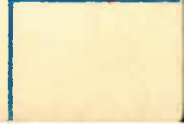
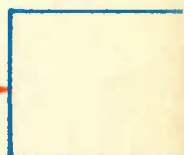
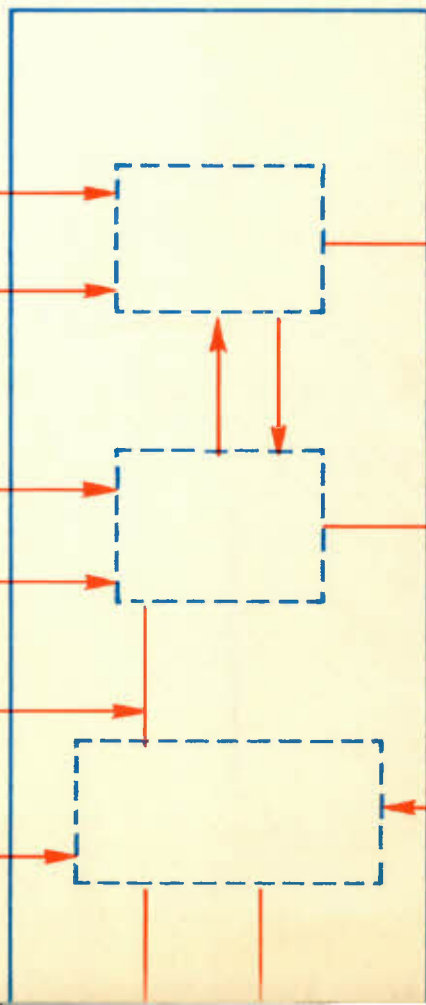
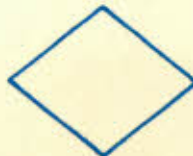
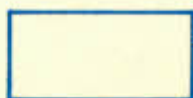
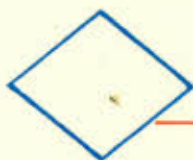
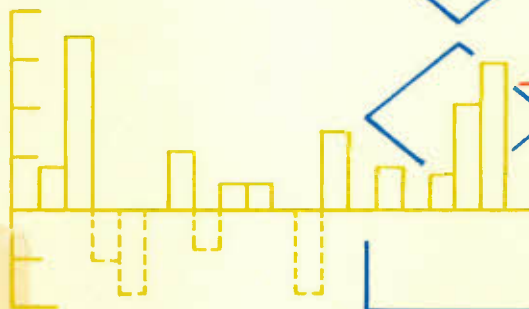




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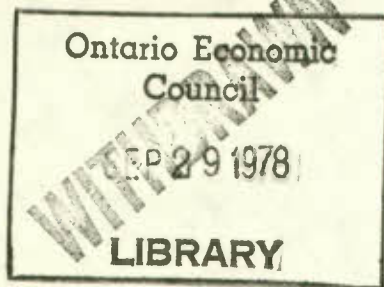


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DISCUSSION PAPER NO. 120

Locational Patterns and Commuting Flows:
A Study of the Toronto CMA

Urban Paper No. 3
by

S. Gera, G. Betcherman and D. Paproski



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August 1978



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Catalogue No. EC25-120/1978
ISBN 0-662-10118-9

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ABSTRACT

This paper considers the job-commuting mobility of the labour force of the Toronto Census Metropolitan Area (CMA). Specifically it examines the patterns of residence location, job location, and the attendant journey-to-work flows. These locational data were gathered by the last census and, therefore, refer to conditions which prevailed on June 1, 1971. This report, then, provides a unique "bench mark" for the analysis of the structure of this urban area.

The distributions of residences and jobs are examined and the directions and distances related to job-commuting are specified. Observations and conclusions drawn from this detailed analysis establish the complexity of these patterns and clearly suggest the need to revise existing theories if they are to be relevant to the current journey-to-work reality in large Canadian metropolitan areas.

Although the primary commuting destination is found to be the Central Business District (CBD), it is clear that there are a *number* of significant employment centres throughout the Toronto CMA. Consequently, while the centrally-oriented flows constitute the singularly most important journey-to-work pattern, the omnidirectional nature of commutation in this metropolitan area must be recognized. Reverse, intersuburban, and non-CBD-designated central commuting patterns are significant and contribute to an overall complexity generally ignored in theoretical models of urban travel.

RÉSUMÉ

Le présent document porte sur la mobilité de la population active de la région métropolitaine de recensement de Toronto dans son déplacement pour aller au travail et en revenant. Les auteurs étudient plus particulièrement la disposition géographique des lieux de résidence et de travail, ainsi que la circulation de travailleurs qui en découle. Les données utilisées ont été recueillies lors du dernier recensement et, par conséquent, reflètent les conditions qui existaient au 1^{er} juin 1971. C'est donc dire que ce document fournit un "critère" unique pour l'analyse de la structure de cette région urbaine.

Les auteurs examinent la répartition des lieux de résidence et d'emploi et précisent les directions et les distances du transport au travail. Les observations et les conclusions qui se dégagent de cette analyse détaillée montrent la complexité de ces schèmes de déplacement et laissent nettement voir la nécessité de réviser les théories existantes pour les adapter aux réalités du transport au travail dans les grandes régions métropolitaines du Canada.

Bien que la destination première des banlieusards soit le Centre des affaires (C.A.), il est évident qu'il existe un certain *nombre* d'autres importants secteurs d'emploi dans la région métropolitaine de recensement de Toronto. Par conséquent, si l'afflux vers le centre-ville constitue le plus important schème de transport au travail, il faut cependant reconnaître le caractère omnidirectionnel de la circulation des banlieusards dans cette région métropolitaine. D'autre part, la circulation qui se fait en sens inverse, entre les banlieues et orientée ailleurs que vers le Centre des affaires, est également importante et contribue à une complexité d'ensemble dont on ne tient généralement pas compte dans les modèles théoriques de transport urbain.

PREFACE

Two dimensions of research excite the imagination and demand wide attention; the developments of theory and the construction of complex mathematical models of interrelationships between quantifiable aspects of economic, social, physical and other factors which purportedly reflect the "real world". The mundane dimensions of examining the theoretical writings and models of others and of compiling detailed descriptions of real world conditions serve no less an important function. It is our observation that many theories and models of urban systems are either too general or lacking in rigor to be of significant operational value to policy and management decision-making.

In an earlier paper,¹ an extensive and, we believe, complete review of urban theory and modelling with respect to residential and job location and journey-to-work patterns was undertaken. This was followed by a second paper that described these urban patterns for one medium-sized urban metropolitan area.² The present paper continues this stream of analysis in a large-sized urban area -- the Toronto Census Metropolitan Area (CMA) -- with the expectation that quite different and more complex patterns might emerge. We believe that the descriptive phase of research is necessary to develop helpful information for urban planners, policy-makers and managers, even if it is not sufficient for all purposes. The following quote summarizes our perspective on the modest objective of the current phase of our research concerning urban structure:

Analysis does not provide any unique, correct answers. However, it can be helpful in organizing and presenting useful information for improving decision-makers' perceptions of problems and assisting them to identify alternative solutions systematically.³

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- 1 Surendra Gera and Peter Kuhn, *Residential and Job Location and the Journey-to-Work: A Review and Theoretical Perspective*, Urban Paper No. 1, Economic Council of Canada, Discussion Paper No. 102, 1977.
 - 2 G. Betcherman, S. Gera, P. Kuhn, and D. Paproski, *Halifax-Dartmouth Journey-to-Work Profile*, Urban Paper No. 2, Economic Council of Canada, Discussion Paper No. 112, 1978.
 - 3 Richard S. Rosenbloom, and John R. Russell, *New Tools for Urban Management; Studies in Systems and Organizational Analysis*, Boston: Harvard University Press, 1971, p. 49.

The following description of the patterns of residential and job locations in the Toronto Census Metropolitan Area is rather exhaustive. The dozens of tables and maps, and the analysis that describes the many patterns of the consequent journey-to-work networks, however, all pertain to the physical areas which serve as the planning and administrative framework for the Municipality of Metropolitan Toronto, its constituent municipalities, and, as well, some of the outlying municipalities of the urban region. This information is considered directly useful in planning and development activities at the urban level of government; this alone justifies its development, organization and presentation. In addition, however, this information and the first-stage analysis thereof, provide the foundations for subsequent evaluation.⁴ The observations and preliminary conclusions derived from the descriptive phase of our project suggest the issues which may be fruitfully examined in relation to *relevant* theories and models of the urban structure.

4 Two forthcoming paper(s) investigate the impact of socio-economic factors on the journey-to-work and following, a final paper will report on the results of the testing of two models proposed in Urban Paper No. 1.

PRÉFACE

Deux dimensions de la recherche stimulent l'imagination et exigent une grande attention: les applications de théories et la construction de modèles mathématiques complexes de relations entre les aspects quantifiables des facteurs économiques, sociaux, physiques et autres, que l'on présume refléter le "monde réel". Bien qu'il s'agisse de travaux plutôt prosaïques, l'examen des écrits théoriques et des modèles d'autres chercheurs, ainsi que la préparation de descriptions détaillées des conditions du monde réel, servent néanmoins un but tout aussi important. Nous avons observé que plusieurs théories et modèles des systèmes urbains sont soit trop généraux ou pas suffisamment précis pour être d'une grande utilité pratique dans la conception des politiques ou la prise des décisions en matière de gestion.

Les auteurs d'un document précédent¹ ont entrepris un examen extensif et complet, croyons-nous, de la théorie urbaine et de la construction de modèles en ce qui touche les lieux de résidence et les lieux de travail ainsi que les modalités du transport au travail. Ce document a été suivi d'un deuxième qui décrivait ces schèmes urbains dans le cas d'une région métropolitaine de taille moyenne.² La présente étude poursuit cette analyse en l'appliquant à une grande région urbaine, la région métropolitaine de recensement de Toronto, et il est à espérer qu'il s'en dégagera des tendances fort différentes et plus complexes. Nous croyons qu'une phase descriptive des recherches est nécessaire pour permettre de fournir des renseignements utiles aux urbanistes, aux responsables des politiques et aux gestionnaires, même s'ils ne peuvent servir à tous les usages. La citation qui suit présente notre perception de l'objectif modeste de l'étape actuelle de notre recherche sur l'armature urbaine:

L'analyse ne fournit aucune réponse qui soit unique et exacte. Cependant, elle peut être utile lorsqu'il s'agit d'organiser et de présenter des renseignements pouvant aider

1 Surendra Gera et Peter Kuhn, *Residential and Job Location and the Journey-to-Work: A Review and Theoretical Perspective*, Cahier urbain n° 1, Conseil économique du Canada, Document n° 102, 1977.

2 G. Betcherman, S. Gera, P. Kuhn, et D. Paproski, *Halifax-Dartmouth Journey-to-Work Profile*, Cahier urbain n° 2, Conseil économique du Canada, Document n° 112, 1978.

les décisionnaires à mieux percevoir les problèmes et à identifier systématiquement les solutions de rechange.³

Nous présentons plus loin une description plutôt exhaustive de la répartition des lieux de résidence et de travail dans la région métropolitaine de recensement de Toronto. Les douzaines de tableaux et de cartes, ainsi que l'analyse qui décrit les différentes formes que prend la circulation des travailleurs, concernent tous les régions géographiques qui forment le cadre de planification et d'administration de la municipalité de la région métropolitaine de Toronto, ainsi que de celles qui la constituent et de certaines municipalités de la région urbaine qui sont éloignées. Ces renseignements sont jugés directement utiles aux villes pour leurs activités de planification et d'aménagement. Cela seul justifie leur production, leur préparation et leur présentation. Cependant, ces informations ainsi que la première étape de leur analyse forment la base d'une évaluation subséquente.⁴ Les observations ainsi que les conclusions préliminaires qui se dégagent de la phase descriptive de notre projet indiquent les questions qui pourraient être examinées avec profit dans le cadre des théories et modèles pertinents relatifs à l'armature urbaine.

3 Richard S. Rosenbloom et John R. Russell, *New Tools for Urban Management; Studies in Systems and Organizational Analysis*, Boston, Harvard University Press, 1971, p. 49.

4 Deux autres documents qui paraîtront bientôt traitent des effets des facteurs socio-économiques sur le transport au travail. Suivra un dernier document qui présentera les résultats de la vérification de deux modèles proposés dans le cahier urbain n° 1.

ACKNOWLEDGEMENTS

The authors would like to express their appreciation for the contributions of the following:

- Peter Kuhn, for his collaboration throughout this study;
- David Henderson, particularly for his comments and editorial advice;
- Harry Lokst, for his suggestions in the early stages of the research;
- Jean Laperrière, for performing the computer operations;
- Yvon D'Aoust, for the production of the maps contained in this report;
- the Census Data Dissemination Division of Statistics Canada, for its assistance in the organization of the data base.

Introduction

This third report in our *Urban Papers* series focuses on the structure of the Toronto Census Metropolitan Area (CMA) and, in particular, on the ways in which its constituent community areas are linked through the work trip of thousands of individuals. In contemporary metropolitan Canada, greater labour force commuting mobility has been synonymous with dynamic growth and the dispersal of people and employment opportunities within each urban area. From the late 1950s, industrial, commercial and institutional activity has increased in the postwar suburbs. The development of large suburban shopping centres to satisfy the growing and vibrant demand for a great variety of goods and services has been most notable. This dynamic process of industrial and residential expansion continually alters the places of origin and destination connected with the work trip. Each day Canadians travel more than 134 million miles to and from work. With a greater reliance on the automobile, longer and more diffused work trips have emerged.¹

This complex urban pattern is generally applicable to all major cities in Canada. It is necessary, however, to examine each metropolitan area separately to more fully understand the dimensions of the journey-to-work issue since these commuting patterns are determined by the physical and

1 C. Hanlon, "Results of a National 'Travel to Work' Survey," *Forum, Canadian Institute of Planners*, January 1977, p. 8.

socio-economic characteristics which vary with the urban area considered. There is, of course, a feedback process in operation which leads to changes in the social structure following from individual responses to journey-to-work conditions. Neither the primary cause and effect, nor the feedback relationships, can be adequately explained without an examination of the underlying factors which influence business and household locational decisions.

This paper represents the second stage of our in-depth analysis of socio-economic factors underlying these locational decisions. It follows an initial paper² which reviewed the relevant literature and developed theoretical models of residential and job location choices. While this report on the Toronto CMA is essentially descriptive with some elementary analysis, the data and management of information should nonetheless be of interest and assistance to urban planners and administrators in general, and particularly to those in the region of Toronto. Following papers will examine the residential and job location patterns by various socio-economic groups of the labour force and will test the two models discussed in our initial paper. All of our work will deal with the structural situation prevailing in 1971; it will not undertake new evaluations of historical development patterns.

2 See S. Gera and P. Kuhn, *Residential and Job Location and the Journey-to-Work: A Review and Theoretical Perspective*, Urban Paper No. 1, Economic Council of Canada Discussion Paper No. 102, December 1977.

We begin this report with a description of the data base, followed by a brief discussion of the study area and the statistical units which comprise it. Following this, we look at the urban structure of the CMA, analysed in terms of the distribution of residences and jobs and the journey-to-work patterns which existed in Toronto CMA in 1971.

