8
SUB-TOTAL	255	89.8	100.0
No Response	29	10.2	
TOTAL	284	100.0	

\*Factors related to the size of the centre.



TABLE 19

Estimation of Sales on DSTM of Unicity Fashion Square

I ZONE	II POPULATION	III NUMBER OF HOUSEHOLDS (II x 2.96)	IV C <sub>i</sub>  (3,105 x III)	V $\frac{F_u}{d_{iu}^a}$	VI $\frac{F_k}{d_{ik}^a}$	VIII $\frac{V}{VI}$	IX S <sub>u</sub>  (IV x $\frac{V}{VI}$ )
CT 539	4,708	1,591	49,440,055	176,121	160,350	1	4,940,055
CT 538	2,237	756	2,347,380	274,228	200,043	1	2,347,380
CT 540	14,641	4,946	15,357,330	87,121	197,408	0.44	6,757,225
CT 537	11,489	3,881	12,050,505	94,803	210,998	0.45	5,422,727
CT 536	7,986	2,697	8,374,185	39,288	158,330	0.25	2,093,456
CT 535	5,362	1,811	5,623,155	32,428	232,158	0.14	787,238
CT 534	4,392	1,483	4,604,715	35,530	247,295	0.14	644,660
CT 541	665	224	695,520	18,488	135,582	0.13	90,418
CT 520	8,468	2,860	8,073,000	89,019	145,725	0.61	4,924,530
CT 521	5,537	1,870	5,806,350	21,062	95,216	0.22	1,277,397
CT 522	6,290	2,125	6,598,125	16,610	131,389	0.12	791,775
R.M. St. Francois Xavier	692	234	726,570	7,903	34,903	0.23	167,111
R.M. Rosser	1,269	429	1,332,045	5,440	28,228	0.19	253,089
R.M. Cartier	2,896	978	2,729,295	6,506	31,209	0.21	573,151
R.M. Rockwood	5,962	2,014	6,253,470	3,522	16,247	0.22	1,375,768
TOTAL	82,594	27,899	-	-	-	-	32,445,980

Woolco and the Dominion Store have their own management and are completely independent of the shopping centre authority. Due to commercial confidentiality, no sales figure could be obtained from these stores. But Mr. Diller did give an average sales figure of \$120 per square foot of mall tenant. Using the sales average by the Urban Land Institute, Table 20, the sale per square foot of department store is about 0.58 of that of the mall tenant. This gave an average of 69.6 per square foot of department store sale. Table 21 showed the DSTM sale as given by Mr. Diller. The sales thus derived were \$36,174,472. The estimate was fair for the percentage difference was -10.31 percent. For the grocery category, the same procedures were taken. The estimate was +13.51 percent difference. But the overall estimate was quite close with just -6.27 percent difference.

This calibration was quite weak but due to extreme lack of retail sales information, this might be the best way of estimation. From the calibration it was clear that the model managed to predict DSTM sales more accurately than grocery sales.

STEP V: Test the viability of the shopping centre by converting sales to required floorspace.

The Urban Land Institute in Washington, D.C. publishes information concerning shopping centres on a periodical basis. The most recent publication was released

TABLE 20

Regional Shopping Centres in Canada--  
Sales per Square Foot of Gross  
Leasable Area

TENANT CLASSIFICATION	SALES PER SQ. FT. G.L.A.	RATIO	SALES PER SQ. FT. G.L.A. \$ 1976 (x 1.22)
Supermarket	176.43	1.64	215.24
Department Store	62.09	0.58	75.75
Mall tenants	107.48	1	131.13

## NOTE:

Information obtained from Urban Land Institute,  
Dollars and Cents Shopping Centre 1975,  
Washington, D.C.

TABLE 21

Retail Sales for Unicity Fashion Square  
Using Mr. Diller's Estimate

TENANT CLASSIFICATION	G. L. A.	SALES PER SQ. FT.	ESTIMATED SALES	ESTIMATED SALES FROM MODEL	PERCENT DIFFERENCE
Department Store	272,343	\$ 69.6	18,955,072		
Mall Tenants	143,495	\$ 120.0	17,219,400		
TOTAL DSTM			36,174,472	32,445,980	89.69% (-10.31%)
Supermarket	37,522	\$ 196.8	7,384,330	8,382,114	113.51% (+13.51%)
TOTAL			43,558,802	40,828,094	93.73% (- 6.27%)



in 1975 reflecting the 1974 shopping centre situation.<sup>20</sup> There was a section showing the operating results of twenty-two regional shopping centres in Canada. The dollar figures were updated using the consumer price index,<sup>21</sup> and summarized in Table 20. These figures were subsequently used to calculate the sales of Unicity Fashion Square. Since these figures represent the median sales, the shopping centre may be regarded as viable if it can achieve this volume. Examining Table 22, it was obvious that Unicity Fashion Square was meeting its standard sales for grocery, 103.78 percent, but not for DSTM, 82.25 percent. But it was rather a sign of prosperity. It is commonly agreed that shopping centres usually run into operating problems for the first few years.<sup>22</sup> If Unicity Fashion Square was able to reach 90 percent of its sales potential after one year of its operation, it might be regarded as extremely successful.

But, on the other hand, the growth potential of the market of Unicity Fashion Square is very limited. By June 1976, there were only 25 acres of residential land approved

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<sup>20</sup>Dollars and Cents Shopping Centre, op. cit., 1975.

<sup>21</sup>Information obtained from Statistics Canada. This index is calculated by 200 items of goods reflecting the real market situation.

<sup>22</sup>Victor Gruen and Larry Smith, Shopping Town U.S.A.--The Planning of Shopping Centres, New York: Reinhold Publishing Company, 1960.

TABLE 22

## Sales of Unicity Fashion Square

I TENANT CLASSIFICATION	II G.L.A.	III SALES VOLUME	IV DERIVES SALES FROM MODEL	V PERCENT DIFFERENCE <u>IV</u> III
1. Supermarket	37,522	8,076,235	8,382,114	103.78% (+3.78%)
2. Department Store	272,343	20,629,982		
Mall Tenant	143,495	19,816,499		
SUB-TOTAL DSTM	415,838	39,446,481	32,445,980	82.25% (-17.75%)
TOTAL	453,360	47,522,716	40,829,094	85.91% (-14.09%)

for development in St. James-Assiniboia and 75 acres in Charleswood.<sup>23</sup> Using a ratio of 4.5 lots per acre,<sup>24</sup> the growth would be 112.5 households for St. James-Assiniboia and 337.5 households for Charleswood. Such limited growth certainly would not bring the sales of Unicity Fashion Square up to its standard. St. James-Assiniboia has reached its potential in residential development; any further growth will lead to problems of water supply, sewage treatment and other services.<sup>25</sup> Charleswood is a leapfrogged development.<sup>26</sup> Further development would be more oriented towards infilling the empty land between Charleswood and Winnipeg's CBD rather than towards the Perimeter.<sup>27</sup> Such a situation would not really contribute to the extension of the trade market, Unicity Fashion Square might have to push for further residential development. This might take three forms:

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<sup>23</sup>Information obtained from Environmental Planning Department, City of Winnipeg. For details, please refer to "Winnipeg: 1981," op. cit.

<sup>24</sup>Ibid.

<sup>25</sup>Ibid.

<sup>26</sup>Refer to the kind of incontinuous urban development which usually happens in urban fringes.

<sup>27</sup>Masoud Masafari, "Suburbia, Suburbia," Unpublished M.C.P. Thesis, Department of City Planning, University of Manitoba, 1978.

1. residential development outside the Perimeter Highway,
2. further residential development in St. James-Assiniboia by extending and expanding the present servicing (water, sewage, etc.) and
3. opening new market by a new transportation corridor.

The first two strategies may be achieved through other forms of development. There were hot debates in the summer of 1977 on building a new arena outside the Perimeter Highway. The third strategy had taken the form of pushing for a bridge across the Assiniboine River next to Assiniboine Park. This bridge would shorten the distance between Charleswood-Tuxedo area to Unicity Fashion Square by one-third. It was difficult to say whether the Unicity Fashion Square was directly involved with these proposals, but it was obvious that they had a certain part to play in these schemes.<sup>28</sup>

#### CONCLUSION:

In short, it could be said that Unicity Fashion Square did not achieve the market it perceived. Its sales, estimated by using the Lakshmanan-Hansen model, was lower than the median sales of the regional shopping centres in

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<sup>28</sup>Such ideas had been conveyed to the writer by the planners in the Environmental Planning Department, City of Winnipeg.

Canada. This was a definite proof that it was not operating too successfully.

There was obvious signs that Unicity Fashion Square authority was pressuring the City to provide infrastructure in area not formerly designated for, Hypothesis III listed in the Introduction. Any extension of market would have to depend on speculation of further residential development in the western part of the City.

Regarding the impact of Unicity Fashion Square on other commercial development, which was directly related to Hypotheses I and II deserved special attention and would be discussed in the next chapter.

## CHAPTER V

### THE RETAIL IMPACT OF UNICITY FASHION SQUARE ON OTHER COMMERCIAL DEVELOPMENT IN THE CITY OF WINNIPEG AND OTHER AREAS

This chapter is wholly devoted to Step VI of the study. Its major purpose is to test hypothesis I and II. The first question under consideration is whether Unicity Fashion Square has brought any detrimental effect to other forms of commercial development, in and out of the City of Winnipeg. The second question is two-fold: (a) what are the effects of Unicity Fashion Square on the whole retail picture of the City of Winnipeg? (b) Can this case be used as an example for other shopping centre developments in the City of Winnipeg? These questions are complex and could be analyzed best under the following headings:

1. Impact on other communities in Manitoba.
  2. Impact on other Community shopping centres in Western Winnipeg.
  3. Impact on the other regional shopping centre--Polo Park.
  4. Impact on CBD.
  5. Impact on the City of Winnipeg as a whole.
- 
1. Impact on the other communities in Manitoba.

Table 12 (page 96) shows the place of residence of the customers of the Unicity Fashion Square outside of the City of Winnipeg. Most of the communities along the trans-

Canada Highway are small towns and have no substantial commercial development. The only important community in this concern is Portage la Prairie, a city with a population of 12,555<sup>1</sup> which had been pointed out in Chapter II, had raised an issue against Unicity Fashion Square fearing that it would jeopardize the city's downtown development.<sup>2</sup>

Since the City of Winnipeg is the one single densely populated centre in Manitoba,<sup>3</sup> it naturally dominates in retail sales. A study done by the Department of Geography, University of Manitoba<sup>4</sup> showed that the breaking point of retail dominance between Brandon and Winnipeg lay somewhere near Carberry, a town about 50 miles west of Portage la Prairie. So basically, the City of Portage la Prairie is dominated by Winnipeg in retailing. But will one single shopping centre exacerbate the situation?

In order to answer the question, an interview was arranged with Mr. Harold Nichol, Assistant Secretary Treasurer of the City of Portage la Prairie on April 24,

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<sup>1</sup>Statistics Canada Census, 1976.

<sup>2</sup>For details, please refer to Chapter IV, Step I.

<sup>3</sup>Winnipeg contributes to 56.6 percent of the population of Manitoba.

<sup>4</sup>Information obtained from Professor Tiwari in a lecture on January 12, 1978. The study made use of the Reilly's Law of Retail Gravitation.

1977. Several municipal officials and planners were also interviewed. It was found that downtown Portage la Prairie has not been expanded since 1972, the date of the petition. But it is still performing its own function in serving the City of Portage la Prairie. A number of people still shop in Winnipeg for it is only about 45 miles away, a trip of about 45 minutes driving time. These shoppers may stop at Unicity but that would not be their sole destination.<sup>5</sup>

On the other hand, Portage la Prairie is rapidly expanding its industrial parks. There are three industrial parks going up providing 500 employments, a substantial figure in a city of 12,555. In order to meet the retail demand of this growing population, two shopping centres proposals were presented to the City for approval. The first is to the west of the City just outside the City: 150,000 square feet featuring Canadian Tire, Woolco and Dominion Store. With the custom home and leisure store and the expanding co-op shopping centre across the Highway, this may attract customers as far west as McGregor and may become a major regional shopping complex. This shopping centre is presently under construction and there is talk of incorporating this part within the City limit.

The other shopping centre proposal is to the east of the city. It is still in the preliminary stage of

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<sup>5</sup>Mr. Nicol claims that he is a regular shopper at Winnipeg but he had never shopped at Unicity Fashion Square.



application for development and will have an area of 180,000 square feet. The combined area of these centres will be nearly 400,000 square feet, not too much smaller than the size of Unicity Fashion Square.<sup>6</sup>

2. Impact on other community shopping centres in western Winnipeg.

It is evident that Crestview and Westwood Shopping Centres are the hardest hit by Unicity Fashion Square. Since Unicity Fashion Square and these two community shopping centres are within one-quarter mile of each other, their trade areas overlap.