Section 1

1.1 The Data Base

From the responses to the 1971 *Census of Population and Housing*, it is possible to ascertain the residential location of the employed labour force of Canada, as of June 1, 1971. In addition, the 1971 Census collected job location information on a national basis for the first time. The place-of-work question was asked on the "long form" (Census 2B) which was distributed to one-third of the population. From these responses, Statistics Canada subsequently compiled a data base which was mounted on a sample including one-third of those who had responded to the "long form". Thus, journey-to-work data, consisting of the place of residence and place of employment, was coded for one-ninth of the complete population and, particularly, the employed members thereof. From this sample, full population estimates were made by Statistics Canada. This data and the estimates based thereon, then, make possible an analysis of the

journey-to-work flows, as of June 1, 1971.³ The basic geographical unit of observation for the 1971 Census data is the "Census Tract" (CT),⁴ as defined by Statistics Canada.

1.2 Study Area: The Toronto CMA⁵ -- Background

Toronto is now the largest city and the major financial centre in Canada. The Toronto area also contains

-
- 3 Technical details on sampling procedures, data quality, etc. are to be found in: J.K. Simpson, "Background Information on the 1971 Census Place of Work Data," *Characteristics Division Research Memorandum*, Place of Work Series, No. 71-PW-ZE. Statistics Canada, November 1974, and I. Zawadzinski, J.K. Simpson, and H. Puderer, "Information for Users of the 1971 Place of Work Data -- Census Tract Place of Work Data," *Characteristics Research Division Memorandum*, Place of Work Series, No. 71-PW-3, Statistics Canada, October 1975.
- 4 Census Tracts are generally the smallest geographical areas for which data is available. The criteria used by Statistics Canada to delineate CTs in a CMA are as follows:
- (1) a population between 2,500 and 8,000, except for tracts in the central business district and for institutional tracts, either of which may have a smaller population;
 - (2) an area as homogeneous as possible in terms of economic status and living conditions;
 - (3) boundaries that follow permanent and easily recognizable geographic features;
 - (4) a shape as compact as possible. Census Tract Bulletin, 1971, Census of Canada, Statistics Canada, Cat. No. 95-721 (CT-21A), May 1973.
- 5 In the 1971 Census, a 'census metropolitan area' was defined by Statistics Canada as the main labour market of a continuous built-up area having 100,000 or more population. The main labour market area corresponds to a commuting field or a zone where a significant number of people are able to travel on a daily basis to "work places" in the main built-up area.

the largest and one of the most rapidly growing manufacturing concentrations in the country. In this context of absolute size and rapid expansion of population and employment, thousands of people are continually finding new jobs and places to live. The results of these choices have profound implications for the future shape and character of the region. We believe that this analysis of the distribution of jobs and residences and the commuting patterns⁶ that arise can contribute to a better understanding of the determinants of urban structure and character, of this and other metropolitan regions.

In many ways, the Toronto CMA reflects a general picture of all growing urban areas. Its sheer size provides a sufficient data base for detailed analysis of many population sub-groupings and the absence of major topographical barriers, such as those existing in the Vancouver and Montreal CMAs, makes the Toronto region ideal for quantitative analysis. Because the population is diverse in its social and economic characteristics, it may also be considered somewhat "representative" of the Canadian character. To some considerable extent then, subsequent studies which will elaborate on the influence of socio-economic factors on journey-to-work patterns, may be descriptive of forces

6 Commuting: this term is used to describe the journey made daily by the labour force from its place of residence to its place of work and vice versa.

which shape all Canadian urban areas. This present paper will provide a general spatial framework for further analysis.

While this report is based on data derived from the 1971 Census (and is therefore a picture of one point in time), considerable study has been undertaken by Metroplan⁷ personnel regarding the dynamics of urban growth in the "Toronto region".⁸ From the reports we note trends and projections which are highly relevant for our cross-sectional investigation (see Table 1).

-- There is a decided trend towards population decentralization within Metro itself. While the *inner three* municipalities (Toronto City and the boroughs of York and East York) registered very little (+3.4 per cent) population growth during the 1961-71 period, the *outer three* (the boroughs of Etobicoke, North York and Scarborough) experienced very high growth rates (63.4 per cent as a group, including 86.7 per cent in North York). Outside

7 See M.B. Lawson, *Jobs and the Economy*, Toronto Metroplan, The Municipality of Metropolitan Toronto Planning Department, May 1975, and *Preliminary Impressions of the Urban Structure: To 1971*, Toronto, Metro Toronto Research and Transportation Divisions, June 1974, p. 58.

8 The Toronto region, as defined by *Metroplan*, includes an area of about 40 miles radius from downtown Toronto. This region contains Metropolitan Toronto and most, but not all, of the land in the following four regional municipalities: Peel and Halton (west), York (north), and Durham (east).

Table 1

POPULATION TRENDS IN THE TORONTO REGION,
1961-71, AND PROJECTIONS TO 2001

	Population (Thousands)					
	1961	1971	1981 (Projections)		2001 (Projections)	
City of Toronto	703	713	(1.4)	748 (4.9)	855 (4.3)	
York	139	147	(5.8)	153 (4.1)	165 (7.8)	
East York	91	105	(15.4)	112 (6.7)	120 (7.1)	
Total "Inner Three" Municipalities (A)	933	965	(3.4)	1,013 (5.0)	1,140 (12.5)	
Etobicoke	199	283	(42.2)	331 (17.0)	373 (12.7)	
North York	270	504	(86.7)	637 (26.4)	689 (8.2)	
Scarborough	217	334	(53.9)	460 (37.7)	598 (30.0)	
Total "Outer Three" Boroughs (B)	686	1,121	(63.4)	1,428 (27.4)	1,660 (16.2)	
Total Metropolitan Toronto (A + B)	1,619	2,086	(28.8)	2,441 (17.0)	2,800 (14.7)	
East Sector	135	194	(43.7)	312 (60.8)	800 (156.4)	
North Sector	95	141	(48.4)	190 (34.8)	300 (57.9)	
West Sector	175	354	(102.3)	549 (55.1)	1,030 (87.6)	
Total "External Sector" or "Peripheral District" (C)	405	689	(68.5)	1,051 (52.5)	2,130 (102.7)	
Total Toronto Region (A + B + C)	2,024	2,775	(36.8)	3,492 (25.8)	4,930 (41.2)	

NOTE: Metroplan's population projections were based on the assumptions of a "normal" future "trend" in household sizes and an adequate provision for the accommodation of the future population growth in the external areas -- numbers in brackets give growth in percentages over previous 10 years.

Source: Toronto Metroplan, *Projections to 2001*, Research Division, Municipality of Metro Toronto Planning Department, January 1975, pp. 80 and 82.

Metro the West Sector grew by 102.3 per cent and the population of the total peripheral area (made up of the North and East Sectors as well as the West) increased by 68.5 per cent.

-- As can be seen in Table 1, projection increases are expected to be greatest in the zones successively farther from the central city as available land within Metro is taken up for urban use. It is worthy of note, however, that while the relative size of the *outer three* boroughs and the *peripheral district*⁹ will increase, there is no implication of decay or decline in the absolute population size of the *inner three* municipalities.

As one might expect, increases in acreage of employment-generating land use have been modest in the *inner three* municipalities and very high in the *outer three* boroughs of Metro and the *external* sectors. Due to variations in the intensity of land use, this observation may exaggerate the impression of the trend towards an expansion and decentralization of employment-generating activities. Nevertheless, the increase in jobs for the *inner three* municipalities and the *outer three* boroughs from 1956 to

9 Throughout this report, the terms '*peripheral district*' and '*external sectors*' will be used interchangeably to indicate that area of the CMA lying outside the boundaries of Metropolitan Toronto.

1970 indicates a growth rate thirty times higher for the latter group.¹⁰ Table 2 shows the employment-generating land uses in 1971 for the Toronto region by type of activity.

In terms of employment-generating land use, it is clear, from Table 2, that "industrial" categories predominated in the *external* sectors and the *outer three* boroughs while "commercial" and "institutional" uses in the *inner three* municipalities were more important. This implies that service industry employment was particularly significant in the core municipalities while land-intensive industrial activities have been inclined to expand towards the *outer three* and *external* sectors.

In terms of the *direction* of the employment-generating land use expansion, the northern areas stand out from the others, with growth being considerably higher in North York and the external North Sector than in areas to the east and west. In terms of the actual volume of employment, however, the west was still predominant. Parallel to the population trends, the level of employment, as well as its growth, was higher towards the west (particularly in the external west sector) than towards the east.

From this summary of dominant *trends*, we now turn to a consideration of the *cross-sectional* dimensions of the urban areas as these are central to our enquiry.

10 *Preliminary Impressions of the Urban Structure: To 1971*, p. 58.

Table 2

LAND IN USE -- EMPLOYMENT-GENERATING ACTIVITIES,
TORONTO REGION, 1971
(IN ACRES)

	Commercial	Institutional	Industrial	Total Employment- Generating Land Uses
City of Toronto	2,091	1,826	2,270	6,187
York	324	327	587	1,238
East York	188	235	633	1,056
Total "Inner Three" Municipalities (A)	2,603 (30.7)	2,388 (28.2)	3,490 (41.2)	8,481 (100.0)
Etobicoke	959	1,335	3,629	5,923
North York	1,308	2,676	3,768	7,752
Scarborough	1,205	1,554	2,615	5,374
Total "Outer Three" Boroughs (B)	3,472 (18.2)	5,565 (29.2)	10,012 (52.6)	19,049 (100.0)
Total Metropolitan Toronto (A + B)	6,075	7,953	13,502	27,530
East Sector	193	320	1,207	1,720
West Sector	654	1,100	3,698	5,452
North Sector	679	974	2,436	4,089
Total "External Sector" or "Peripheral District" (C)	1,526 (13.6)	2,394 (21.3)	7,341 (65.2)	11,261 (100.0)
Total Toronto Region (A + B + C)	7,601 (19.6)	10,347 (26.7)	20,843 (53.7)	38,791 (100.0)

NOTES: External North Sector includes Toronto Gore.

Numbers in brackets show the percentage distribution of employment-generating land use for each municipality/sector.

Source: M.B. Lawson, *op. cit.*, pp. 13, 36-38, and compilations by the authors.

1.3 Level of Data Aggregation

Given that the basic geographical unit of observation is the census tract and that there are 452 census tracts in the Toronto CMA, the resulting origin-destination matrix has some 204,000 entries. The size of flow between the census tracts, however, can be so small in many instances that it was thought necessary to group the census tracts into "planning zones" to ensure reliable data for meaningful analyses. It is true that the analysis of the spatial aspect of the relation between residence and work location, on the basis of zonally aggregated data for census tracts, distorts, or at least weakens, the real picture of the functional relationship between the census tracts. Still, this aggregation approach was necessary to make the task of analysis more comprehensible.

The size of the zonal unit may also bias the results, since too large a unit would not effectively recognize differences existing among the heterogeneous group of workers, and too small a unit would create artificial differences. Keeping these points in mind, the Toronto CMA has been sub-divided into 63 planning zones. The 'Minor Planning Districts' of the Planning Department of the Municipality of Metropolitan Toronto and Statistics Canada census tracts were integrated to create our planning zones. The 53 zones within Metropolitan Toronto were formulated from the 'Minor Planning Districts' which are the basis of the planning program of the

Municipality of Metropolitan Toronto. Those areas which are external to Metropolitan Toronto have been assigned 10 planning zones based on the requirements of this study. The resulting 63 planning zones fully define the Census Metropolitan Area of Toronto. The Minor Planning Districts and the formulated Planning Zones are shown in Maps 1 and 2, respectively.

1.4 Distance

On the basis of 1971 Census data, the distance an individual travelled to work was calculated as an airline-mile distance between the population centroid of the enumeration area¹¹ in which the individual lived and the population centroid of the census tract in which he or she worked. Based on these census tract distance calculations, the airline-mile distances¹² associated with each planning zone were empirically determined by Statistics Canada.

1.5 Purpose of the Study

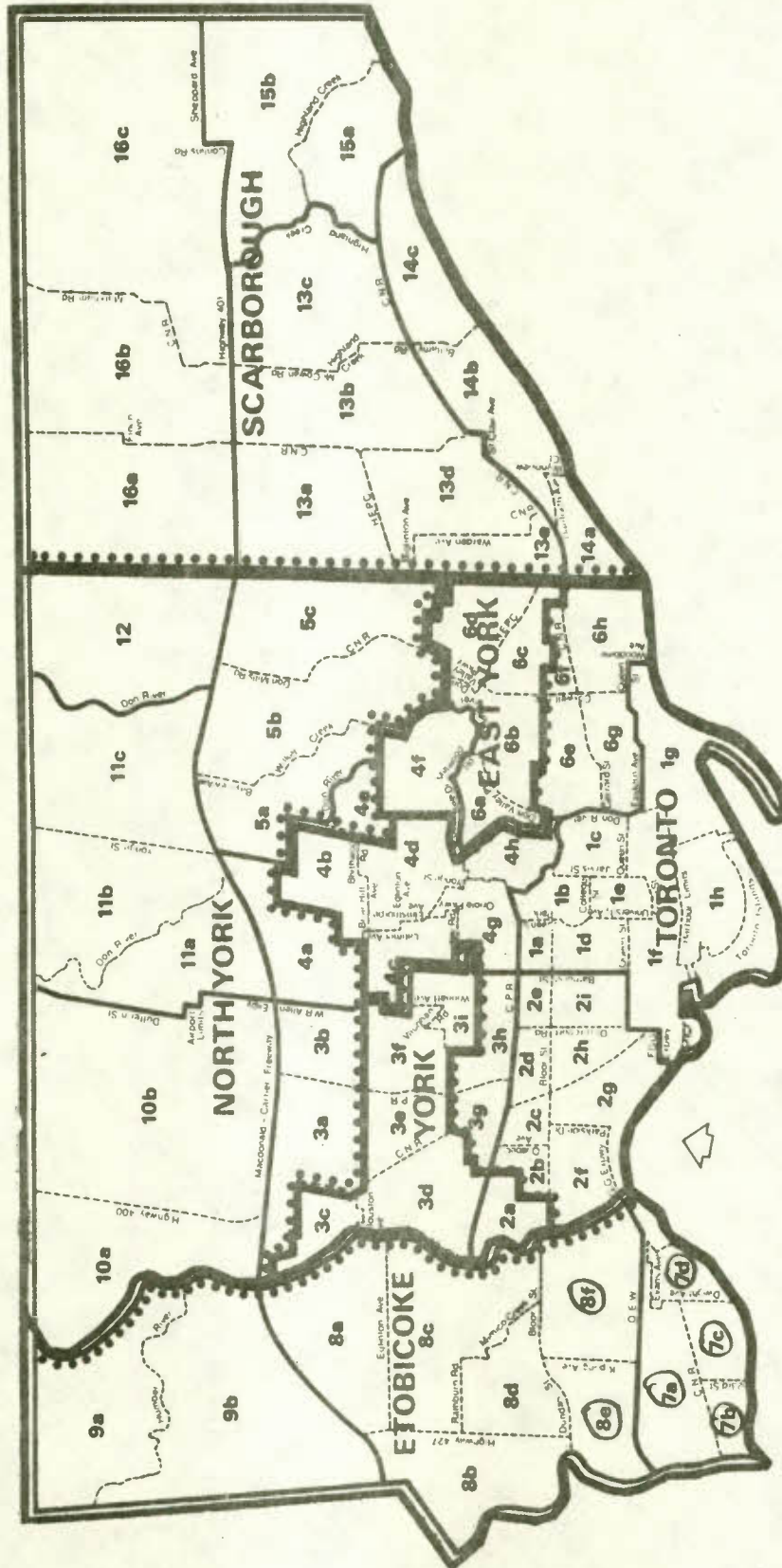
In spite of the long history of metropolitan decentralization, residential and workplace access have generally been evaluated by academics and planners from a

11 An "enumeration area" is a district *within* a CT and, therefore, a more precise description of where an individual lives.