As shown in the consumer survey, Tables 23 and 24 for Crestview Shopping Centre, 67.9 percent of their original customers had changed to Unicity to shop for grocery and 89.7 percent for DSTM. For Westwood Shopping Centre, they were 46.3 percent and 85.7 percent respectively. The figures were so high that it appeared that the two shopping centres had lost the majority of their business. But it must be borne in mind that the customers interviewed are the customers of Unicity Fashion Square. The only accurate way to find out the real change is to interview all households in the trade areas.

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<sup>6</sup>The exact footage of Unicity Fashion Square is 453,360 square feet.

TABLE 23

Change of Shopping Location in Grocery  
to Unicity Fashion Square

SHOPPING LOCATION	NUMBER OF CUSTOMERS	NUMBER OF CUSTOMERS CHANGED	PERCENTAGE CHANGED
Crestview	84	57	67.9%
Westwood	80	37	46.3%
Sturgeon Park	27	6	22.2%
Courts of St. James	7	2	28.6%
Polo Park	46	26	56.7%
Tuxedo Park	5	2	40.0%
Grant Park	18	5	27.8%
CBD	2	0	0
Other Planned Shopping Centres	61	6	9.8%
Local Stores	78	7	9.0%
Other Stores	46	9	19.6%
<b>TOTAL</b>	<b>454</b>	<b>157</b>	<b>34.6%</b>

TABLE 24

Change of Shopping Location in DSTM  
to Unicity Fashion Square

SHOPPING LOCATION	NUMBER OF CUSTOMERS	NUMBER OF CUSTOMERS CHANGED	PERCENTAGE CHANGED
Crestview	29	26	89.7%
Westwood	14	12	85.7%
Polo Park	232	174	75.0%
Grant Park	16	7	43.8%
CBD	78	26	33.3%
Other Planned Shopping Centres	9	3	33.3%
Local Stores	19	2	10.5%
Other Stores	57	18	31.6%
<b>TOTAL</b>	<b>454</b>	<b>268</b>	<b>59.0%</b>

But nonetheless Unicity Fashion Square does have considerable impact on these centres. Interviews with the shop managers in these centres<sup>7</sup> showed that Portage Avenue is the major physical boundary for the trade areas between the two centres, with Crestview serving the area north of Portage Avenue and Westwood serving south of Portage Avenue. They regard each other as a keener competitor than Unicity Fashion Square. It is understandable for both centres feature a discount store and a supermarket, whereas Unicity Fashion Square features The Bay and Woolco which carry goods catering to higher income groups.<sup>8</sup> A store manager claimed that his store's sale was at the highest in 1975 before the opening of Unicity Fashion Square. Since then, there is a considerable drop of sale of around 20 percent. But in 1977 he is planning a "stage-back" (sic). This is done by means of carrying unique lines of merchandise, adjustment of prices and vigorous advertising.

So their fear of Unicity Fashion Square did materialize. But the impact was not as severe as perceived. The major reason is that Unicity Fashion Square features a different line of goods from Crestview and Westwood. The fact that there is no discount store in Unicity Fashion

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<sup>7</sup>These few managers wish to remain anonymous.

<sup>8</sup>There is a space reserved for a discount store in Unicity Fashion Square but by the end of 1977 the space is still not rented.

Square does bring a certain advantage to the two smaller centres and they are able to stand up against this huge competitor. Their drawing power therefore may easily offset that of the Unicity Fashion Square. So Unicity Fashion Square's retail impact on Portage la Prairie would become minimal and these new centres may even pose as a threat to Unicity Fashion Square for they may certainly deprive it from a certain portion of its market.

### 3. Impact on the other regional shopping centre--Polo Park.

The impact of Unicity Fashion Square on Polo Park could be partially seen from Table 23 and Table 24. 56.7 percent of the original Polo Park grocery shoppers had changed to Unicity and 75 percent of the DSTM shoppers had changed. These figures again reflected certain bias as explained in Section 2. Further analysis was essential to trace out the real impact. Table 25 showed the functional duplication of the two regional shopping centres. Polo Park Shopping Centre offered at least two more functions than Unicity Fashion Square and 21 out of 72 stores in Unicity Fashion Square were branch stores of business located in Polo Park, or a duplication factor of 29 percent. With such a high rate of duplication, the centre which possesses the larger number of stores and functions would have definite advantage over the other. This is because a potential shopper, given a choice of favourite stores, will tend to patronize the centre which offers the greatest

TABLE 25

Functional Duplication of Unicity  
Fashion Square and Polo Park  
Shopping Centre

FUNCTIONS	NUMBER OF STORES	
	POLO PARK	UNICITY
RETAIL		
1. department stores	2	2
2. variety store	3	0
3. apparel store	24	27
4. food store	4	1
5. furniture and home furnishing	1	2
6. hardware store	2	1
7. drug store	1	1
8. other retail stores	19	16
	SUB-TOTAL:	56
SERVICES		
1. eating and drinking	3	9
2. other services	9	3
	SUB-TOTAL:	12
INSTITUTIONAL	33	6
RECREATIONAL	2	0
	TOTAL:	103

selection. So in this functional analysis, Polo Park has a definite advantage over Unicity Fashion Square.

Furthermore, Polo Park is well established and is one of the most successful shopping centres in western Canada: its annual sales were as high as \$61,944,000 in 1971.<sup>9</sup> Simpsons-Sears, one of the major tenants, has no downtown store and therefore is able to draw customers from as far as St. Vital and Fort Garry. It also has the advantage of being quite close to downtown and occupies a centralized location. Customers are able to reach it from all directions. It is serviced by nine different transit buses and therefore has been described as a "semi-downtown."

An interview with Mr. P. Cameron, general manager of Polo Park showed that the regional shopping centre authority, i.e. the Fairview Corporation, is quite confident of its achievement. The fashion stores are selling at \$200 per square feet and the other stores are doing \$180 per square foot. He estimated that the sales of Unicity Fashion Square would be in the neighbourhood of \$50 million. About 6 percent of Polo Park's business has been diverted. This would be around a few million dollars. He suggested the reason why some chain stores decide to open new stores in Unicity is because they realize their stores in Polo Park will grow at a slower rate but hoping the ones in

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<sup>9</sup> Statistics Canada, retail sales by census tract in metropolitan areas, Census 1971.

Unicity will tap new markets. Mr. Cameron further concluded that regional shopping centre development is not feasible for the City of Winnipeg for the potential population growth is very slow.

So, it is clear that the impact of Unicity Fashion Square is quite minimal. The only contingency area is the market from Fort Garry-Charleswood. But since the bridging point at present is right next to Polo Park, this market is quite secure perhaps until the completion of the Fort Garry-St. Vital bridge. At that time, some customers may be diverted to shop in the regional shopping centre in St. Vital. This would further reduce the market of Unicity Fashion Square.

#### 4. Impact on CBD.

Unicity's impact on CBD appeared to be minimal. No one had switched from CBD to Unicity for grocery and only 33.3 percent had switched their location for DSTM. This figure was extremely low because as stated in sections 2 and 3, the consumers interviewed were shoppers at Unicity. That showed two-thirds of the CBD regular shoppers still shop at CBD and they were just visiting here. This situation was quite understandable for if Polo Park was not affected, CBD which was about five miles east of CBD occupying the most centralized location should definitely not be impacted.



But the problem of the CBD bears little relationship to Unicity Fashion Square. Referring to Table 2 in Chapter II, it was obvious that CBD patronage was declining drastically. This situation will be worse if the sales figures are given in constant dollar terms.

Table 26 shows that the CBD is losing business relative to the general growth in suburban areas. Such trend had specifically been mentioned in the greater Winnipeg Development Plan 1968 and the Downtown Plan 1969. Accordingly the City of Winnipeg had committed public funds to the Downtown including investment in the Convention Centre, the Centennial Library, the Portage and Main Concourse and parking garage, and both permanent and temporary parks. But a recent report<sup>10</sup> stated that notwithstanding this public input and the response from the private sector the rate of demolition of existing structures outstripped new construction. The amount of vacant land in the Downtown had increased since 1969. The report further suggested the reason for vacancy was office buildings under construction or recently completed were expected to fulfill office space requirements for the next five years. So very few additional buildings might be expected. Moreover, regional shopping centre development in suburban areas has begun to erode commercial uses in the Downtown to such

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<sup>10</sup>Report of the Ad Hoc Committee on Downtown Alternatives, summer 1977.

TABLE 26

Retail Sales Figure 1966, 1971  
(\$'000 Constant \$1971)

AREA	YEAR		PERCENTAGE CHANGE
	1966	1971	
CBD	245,682.3	149,163.0	-39.3%
WINNIPEG MINUS CBD	480,375.7	574,884.0	+19.7%
WINNIPEG	726,057.9	724,047.0	- 0.28%

extent that retail space remained vacant or was taken over by amusement or massage parlours in certain areas.<sup>11</sup>

The trend of downtown deterioration is not a new one. Homer Hoyt in 1930 estimated at least 90 percent of retail sales on DSTM goods were made in the downtown area.<sup>12</sup> But since then, downtown sales had been decreasing and it was empirically proved by many, eg. Jonassen<sup>13</sup> in 1955 for the cities of Seattle, Houston and Columbus; Sternlieb<sup>14</sup> for major American cities in 1963; Meek<sup>15</sup> for the City of New York in 1964 and Donald Thompson for the San Francisco Bay area in 1964.<sup>16</sup>

For the City of Winnipeg, the percentage of sales for downtown had declined from 33.84 percent in 1966 to

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<sup>11</sup>The typical example is Kennedy Street between Ellice and Portage Avenue.

<sup>12</sup>Quoted by Willis Meek, "Can Downtown Stage a Comeback?", Journal of Retailing, Spring 1964, p. 20.

<sup>13</sup>C. T. Jonassen, The Shopping Centre Versus Downtown, Bureau of Business Research, College of Commerce and Administration, The Ohio State University, Columbus, Ohio, 1955.

<sup>14</sup>George Sternlieb, "The Future of Retailing in the Downtown Core," AIP Journal, May 1963, pp. 102-112.

<sup>15</sup>Willis Meek, op. cit., 1964.

<sup>16</sup>Donald Thompson, Analysis of Retailing Potential in Metropolitan Areas, Institute of Business and Economic Research, University of California, Berkley, 1964.

20.6 percent in 1971, showing an increase of 66.16 percent to 79.4 percent for suburban commercial development. The various studies done in the City of Winnipeg claimed that this decline was mainly caused by two reasons:

1. rapid depopulation of the downtown core, and
2. proliferation of suburban commercial development.

The above sales figures already proved the fact that suburban retail sales had surpassed downtown sales in the past years. What about the relation between population decline and retail sale in this area? Willis Meek had developed a so-called decentralization index<sup>17</sup> to test if there is a shift in consumer buying habits in addition to shifts in population and income. This index is calculated by taking a ratio between the percentage change in per capita income and percent change in per capita sale.

From Table 27, it seems to support the idea that income has been a more important factor in bringing about the increase in retail sales in the suburbs. So it is advisable for the City of Winnipeg to keep these two key factors in mind in formulating the new Downtown Plan.

In short, Unicity Fashion Square does form an element in leading to CBD deterioration but its own impact is perceivably small and is not leading to any important consequence.

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<sup>17</sup>Willis Meek, op. cit., 1964.

TABLE 27  
 Decentralization Index for City of Winnipeg Suburb  
 1966-1971

YEAR	POPULATION	RETAIL SALES		INCOME		DECENTRALIZATION INDEX $\frac{(B)}{(A)}$
		TOTAL (\$ '000)	PER CAPITA	PERCENT CHANGE (A)	PER CAPITA	
1966	484,712	408,482.7	842.73		3,231	
1971	526,566	573,884.0	1,089.86	129.3	6,357	196.7
						1.52

5. Impact on the City of Winnipeg as a whole.

Table 28 showed the retail sales picture of the City of Winnipeg from 1971 to 1976. The growth of retail sales for the City of Winnipeg in 1975, the year in which Unicity Fashion Square opened for business, was one of the lowest. If viewed in constant-dollar terms, 1975 had a negative change rate. Certainly this low rate was not the responsibility of Unicity Fashion Square. The workers for the Metropolitan Transit Company of Winnipeg had gone on strike from the beginning of 1975 and it continued for a few months. This forced family cars to be used solely for work or other essential trips. It thus showed that mass transportation, in this case bus service, still forms an important variable in shopping trips. On the other hand, it proved the fact that Unicity did not extend the retail market of Winnipeg. While it was explained in Section 4 that the increase in per capita income had brought about the increase in retail sales in the suburbs, Table 29 shows that the increase in per capita income was also responsible for the increase of retail sales in the whole city. On the other hand, Table 30 shows that the increase in retail gross leasable floor area could hardly explain the increase in retail sales. Since population increase is really slow in the City of Winnipeg, only 13 percent over a ten year period, growth in retail sales can only depend on the growth in disposable income. This may be coupled with the change of consumer buying attitude. It is evident that