12 Previous studies have found that high zero-order correlations existed between airline-mile distance and road-mile distance -- see, for example, Clemente and Summers (1974). This suggests that airline-mile distance might be regarded as a reasonable proxy for actual distance commuted.

Map 1

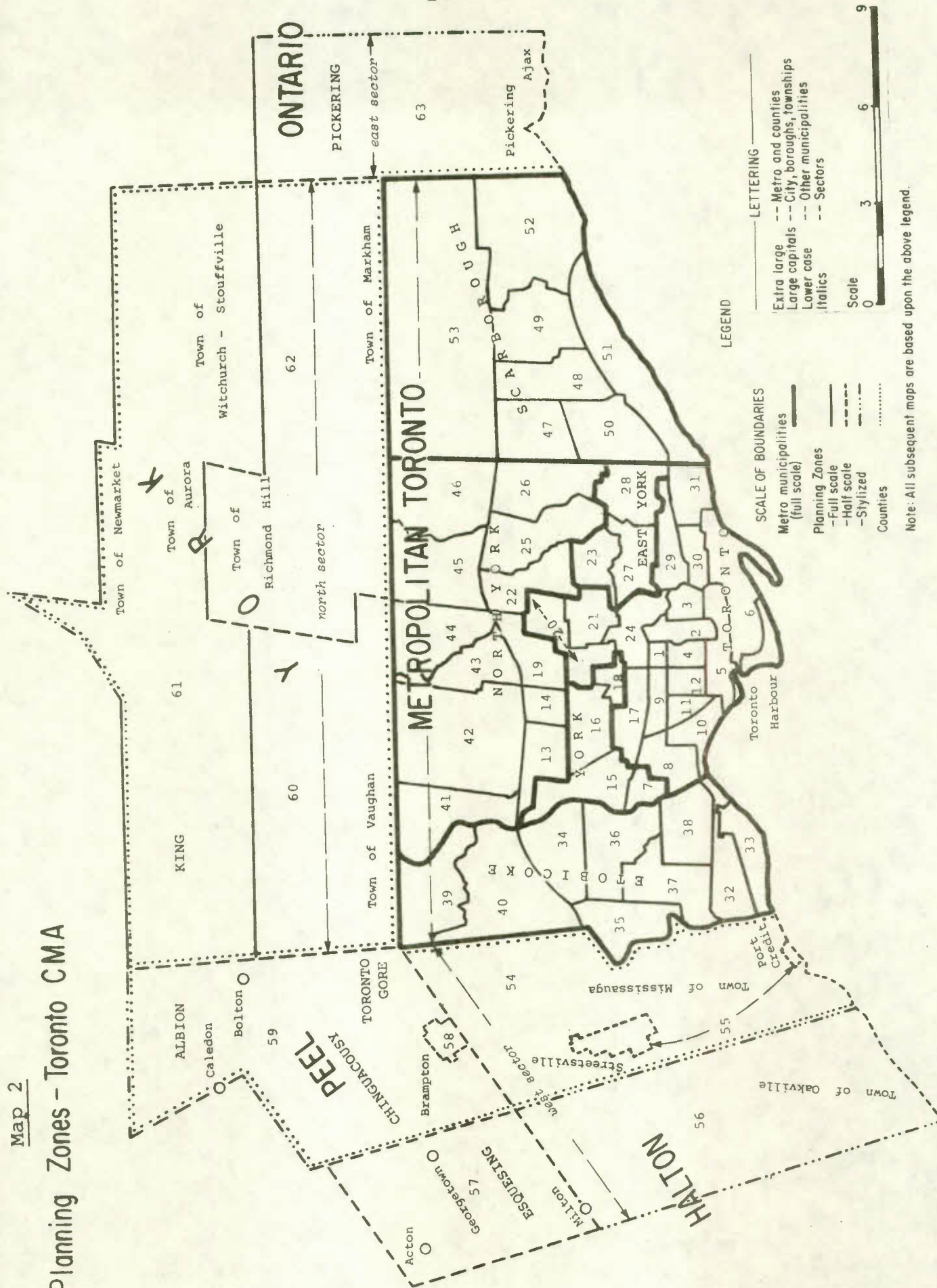
MINOR PLANNING DISTRICTS,
METROPOLITAN TORONTO



Source: Preliminary Impressions of the Urban Structure: To 1971, p. 7.

Map 2

Planning Zones - Toronto CMA



perspective based on the assumption that each city had a single central workplace. While an overwhelming concentration of jobs in the central core was a typical structural form of cities until about 1950, the validity of this stereotype assumption for a highly developed industrial urban area like Toronto today is at best questionable. Accordingly, this present study is not limited to the notion of a single employment centre. We will examine the patterns of residence and employment in the Toronto CMA to identify all significant workplace centres. Accordingly, the CMA is treated as an urban system in which there is a pattern of employment centres, one of which is the "central business district" (CBD).

Given our multi-centered employment model, this paper empirically considers some basic hypotheses on residence and workplace separation that have emerged from the existing literature on journey-to-work. Since the traditional assumption has been used to develop policies, plans, and programs (particularly at the provincial and federal levels of government), it should be of interest to see if our multiple job site approach will offer different and better insights into urban planning and management -- in functions such as urban transportation and land-use. Furthermore, this paper, while analysing the gross commuting flows, sets up a basis for our forthcoming papers.

Section 2: The Urban Structure: Distribution of
Residences and Jobs in the Toronto CMA

We begin our description of the structure of the Toronto CMA by examining the distribution of residences and jobs throughout the urban area in 1971. Table 3 shows the resident labour force (RLF), the working labour force (WLF), and the surplus/deficit of jobs ((WLF)-(RLF)) by municipality/sector in the Toronto CMA.¹³

From Table 3, it can be seen that the borough of North York and Toronto City (including the CBD) had the highest concentrations of both residences and jobs while the latter was the only municipality in Metro in which the share of jobs was greater than the share of working residents. Based on the broad balance in the distribution of jobs and residences, Etobicoke seems to have been a self-contained area. The other boroughs were residentially oriented in the sense of having more workers than they employed. On an aggregate basis, Metropolitan Toronto employed 83 per cent of the total working labour force (WLF) of the CMA while 81 per cent of the CMA's total resident labour force (RLF) resided within its boundaries.

13 The "resident labour force" (RLF) of the CMA includes all working residents in the Toronto CMA. The "working labour force" (WLF) of the CMA includes all those 15 years of age or over, residing in the CMA or within a fifty-mile radius, who have stated an exact work location in the CMA for the week prior to enumeration. This fifty-mile "search area" has been included in order to ensure that most workers employed in the Toronto CMA were identified. The WLF also includes persons who were temporarily absent from their usual job due to illness, vacation, strike, etc. Excluded from the WLF are those who did not or could not state a specific place of employment.

Table 3

DISTRIBUTION OF RESIDENCES AND JOBS BY
MUNICIPALITY/SECTOR, TORONTO CMA, 1971

Municipality/Sector					Surplus/Deficit of Jobs ((WLF) - (RLF))
City of Toronto (including the CBD)	275,385	(27.45)	425,385	(41.00)	+150,000
York	56,715	(5.65)	33,375	(3.22)	- 23,340
East York	46,635	(4.65)	30,705	(2.96)	- 15,930
Total "Inner Three" Municipalities (A)	378,735	(37.75)	489,465	(47.17)	+110,730
Etobicoke	111,780	(11.14)	111,765	(10.77)	- 15
North York	196,785	(19.62)	175,800	(16.94)	- 20,985
Scarborough	127,035	(12.66)	84,420	(8.14)	- 42,615
Total "Outer Three" Boroughs (B)	435,600	(43.42)	371,985	(35.85)	- 63,615
Total Metropolitan Toronto (A + B)	814,335	(81.17)	861,450	(83.02)	+ 47,115
East Sector	13,625	(1.36)	11,205	(1.08)	- 2,420
North Sector	48,150	(4.80)	43,590	(4.20)	- 4,560
West Sector	126,945	(12.65)	121,290	(11.69)	- 5,655
Total "External Sector" or "Peripheral District" (C)	188,720	(18.81)	176,085	(16.97)	- 12,635
Total Toronto CMA (A + B + C)	1,003,185	(100.00)	1,037,595	(100.00)	+ 34,410*

NOTE: Totals may not add up due to rounding.

Numbers in the brackets show the percentage share of the Total Toronto CMA.

*Indicates commuting from outside the CMA.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

While the information presented in Table 3 provides an overview of the location of jobs and residences in 1971, a more detailed picture of the intra-urban system is necessary in order to gain a clear understanding of the journey-to-work patterns in the Toronto CMA. Table 4 gives the distribution of residences and jobs for the planning zones which form the detailed basis of this study.

Table 4 indicates that the residential distribution of the employed labour force was more evenly dispersed throughout the CMA than were the available jobs. The resulting surplus/deficit of jobs (shown in Table 4) suggests a pattern of commuting that seeks to establish some equilibrium between supply (RLF) and demand (WLF) for labour. *Commuting is thus simply the means of adjustment to the uneven spatial distribution of job opportunities.*

Based on the urban structure briefly described above, we now proceed to analyse the journey-to-work patterns in the Toronto CMA in 1971.

Table 4

DISTRIBUTION OF LABOUR FORCE:
RESIDENCES AND JOBS, TORONTO CMA, 1971

Zone No.	Resident Labour Force (RLF)	Working Labour Force (WLF)	Surplus/ Deficit of Jobs
1(TC)*	9,630	7,575	- 2,055
2(CBD)	11,055	165,780	154,725
3(TC)	15,615	11,490	- 4,125
4(TC)	8,715	30,720	22,005
5(TC)	1,920	56,445	54,525
6(TC)	435	7,410	6,975
7(Y)	5,220	1,635	- 3,585
8(TC)	22,380	9,840	-12,540
9(TC)	15,255	10,740	- 4,515
10(TC)	21,285	14,400	- 6,885
11(TC)	10,530	8,010	- 2,520
12(TC)	16,260	8,040	- 8,220
13(NY)	15,075	11,490	- 3,585
14(NY)	5,640	19,605	13,965
15(Y)	16,680	12,375	- 4,305
16(Y)	18,570	16,980	- 1,590
17(TC)	18,855	20,595	1,740
18(Y)	16,365	2,475	-13,890
19(NY)	15,090	8,055	- 7,035
20(TC)	20,640	7,215	-13,425
21(TC)	25,305	23,145	- 2,160
22(NY)	6,390	5,175	- 1,215
23(EY)	11,730	16,230	4,500
24(TC)	20,295	18,945	- 1,350
25(NY)	15,735	31,725	15,990
26(NY)	20,505	11,415	- 9,090
27(EY)	16,170	3,660	-12,510
28(EY)	19,005	10,890	- 8,115
29(TC)	24,960	10,755	-14,205
30(TC)	13,380	9,540	- 3,840
31(TC)	18,915	4,695	-14,220
32(E)	7,470	13,965	6,495
33(E)	17,610	14,460	- 3,150
34(E)	16,800	4,170	-12,630
35(E)	11,505	4,650	- 6,855
36(E)	15,450	4,245	-11,205
37(E)	8,310	19,710	11,400
38(E)	13,950	16,020	2,070
39(E)	9,765	3,450	- 6,315
40(E)	10,830	31,125	20,295
41(NY)	9,975	15,090	5,115
42(NY)	35,385	36,450	1,065
43(NY)	14,160	4,590	- 9,570
44(NY)	21,135	10,215	-10,920
45(NY)	18,555	11,670	- 6,885
46(NY)	19,050	10,350	- 8,700
47(S)	18,285	25,425	7,140
48(S)	18,180	10,995	- 7,185
49(S)	20,430	9,450	-10,980
50(S)	21,285	19,200	- 2,085
51(S)	24,885	6,810	-18,075
52(S)	9,540	4,260	- 5,280
53(S)	14,415	8,235	- 6,180
54(WS)	56,460	50,385	- 6,075
55(WS)	6,615	9,615	3,000
56(WS)	21,420	22,140	720
57(WS)	13,605	11,910	- 1,695
58(WS)	15,780	15,105	- 675
59(WS)	13,185	12,150	- 1,035
60(NS)	5,760	13,245	7,485
61(NS)	18,285	14,160	- 4,125
62(NS)	24,000	16,185	- 7,815
63(ES)	13,530	11,160	- 2,370
Total	1,003,185	1,037,595	34,410**

*These abbreviations denote City/Borough/Sector as follows:

CBD - Central Business District

"Inner Three" TC - Toronto City (excluding the CBD)

Municipalities Y - York

EY - East York

"Outer Three" NY - North York

Boroughs E - Etobicoke

S - Scarborough

"External WS - West Sector

Sectors" NS - North Sector

ES - East Sector

These abbreviations will be followed in all subsequent tables.

**Indicates commuting from outside the CMA.

--Totals may not add up due to rounding.

Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Section 3: Basic Patterns of Journey-to-Work

Census place-of-work data indicate that, in the Toronto CMA in 1971, 79 per cent of the labour force crossed their residence zone boundaries to reach their place of employment and 21 per cent of the workers worked in their own residence zones ("in-zone employment"). The extent of incommuting and outcommuting and "in-zone employment" can be seen from Table 1A in Appendix I which shows, for example, that zone 2 sent 4,455 workers (about 40 per cent of its resident labour force) out to other zones and received 159,180 workers (96 per cent of its working labour force) from other zones.¹⁴ However, in order to analyse the extent of interdependence in terms of job-commuting between the planning zones in Toronto CMA and to provide a useful picture of commuting flows on a disaggregated level, it is necessary to describe some of the related perspectives which will improve our understanding of journey-to-work patterns.

- (i) Considering that the Toronto CMA is a large and diversified industrial area and that employment is spatially dispersed throughout the area, we would expect omni-directional moves inside the CMA. In order to provide a relatively concise

14 The 'resident labour force' (RLF) of a zone includes all employed residents living in that zone whose place of work is known and within the CMA. The 'working labour force' (WLF) of a zone includes all those whose jobs are located in that zone, residing in the CMA or within a fifty-mile radius.

picture of the commuting flows, it is necessary to identify the major workplace and residence centres to describe the structural framework within which most of the commuting takes place.