TABLE 28

Retail Sales, City of Winnipeg  
1971-1976

YEAR	TOTAL SALE (\$ '000)	PERCENT CHANGE	TOTAL SALE (Constant \$ 1976)	PERCENT CHANGE
1971	815,885		1,218,110	
		+11.05%		+6.96%
1972	906,077		1,302,939	
		+14.20%		+7.37%
1973	1,034,727		1,398,951	
		+16.63%		+5.41%
1974	1,206,757		1,474,657	
		+10.19%		-1.98%
1975	1,329,752		1,445,440	
		+11.61%		+2.68%
1976	1,484,117		1,484,117	

SOURCE:

Statistics Canada.

TABLE 29

Relation Between per Capita Retail Sales and per Capita Income,  
City of Winnipeg, 1966, 1971 and 1976

YEAR	POPULATION	RETAIL SALES		INCOME		INDEX $\frac{(B)}{(A)}$
		TOTAL (\$ '000)	PER CAPITA	PERCENT CHANGE (A)	PER CAPITA	
1966	508,759	624,472.5	1,227.4		2,117	
				+20.90%		+66.52%
1971	549,808	815,885	1,483.9		3,231	3.18
				+72.97%		+96.75%
1976	578,217	1,484,117	2,566.7		6,357	1.33



TABLE 30

Relation Between Change in Retail  
Square Footage and Retail Sales

YEAR	RETAIL SALES		RETAIL G.L.A.		INDEX
	TOTAL	% CHANGE	TOTAL*	% CHANGE	
1966	624,472.5		11,738,386		
		+20.9%		+8.0%	0.38
1971	815,885		12,680,661		
		+63.0%		+8.1%	0.13
1977	1,329,752		13,707,089		

\*Basic assumption--strip commercial G.L.A. remains fairly constant over the years.

nowadays consumers are spending a larger percentage of their income on DSTM goods which is reflected in Table 29 and Table 31.

Yet, since the market potential remains fairly constant, increase in retail G.L.A. would only mean the whole market is breaking further down into small fragments. This may dilute the market into such an extent that some small, less competitive establishment would be forced to close down, thus harming the health of the business community as a whole.

#### 6. Conclusion.

Through a series of analyses, the impact of Unicity Fashion Square on other commercial developments in and out of the City of Winnipeg was clarified. The analyses in this chapter supported Hypothesis I which stated that unplanned proliferation of shopping centres is detrimental to the health of the business community.

As shown in Table 32, CBD retail footage remains fairly stable over the ten year period. Strip commercial would hardly increase because of the City's policy in discouraging such type of development. The only perceivable growth is on shopping centre development. But, as pointed out in Section 5, increase in retail G.L.A. would not bring about increased retail expenditure. In this way, unplanned proliferation in shopping centre development beyond the community's potential to absorb them is detrimental to the

TABLE 31

Retail Sales and Population,  
City of Winnipeg 1966, 1971,  
and 1977

YEAR	POPULATION	PERCENT CHANGE	TOTAL SALES (\$ '000)	PERCENT CHANGE
1966	508,759		624,472.5	
		+8.07%		+30.65%
1971	549,808		815,885	
		+5.17%		+81.90%
1977	578,217		1,484,117	

TABLE 32

Retail Gross Leasable Floor Area,  
City of Winnipeg 1966, 1971  
and 1975

TYPE	1966	1971	1975
CBD	4,187,654	4,243,429	4,126,675
Strip Commercial	N.A.	N.A.	4,780,000
Shopping Centres	2,770,732	3,657,232	4,800,414

health of the business community and may force some less competitive shopping centres to close down.

With regard to Hypothesis II, Unicity Fashion Square situated near the periphery of the City, did intercept customers from out of town. The two community centres closer to the town centre did suffer to a certain extent. But its impact was not as serious as perceived.

As a whole, Unicity Fashion Square did not upset the retail picture of the City of Winnipeg. The problem involved is that it had set a bad precedent. In order to approve its development, the City had laid down a policy of a total of six regional shopping centres. Can the City absorb three more shopping centres of this size?

## CHAPTER VI

### CONCLUSION AND RECOMMENDATIONS

This thesis was directed towards testing three hypotheses:

- I. Unplanned Shopping Centre development is detrimental to the business community.
- II. Shopping centres located near the periphery of the City may intercept customers from out of town thus bringing hardship to centres nearer the town centre.
- III. Unplanned Shopping Centres may coerce the City to provide extra infra-structures in areas not formerly planned.

In order to test these hypotheses, this thesis had adopted a case study approach and the Unicity Fashion Square was chosen for this purpose. The analysis followed the step by step approach from delineation of trade areas to estimation of retail sales. The Lakshmanan-Hansen model proved to be an ideal model for the study of shopping centres.

With regard to Hypotheses I and III, shopping centre development is an urban land use problem; it is a planning function. Excess competition would result in bad health of the business community. It was proved that

Unicity Fashion Square brought about minimal impact on the City's retail picture as a whole. The major problem of Unicity Fashion Square is the fact that it is located at the periphery of the City. It is hampered by the distance away from the majority of population in the City. The only hope of extending the market may be speculating on further residential development outside the Perimeter Highway or an extra bridging point on the Assiniboine River. Both of the above do not seem likely to happen in the near future. The restricted market brings about the below median sales for the shopping centre and this had been clearly outlined in Chapter IV.

Unicity Fashion Square is utilizing public funds, eg. expansion of Portage Avenue into three lanes highway in front of the shopping centre, the service of two lines of metro-transit buses, etc. If Unicity Fashion Square is not performing successfully, it means the servicing would not have enough users. The public funding proves to be a waste. Also the 40 acres of land under question has not been put into its best use. It is the problem both to the city planner as well as to the shopping centre operator when the huge parking lot is half empty most of the time.

So the above discussion supports the hypothesis that shopping centre development is a planning function. Unplanned proliferation of shopping centres beyond the community's potential to absorb them is detrimental to the health of the business community as a whole. Also

unplanned shopping centres development may coerce the City to provide infrastructure in area not formerly designated for. This may trigger other forms of development, in this case Unicity Fashion Square is speculating on the two kinds of development mentioned above.

Also the case of Unicity Fashion Square has proved the fact that access to the market is very important. So the regional shopping centre in St. Vital area had delayed its construction until after the approval of the St. Vital-Fort Garry bridge. This one bridging point has so far triggered three shopping centres: the regional shopping centre in St. Vital featuring an Eaton's store, two shopping centres in Fort Garry area, one featuring a K-Mart and a Dominion store and the other a neighbourhood shopping centre across the Highway. It is hardly convincing that one transportation corridor would bring about enough shoppers to support three shopping centres.

The strategy taken by the developer probably is based on the assumption that there is a share of the pie for everyone. Expert techniques in marketing can bring about customers. Individual developer is only concerned with his own development, little caring what is happening to the retail business of the City as a whole. The strategy is to intercept the customers before reaching the competing centres. This directly leads to Hypothesis II.

It was tested that Hypothesis II is true in the fact that the two community shopping centres on Portage



Avenue had been suffering from the impact of Unicity Fashion Square. The interception was not so much for the out-of-town than that of the in-town customers. But it did prove the fact that Unicity Fashion Square did worsen the conditions of the other shopping centres.

As a whole, this study strongly supports the statements made in The City of Winnipeg Shopping Centre 1972 which had disapproved the development of Unicity Fashion Square. This study proved the fact that the planners were right on this one particular case. However, new regional shopping centre development may deserve further market research both for the city planners and developers. The location of Unicity Fashion Square on the same major thoroughfare as Polo Park conforms to the pattern discovered by Douglas Mellott.<sup>1</sup> He found that there are heavy concentrations of regional shopping centres existing in certain sections of each metropolitan area studied. Though Winnipeg shows the beginning of the trend, hopefully it would not end up like other American cities in producing "ghost centres." This can only be prevented by effective development control.

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<sup>1</sup>Douglas W. Mellott Jr., "An Analysis of Regional Shopping Centre Location in Thirteen Selected Metropolitan Areas in the United States," unpublished D.B.A. Dissertation, The Florida State University, 1972.

At present, four regional shopping centres exist in the City of Winnipeg.<sup>2</sup> Can Winnipeg absorb two more centres of this size? This study adopts a case study approach for Unicity Fashion Square so the application of the model is geared towards one portion of the City. It is advisable to adopt a comprehensive model for the whole City of Winnipeg to see if the City can absorb two more centres of such size.

The City at present seems to be paying most attention to the tradition policy of revitalizing downtown. Downtown has been regarded as the fifth or top level of retail establishment.<sup>3</sup> Since Winnipeg is not an automobile city like Los Angeles, CBD would not be completely deteriorated. Perhaps the City should pay more attention on promoting functions other than retailing in the downtown area, eg. hotel and office buildings. At the same time, retailing in CBD can be stabilized by the effective exercise of controlling suburban shopping centre development and effective means of encouraging people to reside in downtown. Retail decentralization is obvious. How to avert the trend deserves another major research and there is no intention to elaborate here.

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<sup>2</sup>Polo Park, Unicity Fashion Square, Garden City and one under construction in St. Vital.

<sup>3</sup>Brian Berry, op. cit., 1963. The five levels are local stores, neighbourhood shopping centres, community shopping centres, regional shopping centres, and CBD.

The City has so far paid very little attention to shopping strips and has always deemed it as undesirable. But old shopping strips, eg. Selkirk Avenue have been in existence since 1911,<sup>4</sup> and they form the sole shopping place for some people.<sup>5</sup> Information on Winnipeg's strip development is extremely scarce.<sup>6</sup> Perhaps research should be further in this direction.

Once understanding the role of each retail form is playing, it is advisable to incorporate a retail component into the Metropolitan Planning Model. Retailing is closely tied in with population, income and accessibility. The incorporation of this element in the Metropolitan Planning Model will create a substantial data base for other uses.

At present, the City has no standards on how much commercial development should an area have. Referring to Map IV, obviously certain areas are better serviced commercially than others, eg. St. James-Assiniboia versus St. Boniface. Also, because market studies for Shopping

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<sup>4</sup>Alan F. J. Artibise, Winnipeg: A Social History of Urban Growth 1874-1919, McGill-Queen's University Press, 1975.

<sup>5</sup>Winnipeg Free Press, August 16, 1977, an article entitled "Nostalgia only in the eye of the beholder: Remember Selkirk Avenue Oxford."

<sup>6</sup>The only major research may be Peng-Tong Ling's thesis "An Analysis of Commercial Structure along a Major Traffic Artery," University of Manitoba, 1974.



RETAIL LOCATIONS

▨ DOWNTOWN

SHOPPING CENTRES

- ★ Regional
- Community
- ▲ Neighbourhood
- Other Planned Centre

== STRIP DEVELOPMENT

July , 1977

MAP IV: Retail Commercial Locations -- City of Winnipeg 1977

centres are based on revenue per square footage, it is obvious that certain higher income areas are better serviced than lower income districts. Since retailing is a form of service catering to citizens' convenience, perhaps a systematic approach is needed so as to bring all areas in the City to the same level of servicing.

Based on the findings of this thesis, a few recommendations are formulated:

1. In respect to shopping centre policy
  - a) By-law 506/73 permitting six regional shopping centres for the City of Winnipeg should be repealed.
  - b) Shopping centre development must keep pace with growth in population and real income.
2. In respect to commercial development policy
  - a) The role of each form of retail development-- CBD, Shopping Centres and commercial strips, should be clarified.
  - b) Standards should be established as to how much commercial development an area should have.
  - c) A retail component should be incorporated into the Metropolitan Planning Model.
3. A substantial data bank should be set up for future research on commercial development.

These recommendations are addressed not only to city planners but also to city administrators and

politicians. This study had shown that theories of consumer patronage did bring successful results and city planners may rely on these theories for their future research. This study had also shown that the commercial development policies of the City of Winnipeg, because of the lack of committment from the part of the leaders and lack of an adequate data base on the Planning Department, are often contradictory. Perhpas when definite steps are taken towards a systematic approach, many of the problems now experienced by the City will be resolved.