- (ii) A division between the central business district (CBD) and non-CBD employment areas is necessary given the predominance of the former area. In so dividing, we have to make an assumption regarding that part of Toronto CMA which could be classified as the CBD.¹⁵
- (iii) The diffused commuting patterns introduce the problems of "directionality". The direction of commuting is important in defining the various types of patterns which add to the complexity of the journey-to-work travel picture (i.e., from a traffic flow perspective).
- (iv) Since raw data on journey-to-work do not provide much direct understanding, a brief discussion of the indices which we employ to represent census commuting flows is also required.

Now we shall deal with these issues in turn.

15 On an aggregate basis, the whole Toronto CMA can be divided in four parts: the CBD; the *inner three* municipalities comprised of areas which are on the fringe or frame of the CBD (Toronto City excluding the CBD and the boroughs of York and East York); the *outer three* boroughs (the boroughs of Etobicoke, North York and Scarborough); and the *external sectors or peripheral district* (planning zones in the West, North and East sectors beyond the outer three boroughs).

3.1 Designation of Major Residential and Employment Areas

The major residence and workplace centres in Toronto CMA have been identified by computing three indicators for each planning zone. These indices are indicative of the planning zone's residential and employment character. The first is the percentage of the total CMA's resident labour force residing in the planning zone. In order for a planning zone to be eligible for consideration as a *major residential area*, it must have a significant proportion of the total CMA's resident labour force. A "threshold" of the CMA's resident labour force (RLF) equal to $1/n \cdot \text{RLF}_{\text{CMA}}$ (i.e., the average share per planning zone of the CMA resident labour force where n is the number of planning zones in the CMA) could be considered as significant (i.e., 1.5 per cent of the CMA's RLF, or 15,000 or more resident workers). In our analysis, however, we have taken as significant, a "threshold" proportion of at least 2 per cent of the CMA's resident labour force, i.e., 20,000 or more resident workers.

Every planning zone that met our 2 per cent criterion was labelled as a major residential area provided it was not also classified as a major employment centre, in which case the latter designation was retained. In addition, where no zone within a municipality/sector¹⁶ met the above criterion, the planning zone with the largest RLF (other than

16 The municipalities/sectors in the Toronto CMA are shown in Map 2.

a designated SEA) was selected as a major residential area to ensure that outcommuting patterns were analyzed for all municipalities/sectors of the CMA.

The second and third indicators have been used to measure the planning zones' employment character. The second indicator is the zone's job ratio which is equal to the number of workers employed in that zone divided by the number of these employed workers living in the zone.¹⁷ This ratio indicates whether the zone had a net surplus or deficit of jobs relative to its resident employed population. If the job ratio of a planning zone exceeds one, then that zone had a surplus of jobs and, therefore, was a net importer of labour. The third indicator is the percentage of the total CMA's employed labour force working in the planning zone. If all of the planning zones had an equal share of the CMA's jobs, there would have been approximately 16,470 workers (1.6 per cent of the WLF_{CMA}) working in each planning zone.

On the basis of these two indicators, then, the following criteria have been established for the designation of major employment areas:

Criterion 1: A job ratio equal to or greater than one (i.e., $WLF/RLF \geq 1.0$)

Criterion 2: A working labour force equal to or greater than the CMA-wide planning zone average (i.e., $WLF/WLF_{CMA} \cdot 100 \geq 1.6$ per cent)

17 See Westergaard (1957); and Evans (1973), p. 204. With respect to the term "employed workers", we are again referring to those whose place of work is specifically known.

In general, one of these criteria had to be fulfilled in order for a planning zone to be selected as a major employment centre. In addition to these two employment criteria, a third was thought necessary. Those areas in our analyses where the job ratio was relatively low and the percentage of employment of the whole CMA was also relatively low but where, from a commuting point of view, the areas appear important, were also designated as major employment centres.

The three indicators calculated for each zone are presented in Table 5. On the basis of the above defined criteria, zones 2, 4, 5, 6, 14, 16, 17, 21, 23, 24, 25, 32, 37, 38, 40, 41, 42, 47, 50, 54, 55, 56, 58,¹⁸ 60 and 62 have been designated as major employment centres. As can be seen from Map 3, these major employment areas are situated throughout the CMA. Together, these centres contained 68.55 per cent of all the jobs in the Toronto CMA with the remaining employment opportunities distributed in a lesser density across the CMA. Similarly, on the basis of the threshold criterion, planning zones 8, 10, 20, 26, 29, 44, 49 and 51 have been designated as major residential areas (MRAs). Since this threshold criterion does not ensure representation

18 Planning zone 58 (Brampton) is the only zone selected as an employment centre under the third employment criterion mentioned above. It should be noted, however, that this zone closely approaches the first two employment criteria. Moreover, Brampton is rapidly emerging as a centre of economic activity in the western part of the CMA. Accordingly, it has been designated as an employment centre.

Table 5

MAJOR RESIDENCE AND EMPLOYMENT CENTRES,
TORONTO CMA, 1971

Zone No.	% of CMA's Resident Labour Force	Job Ratio	% of CMA's Employed Labour Force
	$\left(\frac{RLF_i}{RLF_{CMA}} \cdot 100\right)$	$\left(\frac{WLF_i}{RLF_i}\right)$	$\left(\frac{WLF_i}{WLF_{CMA}} \cdot 100\right)$
1 (TC)	0.96	0.79	0.73
2* (CBD)	1.10	15.00	15.98
3 (TC)	1.56	0.74	1.11
4* (TC)	0.87	3.52	2.96
5* (TC)	0.19	29.40	5.44
6* (TC)	0.04	17.03	0.71
7 (Y)	0.52	0.31	0.16
8** (TC)	2.23	0.44	0.95
9 (TC)	1.52	0.70	1.04
10** (TC)	2.12	0.68	1.39
11 (TC)	1.05	0.76	0.77
12 (TC)	1.62	0.49	0.77
13 (NY)	1.50	0.76	1.11
14* (NY)	0.56	3.48	1.89
15** (Y)	1.66	0.74	1.19
16* (Y)	1.85	0.91	1.64
17* (TC)	1.88	1.09	1.98
18 (Y)	1.63	0.15	0.24
19 (NY)	1.50	0.53	0.78
20** (TC)	2.06	0.35	0.70
21* (TC)	2.52	0.91	2.23
22 (NY)	0.64	0.81	0.50
23* (EY)	1.17	1.38	1.56
24* (TC)	2.02	0.93	1.83
25* (NY)	1.57	2.02	3.06
26** (NY)	2.04	0.56	1.10
27 (EY)	1.61	0.23	0.35
28** (EY)	1.89	0.57	1.05
29** (TC)	2.49	0.43	1.04
30 (TC)	1.33	0.71	0.92
31 (TC)	1.89	0.25	0.45
32* (E)	0.74	1.87	1.35
33** (E)	1.76	0.82	1.39
34 (E)	1.67	0.25	0.40
35 (E)	1.15	0.40	0.45
36 (E)	1.54	0.27	0.41
37* (E)	0.83	2.37	1.90
38* (E)	1.39	1.15	1.54
39 (E)	0.97	0.35	0.33
40* (E)	1.08	2.87	3.00
41* (NY)	0.99	1.51	1.45
42* (NY)	3.53	1.03	3.51
43 (NY)	1.41	0.32	0.44
44** (NY)	2.11	0.48	0.98
45 (NY)	1.85	0.63	1.12
46 (NY)	1.90	0.54	1.00
47* (S)	1.82	1.39	2.45
48 (S)	1.81	0.60	1.06
49** (S)	2.04	0.46	0.91
50* (S)	2.12	0.90	1.85
51** (S)	2.48	0.27	0.66
52 (S)	0.95	0.45	0.41
53 (S)	1.44	0.57	0.79
54* (WS)	5.63	0.89	4.86
55* (WS)	0.66	1.45	0.93
56* (WS)	2.14	1.03	2.13
57 (WS)	1.36	0.88	1.15
58* (WS)	1.57	0.96	1.46
59** (WS)	1.31	0.92	1.17
60* (NS)	0.57	2.30	1.28
61** (NS)	1.82	0.77	1.36
62* (NS)	2.39	0.67	1.60
63** (ES)	1.35	0.82	1.08

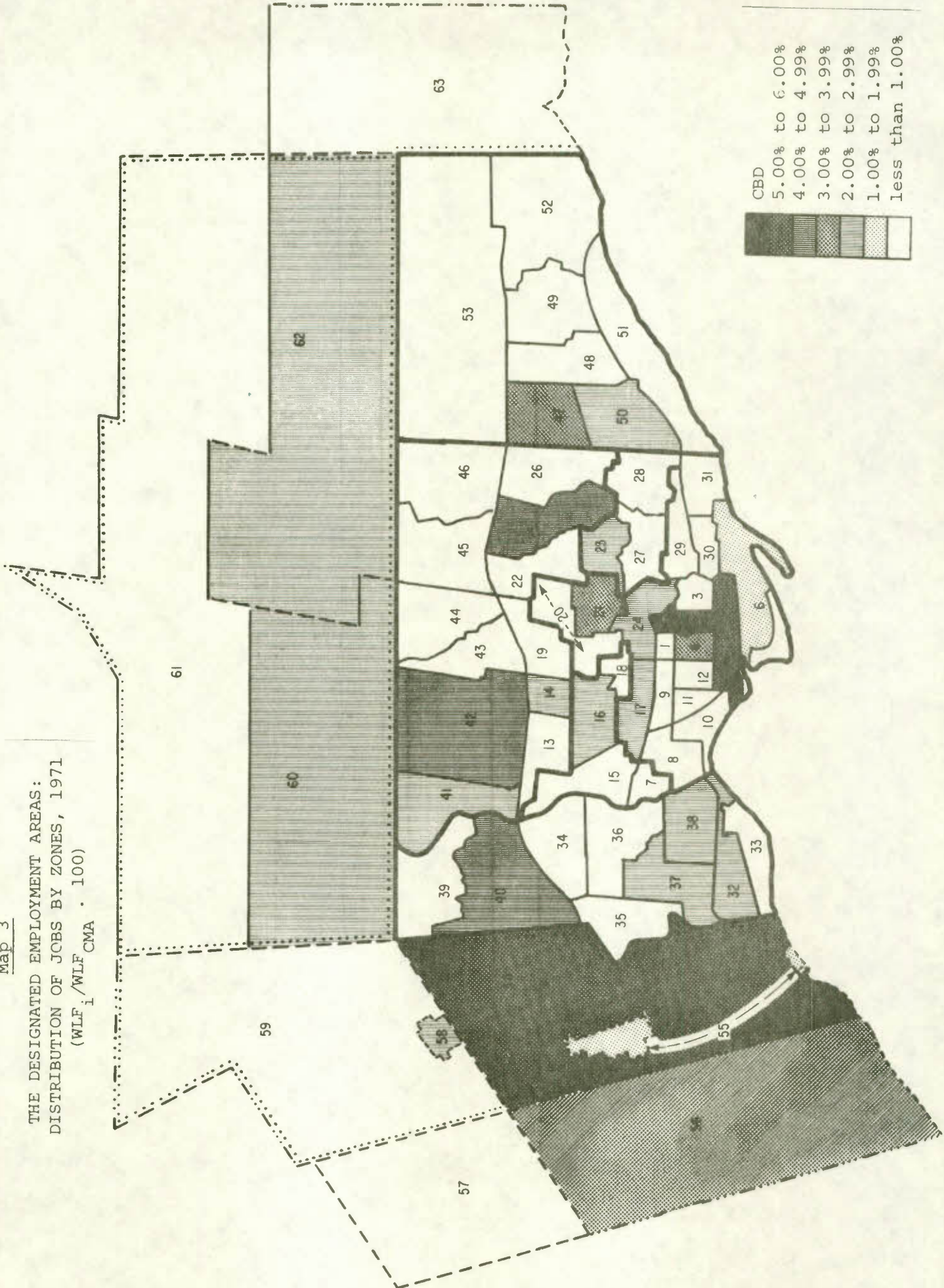
*Indicates zones which are major centres of employment in Toronto CMA.

**Indicates zones which are major places of residence in Toronto CMA.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 3

THE DESIGNATED EMPLOYMENT AREAS:
DISTRIBUTION OF JOBS BY ZONES, 1971
($WLF_i / WLF_{CMA} \cdot 100$)



from every municipality/sector, planning zones 15, 28, 33, 59, 61 and 63 have also been labelled as MRAs.¹⁹ These MRAs are shown in Map 4. As mentioned above, none of these designated major residential areas has been classified as a major employment centre.

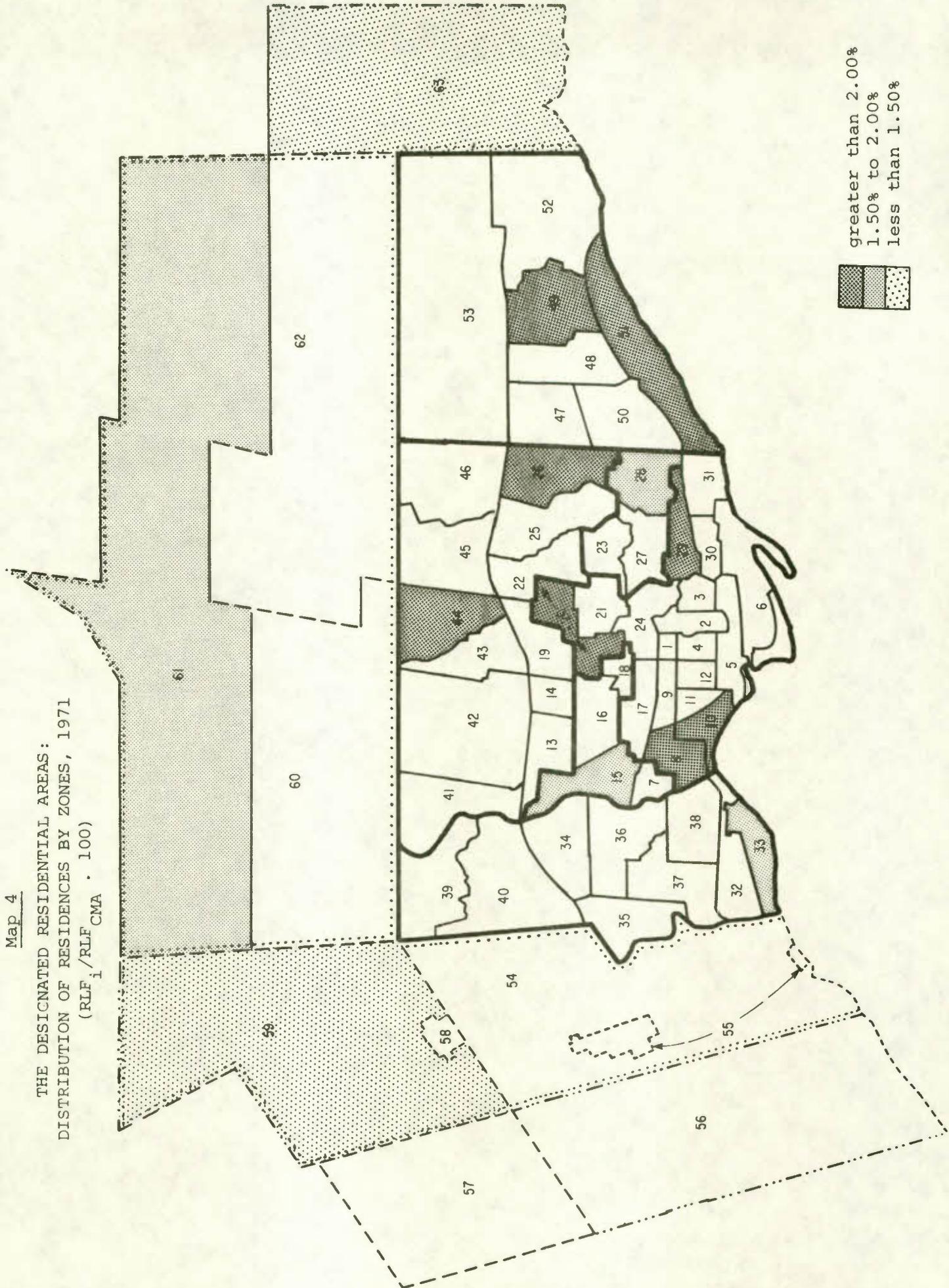
3.2 Designation of the CBD and Non-CBD Employment Areas

Certainly, the establishment of a definition specifying the exact border of the Central Business District (CBD) and the start of non-CBD employment areas is problematic. Traditionally, the CBD has been described as the centre of shopping and specialised services as well as the focal point of commerce and service activities for the urban area as a whole. In this district one will find the greatest concentration of employment opportunities. For the purposes of this study, we will operationally define the CBD as that planning zone within which the traditional centre of the city of Toronto is located. By this criterion, then, planning zone 2 will be considered the CBD. It consists of nine contiguous census tracts (14, 15, 34, 35, 62, 63, 88, 89, and 90) with a total land-use of 968 acres. This narrowly defined CBD, rather than a spatially extended one, has been chosen principally because our purpose is to analyse the pattern of journey-to-work on a detailed level. The non-CBD

19 It should be noted, however, that these major residential zones, which have been selected in order that every municipality/sector be represented, have the highest percentage of the CMAs residential labour force (provided they are not major employment centres) in their respective municipality/sectors.