APPENDICES

APPENDIX A

DEFINITIONS



1. CBD -- Central Business District

The CBD is used according to one of the definitions currently being used in the City's Planning Office (there is no one definition common to all city departments), which represents the area bounded on the south by the Assiniboine River; on the west by Osborne, Memorial, Colony and Balmoral; on the north by Notre Dame to Princess Street, north on Princess to Logan, Logan to Disraeli, Disraeli to Henry, along Henry to Argyle, down Argyle to the C.N. Railway Line, along the line to James Avenue to the River; and on the east by the Red River.

2. Shopping Centre --

It is defined as a group of commercial establishments, planned, developed, owned, and managed as a unit, with off-street parking provided on the property (in direct ratio to the building area) and related in location, size (gross floor area) and type of shops to the trade area that the unit serves--generally in an outlying or suburban territory. The City of Winnipeg divides the shopping centres into three distinct types:

a) The Neighbourhood Centre--is the smallest type of centre and it provides convenience goods and personal services. It caters to the daily living needs of the neighbourhood population. Its principal tenant

usually is a food store, or a drugstore, or both and the total number of stores in the centre may range from 5 to 15. It serves a trade area population of 7,500 to 40,000 people, living within a radius of 1/2 to 1 mile from the centre or within 5 minutes driving time.

- b) The Community Centre--is an intermediate type of centre. It provides a larger range of goods and services than the neighbourhood centre, and has a greater variety of merchandise. The main tenants in a community shopping centre generally are a variety store and a supermarket, and usually it has about 15 to 30 stores and shops. The trade area population varies from 40,000 to 150,000 people, residing within a radius of 1 to 2 miles from the centre, or a 5 to 10 minute driving time.
- c) The Regional Centre--is the largest type of shopping centre, and it provides complete comparison shopping facilities in depth and variety. It closely resembles the downtown in its array of stores and services, providing between 30 to 60 businesses in one location. It is built around a major full-line department store although two or more department stores are not uncommon. It needs a population of at least 150,000 to 250,000 to support it, and its trade area radius can range from 3 to 7 miles. In terms of driving time, the trade area can extend to

points which are 12 to 15 minutes away from the centre, although trips of up to 25 minutes are not unusual.

### 3. Commercial Strips --

It is defined as continuous commercial establishments along major traffic arteries where commercial activities take place in at least three quarters of the ground floor area of the buildings on the block under consideration.

APPENDIX B

THE EMPIRICAL STUDIES

TABLE B-1  
Licence Plate Survey Schedule

ENTRANCES	June 7 <u>Monday</u> (Evening)	June 8 <u>Tuesday</u> (Day)	June 9 <u>Wednesday</u> (Evening)	June 10 <u>Thursday</u> (Day)	June 11 <u>Friday</u> (Evening)	June 12 <u>Saturday</u> (Day)
1	4:30-6:00	1:30- 4:00	7:30-9:30	10:30- 1:00	4:30-6:30	1:00- 3:30
2	6:30-9:30	9:30-12:00	4:30-7:00	2:00- 4:30	7:00-9:30	9:00-11:30
3	4:30-6:30	1:00- 3:30	6:30-9:30	9:30-12:00	4:30-7:00	2:00- 4:30
4	7:00-9:30	9:00-11:30	4:30-6:00	1:30- 4:00	7:30-9:30	10:30- 1:00
5	4:30-7:00	2:00- 4:30	7:00-9:30	9:00-11:30	4:30-6:00	1:30- 4:00
6	7:30-9:30	10:30- 1:00	4:30-6:30	1:00- 3:30	6:30-9:30	9:30-12:00

TABLE B-2

## Consumer Survey Schedule

ENTRANCES	June 14 Monday (Evening)	June 15 Tuesday (Day)	June 16 Wednesday (Evening)	June 17 Thursday (Day)	June 18 Friday (Evening)	June 19 Saturday (Day)
1	4:30-6:00	9:30-11:00	4:30-6:00	9:30-11:00	4:30-6:00	10:00-11:30
2	6:30-8:00	12:00- 1:30	6:00-6:30 7:00-8:00	11:30- 1:00	6:00-7:30	12:30- 2:00
3	8:00-9:30	2:30- 4:00	8:00-9:30	2:00- 3:30	8:00-9:30	3:00- 4:30
4	4:30-6:00	10:00-11:30	4:30-6:00	9:30-11:00	4:30-6:00	9:30-11:00
5	6:00-7:30	12:30- 2:00	6:30-8:00	12:00- 1:30	6:00-6:30 7:00-8:00	11:30- 1:00
6	8:00-9:30	3:00- 4:30	8:00-9:30	2:30- 4:00	8:00-9:30	2:00- 3:30
7	4:30-6:00	9:30-11:00	4:30-6:00	10:00-11:30	4:30-6:00	9:30-11:00
8	6:00-6:30 7:00-8:00	11:30- 1:00	6:00-7:30	12:30- 2:00	6:30-8:00	12:00- 1:30
9	8:00-9:30	2:00- 3:30	8:00-9:30	3:00- 4:30	8:00-9:00	2:30- 4:00

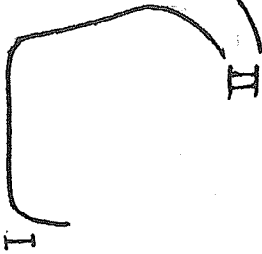
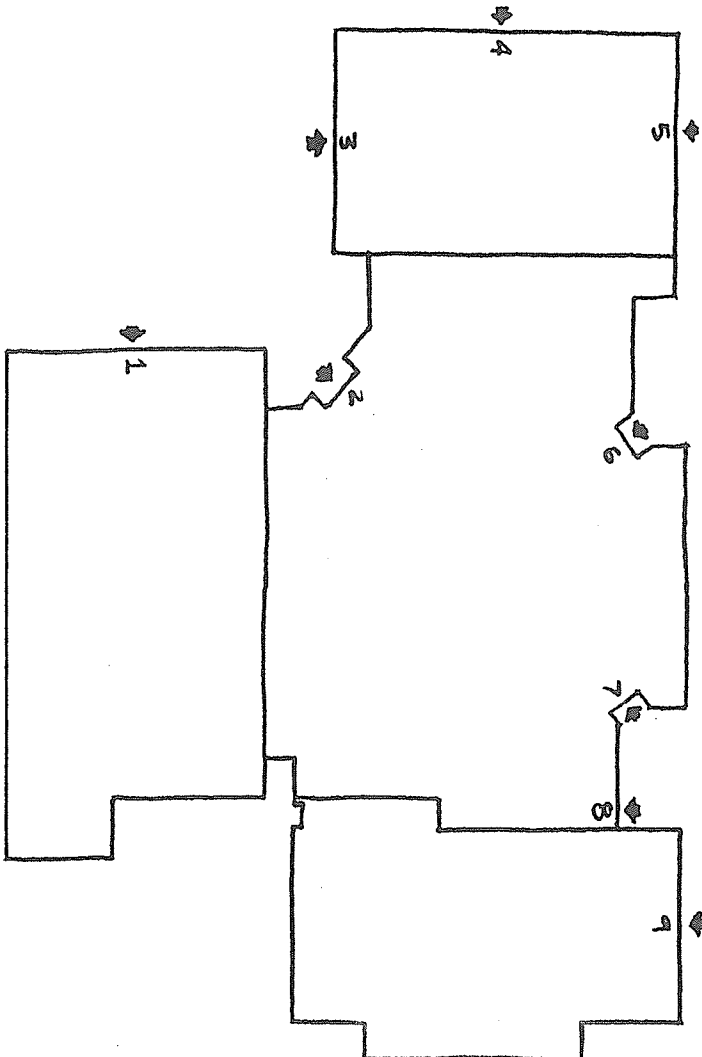


PORTAGE AVENUE

KNOX STREET

DAVID STREET

FAIRLANE AVENUE



UNICITY MALL  
CONSUMER SURVEY  
SITE PLAN

UNICITY FASHION SQUARE CONSUMER SURVEY

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Location: \_\_\_\_\_

Sex of Respondent: \_\_\_\_\_

1. Where do you live? (Closest Intersection)

\_\_\_\_\_

2. How did you travel to Unicity Mall today?

Bus \_\_\_\_\_ Car \_\_\_\_\_ Walk \_\_\_\_\_ Other \_\_\_\_\_

3. How often do you come here?

Daily \_\_\_\_\_ Weekly \_\_\_\_\_ Bi-Weekly \_\_\_\_\_ Monthly \_\_\_\_\_ Other \_\_\_\_\_

4. Where did you shop most often prior to the opening of Unicity Mall

a) for food? \_\_\_\_\_ b) for other goods? \_\_\_\_\_

5. Where do you shop most often now

a) for food? \_\_\_\_\_ b) for other goods? \_\_\_\_\_

6. Which store do you visit most often in Unicity Mall? (Attracting Store)

\_\_\_\_\_

7. What do you like most about the shopping centre? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. What do you dislike most about the shopping centre? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





APPENDIX C

THE RETAIL IMPACT MODEL

## THE LAKSHMANAN-HANSEN MODEL

$$S_u = \sum_{i=1}^n C_i \frac{\frac{F_u}{d_{iu}^a}}{\sum_{k=1}^n \frac{F_k}{d_{ik}^a}}$$

For Grocery:

i = 11

k = 10

1 = CT 539	1 = Polo Park
2 = CT 538	2 = Westwood
3 = CT 540	3 = Crestview
4 = CT 537	4 = Sturgeon
5 = CT 536	5 = Courts of St. James
6 = CT 535	6 = Tuxedo Park
7 = CT 534	7 = Park West
8 = CT 541	8 = Silver Heights
9 = CT 520	9 = Economart
10 = CT 521	10 = Tom Boy Store
11 = CT 522	

For DSTM:

i = 15

k = 5

1 = CT 539	1 = Polo Park
2 = CT 538	2 = Westwood
3 = CT 540	3 = Crestview
4 = CT 537	4 = Park West
5 = CT 536	5 = CBD
6 = CT 535	
7 = CT 534	
8 = CT 541	
9 = CT 520	
10 = CT 521	
11 = CT 522	
12 = R. M. St. Francois Xavier	
13 = R. M. Rosser	
14 = R. M. Cartier	
15 = R. M. Rockwood	

TABLE C-1  
Distance Between Residence and Shopping Locations  
(Grocery) in Minutes

i/K	Unicity	1	2	3	4	5	6	7	8	9	10
1	1.75	10.26	1.95	1.85	4.31	4.63	12.38	2.90	7.48	5.55	9.74
2	1.31	9.82	1.51	1.41	4.73	4.19	11.94	2.46	7.04	5.11	9.30
3	2.80	7.90	1.65	1.65	1.65	2.27	11.94	4.48	5.12	3.19	11.32
4	2.65	7.75	1.50	1.55	2.80	2.12	9.87	4.33	4.97	3.04	11.17
5	4.75	6.57	3.60	3.70	1.86	1.86	8.69	6.00	3.79	1.96	12.09
6	5.44	4.00	4.19	4.29	2.14	2.55	6.12	6.69	1.22	1.80	9.75
7	5.12	3.68	3.87	3.97	3.32	1.64	5.80	6.37	1.08	1.08	9.34
8	7.88	5.99	6.63	6.73	2.84	3.38	8.11	9.13	3.21	3.21	11.51
9	2.76	11.36	3.91	3.81	7.27	6.59	9.16	1.20	9.49	7.48	5.46
10	7.22	10.00	8.76	8.66	12.12	11.44	7.63	5.08	12.78	4.39	12.36
11	8.46	6.92	10.00	9.90	13.36	12.68	4.65	6.32	10.12	1.20	12.28

TABLE C-2

Distance Between Residences and Shopping  
Locations (DSTM) in Minutes

i/K	Unicity	1	2	3	4	5
1	1.75	10.26	1.95	1.85	2.90	16.65
2	1.31	9.82	1.51	1.41	2.46	16.25
3	2.80	7.90	1.65	1.65	4.48	14.33
4	2.65	7.75	1.50	1.50	4.33	14.18
5	4.75	6.57	3.60	3.70	6.00	13.00
6	5.44	4.00	4.19	4.29	6.69	10.43
7	5.12	3.68	3.87	3.97	6.37	10.22
8	7.88	5.99	6.63	6.73	9.13	14.31
9	2.76	11.36	3.91	3.81	1.20	15.89
10	7.22	10.00	8.76	8.66	5.08	16.43
11	8.46	6.92	10.00	9.90	6.32	13.35
12	13.88	23.73	15.42	15.32	14.25	30.16
13	17.80	27.73	19.42	19.32	18.25	34.16
14	15.80	25.73	17.42	17.32	16.25	32.16
15	23.88	33.73	25.42	25.32	24.25	40.16

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