Map 4

THE DESIGNATED RESIDENTIAL AREAS:
DISTRIBUTION OF RESIDENCES BY ZONES, 1971
(RLF₁/RLF CMA · 100)



employment centres²⁰ of the Toronto CMA would then be defined as all other major employment centres within the CMA.

3.3 Directionality

Basically, there are three types of commuting categories. The first is "central commuting" in which the pattern of commuter outflow is towards the CBD. A second category is "reverse commuting" in which the direction of commuting is outward from the centre city towards the suburbs. The third category is "intersuburban commuting" or "lateral commuting". The worktrips in this category are circumferential in the sense that the primary direction is neither toward the CBD nor the periphery.²¹

3.4 Indices of Commuting

In the ensuing analysis of the commuting flows, four indices will be employed. The first two measure the commutation rate from an origin (residence) zone to a destination (employment) zone.

$$\text{Index 1: } X_1 = \frac{A_{ij}}{RLF_i} \cdot 100$$

$$\text{Index 2: } X_2 = \frac{A_{ij}}{WLF_j} \cdot 100$$

20 Henceforth, all the non-CBD employment centres will be called *Secondary Employment Areas* (SEAs).

21 See Wheeler (1974), p. 46.

where i and j ($i, j = 1 \dots 63$) represent the zone of origin (residence) and the zone of destination (place-of-work) respectively, and

X_1 = percentage of resident labour force of zone i commuting to zone j ;

X_2 = percentage of working labour force of zone j commuting from zone i ;

A_{ij} = number of out-commuters from zone i to zone j ;

RLF_i = total resident labour force of zone i ; and

WLF_j = total working labour force of zone j .

According to Index 1, the commutation rate from zone i to zone j is the number of workers living in zone i and working in zone j as a percentage of total resident labour force of zone i . Index 1 is the most common index for analysing commuting data. For a given residential zone i , then Index 1 tells us the percentage of the RLF in zone i which is employed in each of the employment zones j . Each statistic, in this case, indicates the proportion of the RLF in zone i *supplied* to each employment zone j . The value of the index thus indicates the *relative* attractiveness of each employment zone j for the RLF of zone i . On the other hand Index 2 represents the number of workers commuting from zone i to zone j as a percentage of total working labour force of zone j . It tells us, then, how influential zone j is in enticing out-commuters (the RLF excluding those persons whose place-of-work is the same as the place of residence) from each residential zone i to meet the former's *demand* for

labour. Thus these two indices measure different aspects of the functional relationship that exists between the zones in the CMA.

The *exclusive* application of Indices 1 and 2, however, is not sufficient for our purposes. The reason for this is that these crude commutation rates *are not* independent of the size of the resident labour force in the zone of residence *and* the working labour force in the zone of work. In light of this, we shall employ Index 3 and Index 4²² which are *adjusted commutation rates* in the sense that their derived values are independent of *both* the total resident labour force in the zone of residence and total working population in the zone of work.²³

The value of Index 3 with respect to commuting from zone i to zone j, is calculated as the percentage of the total resident labour force of zone i that works in zone j divided by the percentage of the total resident labour force of the CMA that works in zone j. The formula for this index is:

$$\text{Index 3: } X_3 = \frac{A_{ij}/RLF_i \cdot 100}{WLF_j/RLF_{CMA} \cdot 100}$$

22 These two indices are adapted from Evans (1973), pp. 206-212.

23 For a brief discussion of some of the indices (other than those discussed above) which can be considered to summarize census commuting flows, see Appendix I.

where A_{ij} , RLF_i , and WLF_j are as defined earlier in the context of Indices 1 and 2, and

X_3 = the value of the index; and

RLF_{CMA} = total resident labour force of the CMA.

This index shows the *pattern of residential location* of the working population in zone j. Specifically, it measures the tendency for residents of a given zone i to work in zone j, *relative* to the tendency for all CMA workers to be employed in that zone j. When the value of this index is greater than one, it indicates that the tendency for those from zone i to work in zone j in question was above the tendency for CMA workers as a whole to be employed there. A value of less than one indicates a below-average tendency. Accordingly, the residential areas are said to be "over-represented" or "underrepresented" in terms of commutation to that workplace.

Similarly, in order to analyse the journey-to-work patterns from major residential areas, we shall employ Index 4. This index calculates the percentage of those working in zone j who reside in zone i divided by the percentage of the CMA working labour force which lives in zone i. The formula for Index 4 is as follows:

$$\text{Index 4: } X_4 = \frac{A_{ij}/WLF_j \cdot 100}{RLF_i/WLF_{CMA} \cdot 100}$$

where A_{ij} , RLF_i , and WLF_j are as defined earlier in the context of Index 3, and

X_4 = the value of the index; and

WLF_{CMA} = total working labour force of the CMA.

This index shows the *pattern of job location* of the resident labour force in zone i . The Index 4 computations are interpreted similarly to those of Index 3. That is, when the value of an Index 4 calculation is greater than one (less than one), it indicates that zone j is "overrepresented" ("underrepresented") as a workplace for the resident labour force of zone i .

Having described these various types of indices, we shall now proceed to apply Indices 1, 2 and 3 in our analyses of the journey-to-work patterns *to* major employment areas and Indices 1, 2 and 4 in our analyses of these patterns *from* major residential areas. While considering the commuting patterns to major employment areas, we shall examine journey-to-work to the CBD and to the secondary employment areas separately, assuming that the two patterns will differ from each other. As Taaffe, Garner and Yeates (1963) point out, "the journey-to-work to peripheral employment centres would not be worth studying as a separate component of the aggregate pattern of metropolitan traffic flow, if it did not differ in several significant respects from the journey-to-work to places of employment in central business district" (p. 8).

In section 4, we investigate the pattern of journey-to-work to the CBD; in section 5, the pattern of journey-to-work to SEAs; and in section 6, the pattern of journey-to-work from Major Residential Areas (MRAs).

Section 4: Journey-to-Work: The Central Business District

In this section, we present an empirical analysis of the pattern of the journey-to-work to the CBD as recorded by the 1971 Census and attempt to relate this pattern to the existing literature.

In an early study, Carroll (1952) distinguished between the residential distribution of workers employed in the CBD and those who are employed in intermediate or peripheral locations. He indicated that "the residential distributions of persons employed in central district tends to approximate that of the entire urban population...", i.e., "... the population and the residences of central district employees are arranged about the core area in a constantly declining density" (pp. 271, 282). We shall consider the validity of this conclusion for the CBD workers in the Toronto CMA.

The Toronto CMA central business district, as defined here, employed 165,780 workers (whose workplace was known) while it was the residence for 13,510 workers. The CBD, therefore, accounted for 16 per cent of all the jobs in the CMA and had a job ratio of 15.0 (Table 5) or, in other words, fifteen jobs per employed resident. This made it by far the largest employment centre in the CMA. Thus the view that the CBD is the most significant employment area in the urban region is by no means contradicted in the case of Toronto CMA.

The commutation rates from the individual planning zones to the CBD, calculated according to the Indices 1 and 2 mentioned earlier, are shown in Table 6. In addition, the commuting flows to the CBD are visually presented in Map 5.

According to Index 1 calculations shown in Table 6, zone 24 in Toronto City had the highest commutation rate as 38.65 per cent of its resident labour force was employed in the CBD. Other high commuting flows to the CBD (at least 20 per cent of the resident labour force) originated from zones 1, 3, 4, 6, 8, 10, 11, 20, 21, 24, 29, 30 and 31 (Toronto City), zones 23, 27 and 28 (East York), and zones 19, 22 and 25 (North York). The high flows from zones 4, 6, 21, 24 and 25 are particularly noteworthy because these zones, themselves, are *secondary employment areas*. With the exception of the three zones in North York, all of the zones which had high commuting flows to the CBD are located in the *inner three* municipalities. This shows that the attractiveness of the CBD, as an employment centre, is strongest for the centrally located zones. Again, the geographical proximity of these zones to the CBD must be viewed as the primary reason for this.

As we move further from the centre of the CMA, the commutation rates to the CBD tended to decrease. It is interesting to note, however, that outside of the inner three municipalities, the employment pull of the CBD was greater upon workers residing in the eastern half of the CMA

Table 6

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
TO THE CBD BY ZONES, TORONTO CMA, 1971

Zone of residence	Work location CBD -- Zone 2	
	Index 1	Index 2
1 (TC)	35.98	2.09
2 (CBD)	59.70*	3.98**
3 (TC)	36.79	3.47
4 (TC)	24.10	1.27
5 (TC)	18.75	0.22
6 (TC)	20.69	0.05
7 (Y)	16.95	0.53
8 (TC)	23.19	3.13
9 (TC)	14.45	1.33
10 (TC)	20.23	2.60
11 (TC)	20.94	1.33
12 (TC)	17.34	1.70
13 (NY)	7.26	0.66
14 (NY)	10.11	0.34
15 (Y)	8.45	0.85
16 (Y)	11.55	1.29
17 (TC)	13.52	1.54
18 (Y)	19.89	1.96
19 (NY)	20.18	1.84
20 (TC)	27.91	3.47
21 (TC)	35.85	5.32
22 (NY)	25.12	0.97
23 (EY)	30.18	2.14
24 (TC)	38.65	4.73
25 (NY)	22.97	2.18
26 (NY)	17.56	2.17
27 (EY)	26.81	2.61
28 (EY)	23.36	2.68
29 (TC)	22.54	3.39
30 (TC)	21.30	1.72
31 (TC)	26.41	3.01
32 (E)	5.02	0.23
33 (E)	9.37	1.00
34 (E)	10.00	1.01
35 (E)	10.69	0.74
36 (E)	17.67	1.65
37 (E)	13.72	0.69
38 (E)	14.95	1.26
39 (E)	5.38	0.32
40 (E)	5.40	0.35
41 (NY)	2.71	0.16
42 (NY)	5.00	1.07
43 (NY)	12.18	1.04
44 (NY)	14.76	1.88
45 (NY)	16.09	1.80
46 (NY)	16.38	1.88
47 (S)	12.80	1.41
48 (S)	11.22	1.23
49 (S)	11.89	1.47
50 (S)	14.24	1.83
51 (S)	17.36	2.61
52 (S)	12.58	0.72
53 (S)	12.17	1.06
54 (WS)	9.94	3.38
55 (WS)	7.26	0.29
56 (WS)	7.56	0.98
57 (WS)	1.65	0.14
58 (WS)	1.62	0.15
59 (WS)	3.98	0.32
60 (NS)	5.73	0.20
61 (NS)	4.51	0.50
62 (NS)	9.44	1.37
63 (ES)	10.86	0.89

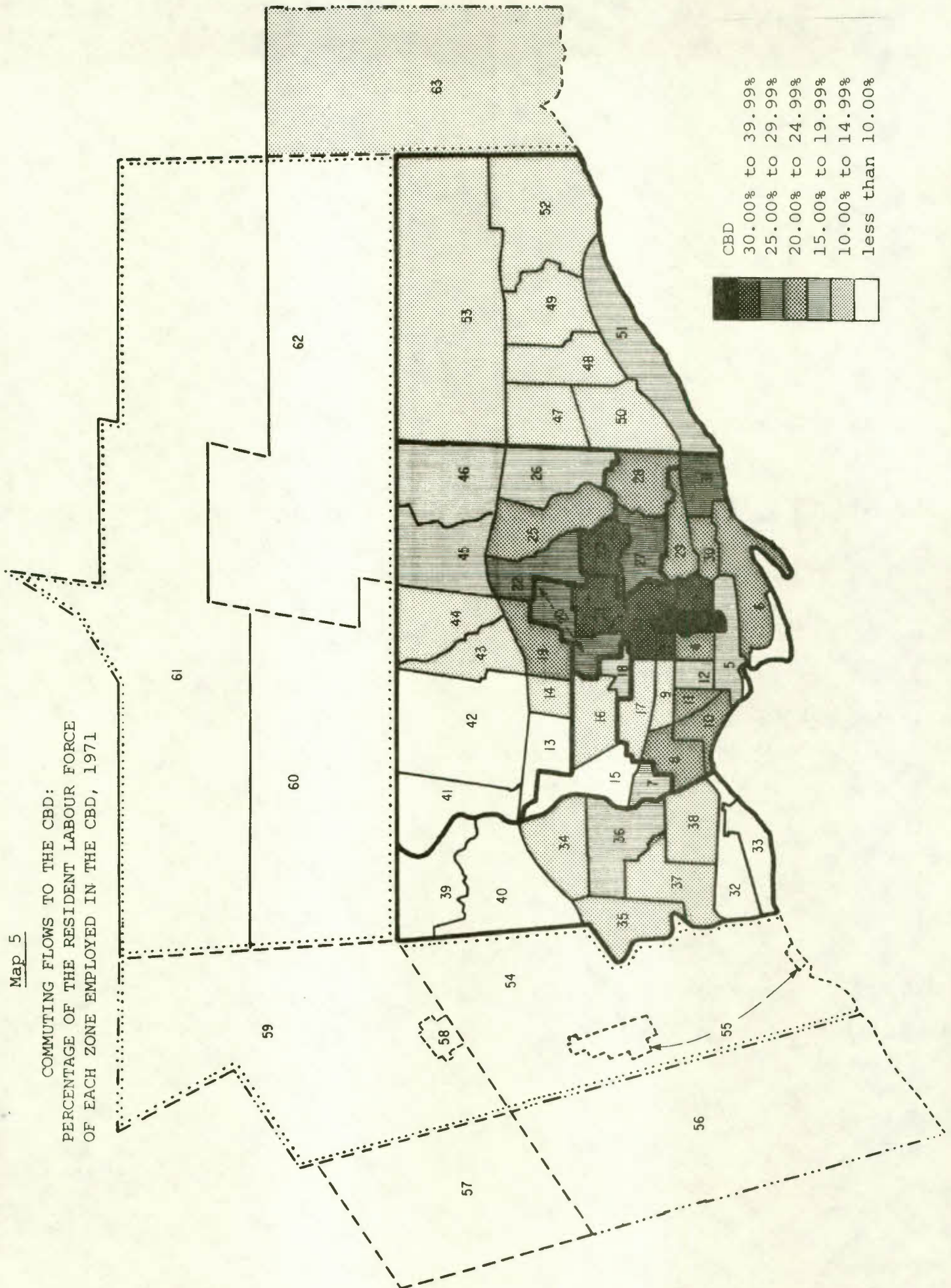
*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 5

COMMUTING FLOWS TO THE CBD:
PERCENTAGE OF THE RESIDENT LABOUR FORCE
OF EACH ZONE EMPLOYED IN THE CBD, 1971



than those living in the west. For example, while at least 10 per cent of the resident labour force of all seven Scarborough zones was employed in the CBD, only five of the nine zones in Etobicoke sent more than 10 per cent of their resident workers to the CBD. Similarly, the resident labour force of zone 63 in the East Sector was relatively influenced by the employment opportunities in the CBD to a greater extent than any of the zones in the North or West Sector.

Index 2, which calculates the commutation rate as a percentage of the working labour force of the zone of employment, presents a similar picture. Most significantly, the flows to the CBD tended to be greatest from centrally located planning zones, decreasing as one considers the zones progressively farther away in the outer boroughs/external sectors. Of the eight zones in the CMA (in addition to the CBD) which were the residential locations for at least 3 per cent of the CBD workforce, seven are in the city of Toronto (zones 3, 8, 20, 21, 24, 29, and 31). The eighth is zone 54 in the West Sector whose high Index 2 value must be primarily attributed to the size of its residential labour force which is, by far, the largest of any planning zone in the CMA. As we move outward to consider the zones of the *outer three* boroughs, it can be seen that the commutation rates to the CBD tended to be lower than from the zones in the city of Toronto. Only three zones in these boroughs (zones 25, 26 and 51) supplied 2 per cent or more of the CBD working labour force. It should be noted

that each of these three zones is adjacent to the inner three municipalities. Moreover, as we move farther yet from the CBD to consider the external sector, the Index 2 commutation rates declined even more. With the aforementioned exception of zone 54, no planning zone in these external sectors supplied more than 1.4 per cent of the CBD workforce. In fact, of the ten peripheral zones, eight were the residential locations for less than 1 per cent of the CBD workers. Finally, the Index 2 calculations also show the eastward bias with respect to the "employment pull" of the CBD. This is most apparent when the rates from York are compared to those from East York. While zones in the former borough had very low flows (0.5, 0.9, 1.3, and 2.0 per cent of the CBD workforce), the rates from East York zones were significantly higher (2.1, 2.6, and 2.7 per cent). Similarly, in the *outer three* boroughs, zones to the east, in Scarborough, supplied higher proportions of the CBD working labour force than zones to the west in Etobicoke.

In order to show the pattern of residential location of those workers employed in the CBD, we have used Index 3 (for intra-CMA commuting only). It should be remembered that, in contrast to Indices 1 and 2, this index controls for the size of *both* the resident labour force of the residence zone and the working labour force of the employment zone. The values derived from Index 3 are shown in Table 7 and Map 6. Generally, these results confirm what has already been pointed out. Although the labour force of

Table 7

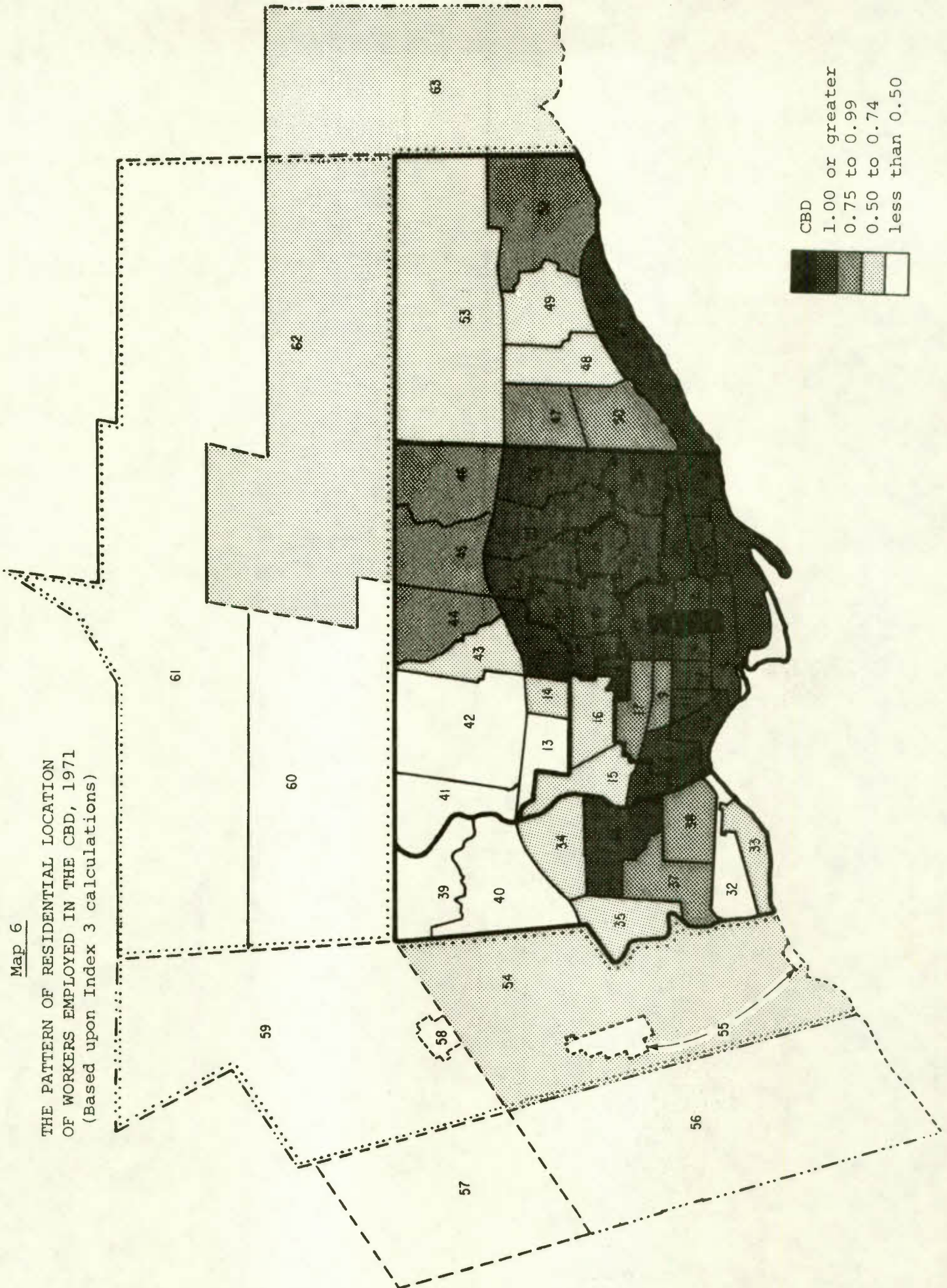
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 3) TO THE CBD BY ZONES, TORONTO CMA, 1971

Zone of residence	Work Location--CBD
	Zone 2
1(TC)	2.18
2(CBD)	3.61
3(TC)	2.23
4(TC)	1.46
5(TC)	1.13
6(TC)	1.25
7(Y)	1.03
8(TC)	1.40
9(TC)	0.87
10(TC)	1.22
11(TC)	1.27
12(TC)	1.05
13(NY)	0.44
14(NY)	0.61
15(Y)	0.51
16(Y)	0.70
17(TC)	0.82
18(Y)	1.20
19(NY)	1.22
20(TC)	1.69
21(TC)	2.11
22(NY)	1.52
23(EY)	1.83
24(TC)	2.34
25(NY)	1.39
26(NY)	1.06
27(EY)	1.62
28(EY)	1.41
29(TC)	1.36
30(TC)	1.29
31(TC)	1.60
32(E)	0.30
33(E)	0.57
34(E)	0.61
35(E)	0.65
36(E)	1.07
37(E)	0.83
38(E)	0.90
39(E)	0.33
40(E)	0.33
41(NY)	0.16
42(NY)	0.30
43(NY)	0.74
44(NY)	0.89
45(NY)	0.97
46(NY)	0.99
47(S)	0.77
48(S)	0.68
49(S)	0.72
50(S)	0.86
51(S)	1.05
52(S)	0.76
53(S)	0.74
54(WS)	0.60
55(WS)	0.44
56(WS)	0.46
57(WS)	0.10
58(WS)	0.10
59(WS)	0.24
60(NS)	0.35
61(NS)	0.27
62(NS)	0.57
63(ES)	0.66

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 6

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN THE CBD, 1971
(Based upon Index 3 calculations)



the CBD was residentially distributed throughout the CMA, Map 6 shows it was most strongly represented in the city of Toronto and the borough of East York. It can also be seen that all planning zones in Etobicoke and the West Sector, except zone 36, showed a below-average tendency to commute to the CBD. Although the unadjusted rates of commuting to the CBD were still relatively high from the borough of Scarborough (13.5 per cent of the residential labour force), all planning zones except one (planning zone 51) were "underrepresented".

To conclude our discussion of the journey-to-work to the CBD, the following observations are noted:

- (i) Basically, the CBD was an important employment centre for workers residing throughout the Toronto CMA. This is evidenced by the fact that the CBD attracted at least 5 per cent (and considerably more in most areas) of the resident labour force of fifty-eight of the CMAs sixty-three planning zones.
- (ii) This attraction of the CBD as an employment centre was greatest for workers residing in the *inner three* municipalities. In particular, the CBD was most attractive for its own resident workers, 59.7 per cent of whom were employed within its boundaries. While the CBD was not as influential, as an employment centre, for the resident labour forces of the other zones in the *inner three* municipalities (Toronto, York, and East York), its employment pull was still very strong in these areas. This was particularly true for workers residing in East York and Toronto city (excluding the CBD) which sent 26.3 per cent and 25.3 per cent of their respective resident labour forces to the CBD.²⁴ The attraction of the CBD upon workers residing in

24 These figures and subsequent averages of the municipality/sector resident labour forces employed in the CBD are quoted from column 1 of Table 2A in Appendix I.

York was considerably weaker (13.5 per cent), however, it was still greater than the employment pull of the CBD upon the resident labour force of any of the outer boroughs or sectors. The large daily commuter flows to the CBD from within the *inner three* municipalities may be largely explained by geographical proximity and readily available transportation systems (especially rapid transit) which were primarily centrally oriented.

- (iii) Commutation to the CBD from the *outer three* boroughs (North York, Etobicoke, and Scarborough) was relatively less significant than that originating from the *inner three* municipalities. The proportions of the resident labour forces of North York, Etobicoke, and Scarborough employed in the CBD were 13.5 per cent, 10.7 per cent, and 13.5 per cent, respectively. Thus, the flows from these boroughs were relatively lighter than those from any of the *inner three* municipalities. This decreased commutation from the *outer three* boroughs would appear to reflect the more difficult access to the CBD from these boroughs and the existence of alternate local and intervening employment opportunities. Generally, within the outer three boroughs, the highest relative flows to the CBD originated in those planning zones which are adjacent to the inner three municipalities.
- (iv) Commuting to the CBD from the peripheral district was relatively less significant than from the outer three boroughs. The proportions of the resident labour forces of the North, West and East Sectors employed in the CBD were 7.1 per cent, 6.9 per cent, and 10.9 per cent, respectively. Alternate employment opportunities and decreased access largely resulting from increased distances clearly reduced the employment pull of the CBD upon residents of these sectors. It should be noted, however, that zone 54 (Mississauga) in the peripheral district was an important supplier of CBD labour. This was primarily due to the size of that zone's resident workforce rather than the attraction exerted upon it by the CBD.
- (v) In general, the employment pull of the CBD had a distinct eastward bias. At virtually all distances from the urban core, the flows to the CBD were relatively more significant from the east than the west. Higher percentages of the resident labour forces of the eastern municipalities/sectors (East York, Scarborough, and the East Sector) commuted to the CBD than did their western counterparts (York, Etobicoke, and the West Sector). This

would appear to have been the result of the existence of a greater concentration of employment-generating activity in the western half of the CMA than in the eastern half. Consequently, residents of western areas had superior alternate employment opportunities and, therefore, were not as reliant upon jobs in the CBD as eastern residents.

- (vi) Finally (given the arbitrariness of the CBD boundaries) the CBD drew its workers from all areas of the CMA, although the proportion of the labour force employed in the CBD varied by area. Thus, Carroll's conclusion that "...the population and the residences of central district employees are arranged about the core area in a constantly declining density", must be accepted, *subject to reservations*, for the Toronto CMA.

Section 5: Journey-to-Work: Secondary Employment Areas (SEAs)

In the preceding section, we investigated the pattern of the journey-to-work to the CBD and concluded that this district drew its workers from all areas of the CMA. In this section, we extend our analysis of the patterns of journey-to-work to the secondary employment areas in order to determine the residential distribution of the working labour force of non-CBD workplaces.

It has been noted on several occasions that workers employed in non-CBD workplaces (especially peripheral workplaces) have a tendency to cluster residentially in close proximity to the in-place of employment. Carroll (1952) noted this pattern and concluded that "residences of persons employed in off-centre (intermediate or peripheral) workplaces are concentrated more heavily in the immediate vicinity of the place of work" (p. 272). Taaffe, Garner and Yeates (1963) in their Chicago Study found out that "peripheral commuters are markedly more clustered around the employment centre, than are CBD commuters" (p. 20). In studying the general direction of commuting patterns to peripheral workplaces, they simulated the patterns of journey-to-work to a workplace in the western suburbs of Chicago and found out that the flow of workers from residential areas on the opposite side of the employment area from the city centre was greater than one might expect, even when transportation costs and alternative employment opportunities were accounted for. In his Vancouver study, Wolforth (1965) concluded that,

in general, the tendency for workers to cluster around the job site is greater in the case of workplaces furthest from the CBD. Supporting evidence has been provided by Evans (1973) who investigated the patterns of journey-to-work to two employment subcentres in London, U.K. He concluded that those working in the subcentres further from the CBD tended to live in the same sector of conurbation as their place of work. Although the same tendency appeared to exist for the employment centres closer to the CBD, Evans found less conclusive supporting evidence.

We now test the validity of these findings in the context of the *Secondary Employment Areas* (SEAs) in the Toronto CMA. As in the previous section, we shall calculate the commutation rates according to Indices 1 and 2 and the adjusted commutation rates according to Index 3. In section 3.1, we designated 25 planning zones as *Secondary Employment Areas* on the basis of the size of the working labour force and "job ratio". Given this large number of SEAs and the existence of similar patterns of commutation to those proximately located, a detailed analysis of the flows to all twenty-five would result in a lengthy and often repetitive discussion. In light of this, the following sub-sections consist of written descriptions of the commuting patterns to seven of the most important SEAs across the CMA. Included are two SEAs from Toronto City²⁵ and one each from Etobicoke,

25 Two SEAs in Toronto City are analysed because we have found that SEAs contiguous to the CBD were characterized by different journey-to-work patterns than SEAs that were not contiguous.

Scarborough, North York, the North Sector, and the West Sector. In each case, other than Toronto City, the employment centre selected for the written analysis had the largest working labour force of all the SEAs in the relevant municipality/sector. To ensure that those specifically interested in the commuting patterns to the remaining 18 SEAs will have available sufficient information for independent analysis we include, in the text, conclusions for each municipality/sector considering *all* of its constituent SEAs and, in Appendix II, all maps and tables for these 18 employment centres. By employing this strategy, then, we are able to discuss the commuting patterns to the SEAs in a clear and concise manner while, at the same time, transmitting all of the essential data for these employment centres.

5.1 Journey-to-Work to SEAs in the *Inner Three* Municipalities (Toronto City (excluding the CBD), York and East York)

Eight SEAs, represented by planning zones 4, 5, 6, 16, 17, 21, 23, and 24, have been identified in the *inner three* municipalities. Of these employment areas, zones 5 and 21 have been selected to be evaluated in detail in the text because they were important SEAs, in terms of working labour force size and location in the *inner three* municipalities. The commutation/adjusted commutation rates for each of the two zones, as computed by Indices 1, 2, and 3, are presented in Tables 8 and 9. The patterns of residential location of the workers in each of these two SEAs are depicted in Maps 7 and 8. Finally, the calculated commutation

and adjusted commutation rates and the visual depiction of residential patterns related to the remaining SEAs in the *inner three* municipalities are given in Appendix II (Tables 3A to 8A and Maps 1a to 6a).

Planning zone 5 was the largest secondary employment area in the Toronto CMA as it had a working labour force of 56,445 (5.4 per cent of the CMA total). With a resident labour force of 1,920, this zone had a job ratio of 29.4, which was the highest in the CMA. The percentage of the RLF both living and working in the SEA was 39.8. From the Index 1 calculations (Table 8), it can be seen that this zone was a relatively significant employment area for a large part of Metropolitan Toronto. Of the 53 planning zones within Metro Toronto, there were 26 zones with at least 5 per cent of their resident labour force employed in this SEA. The highest commutation rates come from the city of Toronto which had nine zones with more than 10 per cent of their resident labour force working in zone 5. The residential concentration of the working labour force of this SEA is shown by Index 2 calculations. Of the nineteen zones in the CMA which were the residential locations for at least 2 per cent of the working labour force of this SEA, fifteen are in the inner three municipalities. Map 7 shows the pattern of residential location of workers employed in the SEA (on the basis of calculations by Index 3, Table 9). This map also reveals a residential concentration of the working labour force of this SEA in the *inner three*

municipalities. Only two zones in Scarborough, two in North York and one in Etobicoke were residentially "overrepresented."

Planning zone 21, despite the fact that it had a job ratio of less than one (0.9), has been defined as a SEA due to its large working labour force of 23,145 (2.2 per cent of the CMA total). The percentage of its resident labour force which lived and also worked in this zone was 17.5. Only three zones in the CMA (20, 22, and 23), all of which are in the *inner three* municipalities, sent more than 5 per cent of their resident labour force to this SEA. The Index 2 calculations show the importance of North York as a major supplier of the working labour force of this SEA. Six of the twelve planning zones that were the residence for at least 2 per cent of the SEA's workforce are in this borough. It should also be noted that of these twelve zones, only one (zone 19) is to the west of zone 21. Though the central direction commuting pattern was most significant, reverse commuting accounted for 21 per cent of the workforce employed in the SEA.²⁶ The pattern of residential location of workers employed in zone 21 is represented in Map 8. As one can see, zones overrepresented in the SEAs working labour force lie predominantly in North York, East York, and Scarborough. Central and western Toronto city, York (except zone 7), and Etobicoke were consistently underrepresented.

26 Definitions of central and reverse commuting are given on page 29. For information on "central", "reverse", and "intersuburban" commuting to the various SEAs, see Table 2A(i) in Appendix I.

Table 8

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2) TO SECONDARY EMPLOYMENT AREAS REPRESENTED BY ZONES 5 AND 21 IN TORONTO CITY, TORONTO CMA, 1971

Zone of Residence	Work Locations--SEAs			
	Zone 5		Zone 21	
	Index 1	Index 2	Index 1	Index 2
1(TC)	6.70	1.14	1.71	0.71
2(CBD)	4.78	0.88	1.63	0.78
3(TC)	9.99	2.76	1.83	1.23
4(TC)	11.70	1.81	1.38	0.52
5(TC)	39.84*	1.36**	0.78	0.06
6(TC)	17.24	0.13	0.00	0.00
7(Y)	6.90	0.64	2.30	0.52
8(TC)	7.37	2.92	1.27	1.23
9(TC)	12.39	3.35	1.57	1.04
10(TC)	12.76	4.81	0.92	0.84
11(TC)	11.11	2.07	1.42	0.65
12(TC)	13.65	3.93	0.92	0.65
13(NY)	3.58	0.96	1.19	0.78
14(NY)	3.72	0.37	1.60	0.39
15(Y)	3.42	1.01	1.08	0.78
16(Y)	6.38	2.10	1.86	1.49
17(TC)	7.88	2.63	1.35	1.10
18(Y)	8.89	2.58	2.56	1.81
19(NY)	8.15	2.18	3.28	2.14
20(TC)	6.47	2.37	5.09	4.54
21(TC)	4.45	1.99	17.49*	19.12**
22(NY)	3.76	0.43	5.87	1.62
23(EY)	4.89	1.01	6.27	3.18
24(TC)	4.43	1.59	3.70	3.24
25(NY)	3.62	1.01	4.10	2.79
26(NY)	3.37	1.22	4.02	3.56
27(EY)	8.63	2.47	2.69	1.88
28(EY)	6.95	2.34	2.29	1.88
29(TC)	10.52	4.65	2.28	2.46
30(TC)	13.68	3.24	1.79	1.04
31(TC)	11.18	3.75	2.14	1.75
32(E)	4.22	0.56	0.60	0.19
33(E)	5.20	1.62	0.60	0.45
34(E)	3.30	0.98	1.34	0.97
35(E)	4.94	1.01	0.78	0.39
36(E)	4.17	1.14	1.36	0.91
37(E)	5.05	0.74	1.26	0.45
38(E)	5.70	1.41	0.75	0.45
39(E)	2.61	0.45	0.92	0.39
40(E)	2.49	0.48	0.55	0.26
41(NY)	3.16	0.56	1.35	0.58
42(NY)	3.01	1.89	1.14	1.75
43(NY)	7.73	1.94	2.12	1.30
44(NY)	4.76	1.78	3.12	2.85
45(NY)	3.72	1.22	3.96	3.18
46(NY)	3.94	1.33	3.15	2.59
47(S)	4.10	1.33	2.70	2.14
48(S)	4.46	1.44	2.39	1.88
49(S)	3.45	1.25	2.06	1.81
50(S)	6.27	2.37	2.11	1.94
51(S)	6.69	2.95	1.87	2.01
52(S)	4.08	0.69	1.42	0.58
53(S)	3.95	1.01	2.60	1.62
54(WS)	3.19	3.19	0.58	1.43
55(WS)	1.81	0.21	0.45	0.13
56(WS)	1.33	0.50	0.35	0.32
57(WS)	0.33	0.08	0.22	0.13
58(WS)	0.48	0.13	0.29	0.19
59(WS)	1.37	0.32	0.46	0.26
60(NS)	0.52	0.05	1.30	0.32
61(NS)	0.98	0.32	0.90	0.71
62(NS)	1.94	0.82	1.69	1.75
63(ES)	3.14	0.75	1.33	0.78

* Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work, Statistics Canada.

Table 9

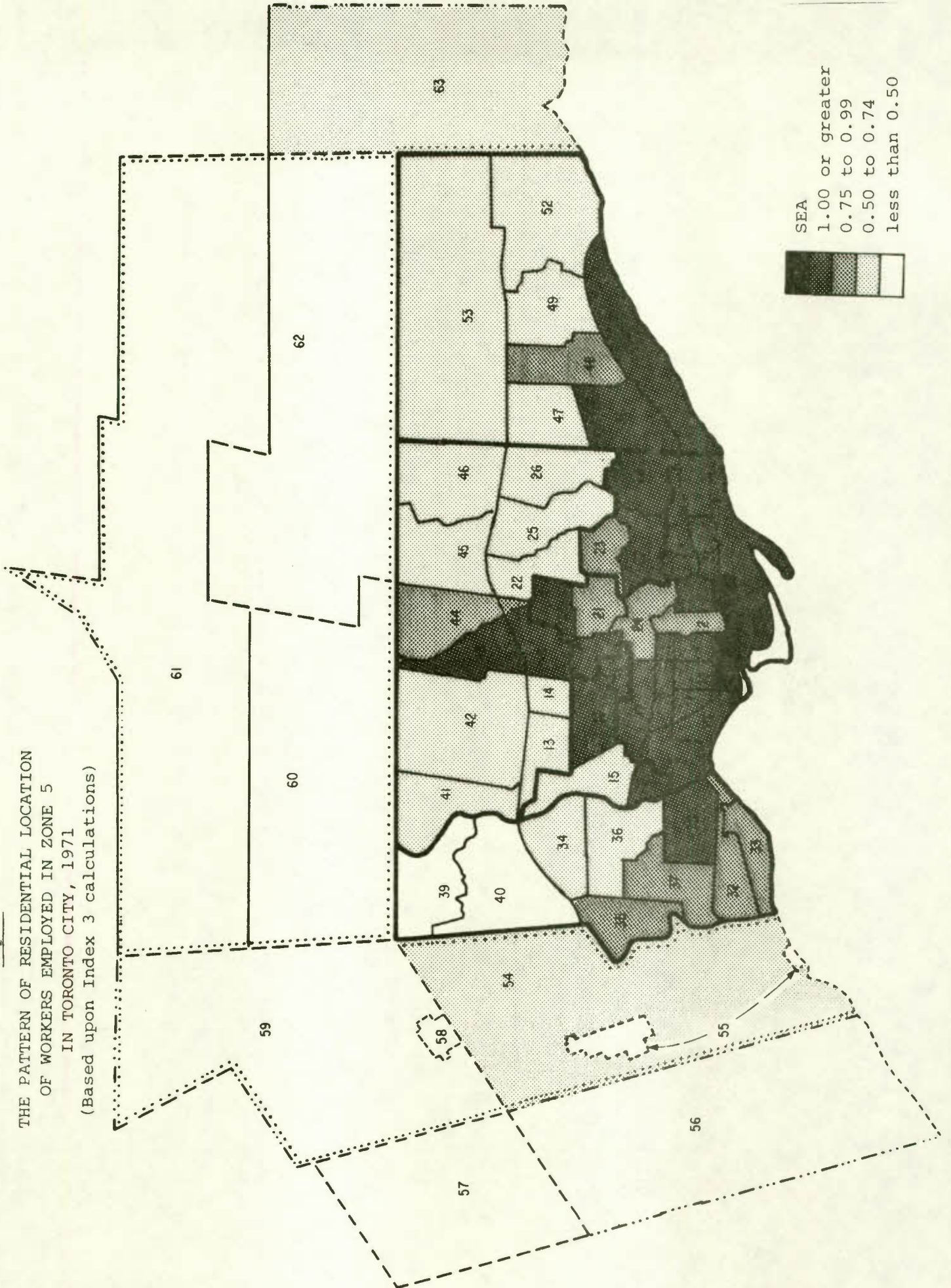
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO
INDEX 5) TO SECONDARY EMPLOYMENT AREAS REPRESENTED BY
ZONES 5 AND 21 IN TORONTO CITY, TORONTO CMA, 1971

Zone of Residence	Work Locations--SEAs	
	Zone 5	Zone 21
1(TC)	1.19	0.74
2(CBD)	0.80	0.71
3(TC)	1.78	0.79
4(TC)	2.08	0.60
5(TC)	7.08	0.34
6(TC)	3.06	0.00
7(Y)	1.23	1.00
8(TC)	1.31	0.55
9(TC)	2.20	0.68
10(TC)	2.27	0.40
11(TC)	1.97	0.62
12(TC)	2.43	0.40
13(NY)	0.64	0.52
14(NY)	0.66	0.69
15(Y)	0.61	0.47
16(Y)	1.13	0.81
17(TC)	1.40	0.59
18(Y)	1.58	1.11
19(NY)	1.45	1.42
20(TC)	1.15	2.20
21(TC)	0.79	7.58
22(NY)	0.67	2.54
23(EY)	0.86	2.72
24(TC)	0.79	1.60
25(NY)	0.64	1.78
26(NY)	0.60	1.74
27(EY)	1.53	1.17
28(EY)	1.23	0.99
29(TC)	1.87	0.99
30(TC)	2.43	0.78
31(TC)	1.99	0.93
32(E)	0.75	0.26
33(E)	0.92	0.26
34(E)	0.59	0.58
35(E)	0.88	0.34
36(E)	0.74	0.59
37(E)	0.90	0.55
38(E)	1.01	0.33
39(E)	0.46	0.40
40(E)	0.44	0.24
41(NY)	0.56	0.59
42(NY)	0.53	0.50
43(NY)	1.37	0.92
44(NY)	0.85	1.35
45(NY)	0.66	1.72
46(NY)	0.70	1.37
47(S)	0.73	1.17
48(S)	0.79	1.04
49(S)	0.61	0.89
50(S)	1.11	0.92
51(S)	1.19	0.81
52(S)	0.73	0.61
53(S)	0.70	1.13
54(WS)	0.57	0.25
55(WS)	0.32	0.20
56(WS)	0.24	0.15
57(WS)	0.06	0.10
58(WS)	0.08	0.12
59(WS)	0.24	0.20
60(NS)	0.09	0.56
61(NS)	0.17	0.39
62(NS)	0.34	0.73
63(ES)	0.56	0.58

Source: Based on 1971 Census place-of-work, Statistics
Canada.

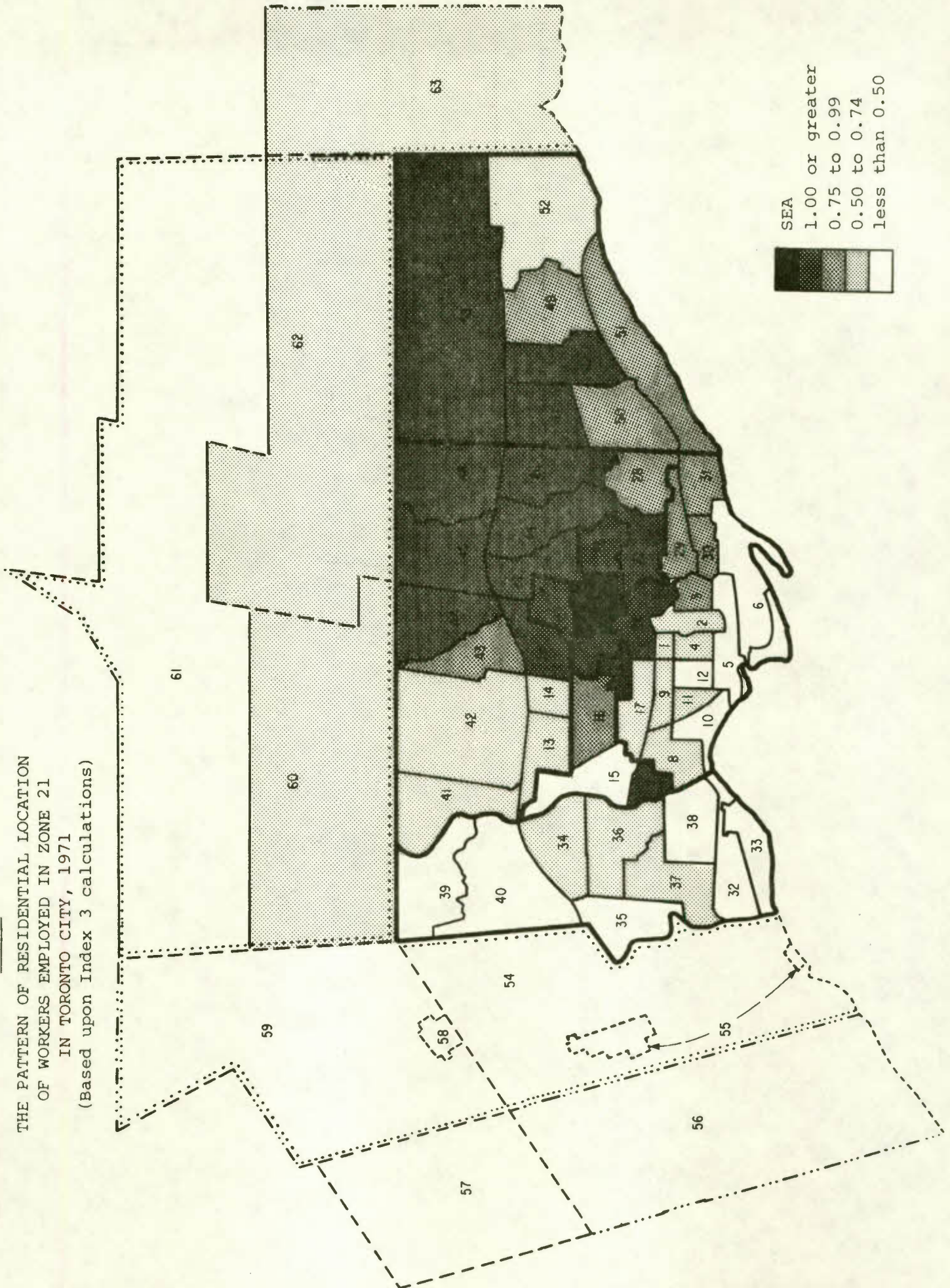
Map 7

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 5
IN TORONTO CITY, 1971
(Based upon Index 3 calculations)



Map 8

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 21
IN TORONTO CITY, 1971
(Based upon Index 3 calculations)



Having concluded our discussion of the commuting patterns to the two SEAs in the *inner three* municipalities, we suggest the interested reader may analyse the remaining SEAs in the inner three municipalities (not elaborated in the text) in a similar manner. The relevant tables and maps for the SEA have been included in the Appendix II.

5.1.1 Observations

In general, the following observations are noted with respect to the commuting patterns to all of the SEAs in the *inner three* municipalities of the Toronto CMA.

- (i) The percentage of the resident labour force (RLF) of Toronto City (excluding the CBD) working within that municipality was 47.1. This indicates that the home area was an extremely significant employment area for the Toronto City resident labour force. In direct contrast to this pattern, the boroughs of York and East York employed only 17.6 per cent and 16.6 per cent of their respective resident labour forces.²⁷ This, together with the fact that neither of these two boroughs attracted more than 5.5 per cent of the resident work force of any other municipality/sector, suggests that these two boroughs were essentially residential.
- (ii) In the secondary employment areas represented by planning zones 4, 5, 6, 17, and 23, the working labour force (WLF) was much greater than the resident labour force (RLF). One would expect, then, that a very high proportion of the resident workers in each of these zones would be employed in the home zone. With the exception of zone 5 which employed 40 per cent of its resident workers, however, this expectation was not verified. With respect to the other four SEAs, the percentages of the resident labour forces which were employed in the home zone were quite low (zone 4 -- 26.3 per cent; zone 6 -- 13.8 per cent; zone 17 -- 8 per cent; and zone 23 -- 14.5 per cent).

27 These and other figures showing commuting patterns between municipalities/sectors are quoted from Table 2A in Appendix I.

- (iii) The proportion of the resident labour force working in the home SEA (i.e., in-zone employment) was found to be very strongly associated with the size of the working labour force of the SEA, and less strongly associated with the relative value of its job ratio.²⁸
- (iv) Their designation as *secondary employment areas* notwithstanding, zones 16, 21, and 24 have larger resident labour forces (RLF) than working labour forces (WLF). Although in none of these cases did the resident labour force exceed the working labour force by more than 10 per cent, one would still expect resident workers to constitute a high proportion of those employed in the home zone. This expectation is not supported by the Index 2 calculations which show that employed residents accounted for only 16.8 per cent, 19.1 per cent, and 19.8 per cent of the working labour forces of zones 16, 21, and 24, respectively.
- (v) Within the *inner three* municipalities, 31.1 per cent and 30.8 per cent of the respective resident labour forces of York and East York commuted to Toronto City. The corresponding figures fell off from the *outer three* boroughs (19.5 per cent, 18.9 per cent, and 17.4 per cent for North York, Scarborough, and Etobicoke, respectively) and even more sharply from the *peripheral district* (11.6 per cent, 8.1 per cent, and 7.3 per cent for the East, North, and West Sectors, respectively). Thus, geographical proximity was positively related to the proportion of the resident labour force of a borough/sector commuting to the SEAs in Toronto City.
- (vi) Commuting to all secondary employment areas in the *inner three* municipalities was primarily centrally directed. In Toronto City the lightest central flow was to zone 21, accounting for 59.8 per cent of that zone's working labour force; this suggests the dominance of central direction commuting to these SEAs. This predominant flow reflects the surplus of jobs in the *inner three* municipalities

28 A regression analysis yielded a very high correlation ($r = .98$) between the rate of in-zone employment and the size of the working labour force for SEAs in the inner three municipalities. A correlation (r) of .70 was found between in-zone employment and job ratio. These two correlation coefficients are significant at the 1 per cent and 5 per cent level, respectively.

and the availability of labour residing in the *outer three* and peripheral locations. Clearly, the reverse commuting flows to these SEAs were in less evidence than central flows. The reverse commuting flows to zones 16, 17, 21, 23, and 24 accounted for 19.5, 17.4, 21.1, 26.3, and 14.3 per cent respectively of the workers employed in these SEAs.²⁹

- (vii) The CBD exerted a dominating influence over the employment pattern in the *inner three* municipalities. The large proportions of the resident labour forces of the SEAs in this district which were employed in the CBD were evidence of this dominance. In fact, for four (zones 6, 21, 23, and 24) of the eight designated SEAs in these boroughs, the CBD employed more of the resident labour force than did the home zone.
- (viii) The importance of the CBD as a focal point of commuting is accentuated by the fact that its neighbouring zones were also major destinations for commutation. The five zones contiguous to CBD (zones 1, 3, 4, 5 and 24), themselves, provided jobs for 125,175 workers, or 12.1 per cent of the working labour force of the CMA.³⁰
- (ix) Three of the five zones contiguous to the CBD have been designated as secondary employment areas (zones 4, 5, and 24). Commutation patterns to these three zones were quite similar to those characterizing the CBD itself; that is, those working in these SEAs tended to be drawn from all possible directions. This can be shown by examining maps 1a, 4a, and 7 which illustrate that planning zones on all sides of zones 4, 5, and 24 were overrepresented as residences for workers employed in these SEAs. Given our somewhat narrowly defined CBD (zone 2), this similarity suggests that these zones may be considered as

29 For commuting flows by direction of commuting for each of the SEA, see Table 2A(i) in Appendix I.

30 In fact, the CBD and the *inner three* municipalities which together provide employment for approximately one-half of the working population of the CMA, might be termed an 'inner city'. For the definition and the complete description of Canadian Inner Cities see, McLemore, Aass, and Keilhofer, *The Changing Canadian Inner City*, Ministry of State, Urban Affairs Canada, urban paper A.75.3, June 1975.

extensions of the CBD or, in other words, part of an "extended CBD" (ECBD). There is no doubt, however, that zone 2 would constitute the core of such an extended CBD as it contained 50 per cent more jobs than these SEAs combined.

- (x) The five secondary employment (zones 6, 16, 17, 21, and 23) in the *inner three* which are not contiguous to the CBD, exhibited labour catchment patterns which were distinct from those of the three zones noted above. While the SEAs contiguous to the CBD attracted workers from all directions, each of the other five had an "employment pull" which was biased outward from the zone in question, away from the CBD. Commutation across the CBD to these zones, then, was very insignificant. Specifically, the residential location of workers employed in zone 21, north of the CBD, was concentrated to the north (eastern North York) and the east (East York and Scarborough). Similarly, the SEAs to the east of the CBD (zones 6 and 23) employed workers who tended to reside in the eastern half of the CMA (eastern Toronto City, East York, Scarborough, and Pickering). Finally, the SEAs to the west of the CBD (zones 16 and 17) attracted a disproportionate number of workers from the north (particularly North York) and the west (western Toronto City, York, and Etobicoke).

5.2 Journey-to-Work to SEAs in the Outer Three Boroughs (Etobicoke, Scarborough and North York)

Ten secondary employment areas have been identified in the *outer three* boroughs. From these, we have chosen three for which we will investigate the pattern of journey-to-work in detail. These are zones 40, 47, and 42 which were the largest SEAs in Etobicoke, Scarborough, and North York, respectively. The calculated commutation/adjusted commutation rates for the remaining seven SEAs (32, 37, and 38 in Etobicoke, 50 in Scarborough, and 14, 25, and 41 in North York) are given in Tables 9A to 14A in Appendix II. The patterns of residential location of workers employed in these seven SEAs are shown in Maps 7a to 13a in this appendix.

5.2.1 Borough of Etobicoke

The borough of Etobicoke has four secondary employment areas which are defined by planning zones 32, 37, 38, and 40. The SEA chosen for detailed investigation of the pattern of journey-to-work was zone 40. The commutation rates for this SEA, calculated according to Indices 1 and 2, are presented in Table 10. The adjusted commutation rates (based on Index 3) are shown in Table 11. The pattern of residential location of workers employed in the SEA is illustrated in Map 9.

Planning zone 40 was the dominant secondary employment area in Etobicoke as it employed 31,125 workers (3.0 per cent of the CMA total). With a resident labour force of 10,830, the job ratio for zone 40 was 2.9. Almost one-third (32.8 per cent) of these resident workers were employed within the zone. The commutation rates, as calculated by Index 1, indicate that this zone was an important employment area for virtually all of Etobicoke, particularly the contiguous zones 34 and 39. In addition, the SEA employed more than 5 per cent of the resident labour forces of zone 59 (West Sector) and zone 15 (North York). The relatively widespread influence of zone 40 as an employment centre is evidenced by the Index 2 calculations. Of the seven zones which were the residence for more than 3 per cent of this SEA's workforce, three are in Etobicoke, two in the West Sector, and one in each of North York and York. As

would be expected then, intersuburban, central, and reverse commuting to this SEA were all significant as they accounted for 23.3 per cent, 27.5 per cent, and 37.8 per cent of the zone 40 workforce.³¹ Map 9 illustrates the extended pattern of residential location characterizing workers employed in this zone. A comparison of this map with Maps 7a, 8a, and 9a in the Appendix shows that this SEA had a considerably wider labour catchment area than any other SEA in the borough of Etobicoke.

In general, the analysis of journey-to-work patterns to the SEAs in this borough suggests that Etobicoke residents were a major source of the borough's working labour force. Almost half (46.3 per cent) of those living in the borough were also employed there. Those who commute to Etobicoke from outside the borough come almost exclusively from other areas of the western CMA. These flows into Etobicoke SEAs were primarily centrally directed (from the West Sector, particularly zone 54) and reverse-directed (from the borough of York and western Toronto City). With the exception of some commutation from nearby zones in North York, however, intersuburban commuting to Etobicoke was less evident.

31 See Table 2A(i) in Appendix I.

Table 10

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
TO THE SECONDARY EMPLOYMENT AREA REPRESENTED BY ZONE 40
IN THE BOROUGH OF ETOBICOKE, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA Zone 40	
	Index 1	Index 2
1 (TC)	0.62	0.19
2 (CBD)	0.68	0.24
3 (TC)	0.48	0.24
4 (TC)	1.03	0.29
5 (TC)	0.00	0.00
6 (TC)	0.00	0.00
7 (Y)	3.16	0.53
8 (TC)	2.68	1.93
9 (TC)	3.05	1.49
10 (TC)	1.83	1.25
11 (TC)	1.99	0.67
12 (TC)	1.38	0.72
13 (NY)	4.98	2.41
14 (NY)	1.86	0.34
15 (Y)	6.29	3.37
16 (Y)	3.31	1.98
17 (TC)	2.47	1.49
18 (Y)	1.56	0.82
19 (NY)	1.49	0.72
20 (TC)	1.02	0.67
21 (TC)	0.77	0.63
22 (NY)	2.35	0.48
23 (EY)	0.26	0.10
24 (TC)	0.59	0.39
25 (NY)	0.67	0.34
26 (NY)	1.17	0.77
27 (EY)	0.65	0.34
28 (EY)	0.39	0.24
29 (TC)	0.84	0.67
30 (TC)	1.46	0.63
31 (TC)	0.79	0.48
32 (E)	2.81	0.67
33 (E)	2.30	1.30
34 (E)	15.27	8.24
35 (E)	7.17	2.65
36 (E)	6.12	3.04
37 (E)	5.24	1.40
38 (E)	2.47	1.11
39 (E)	20.28	6.36
40 (E)	32.83*	11.42**
41 (NY)	7.67	2.46
42 (NY)	4.45	5.06
43 (NY)	1.69	0.77
44 (NY)	1.85	1.25
45 (NY)	1.70	1.01
46 (NY)	1.50	0.92
47 (S)	0.98	0.58
48 (S)	0.91	0.53
49 (S)	0.95	0.63
50 (S)	0.99	0.67
51 (S)	0.66	0.53
52 (S)	0.47	0.14
53 (S)	1.14	0.53
54 (WS)	4.97	9.01
55 (WS)	2.27	0.48
56 (WS)	1.54	1.06
57 (WS)	2.54	1.11
58 (WS)	3.33	1.69
59 (WS)	7.96	3.37
60 (NS)	4.69	0.87
61 (NS)	1.97	1.16
62 (NS)	1.13	0.87
63 (ES)	0.55	0.24

* Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 11

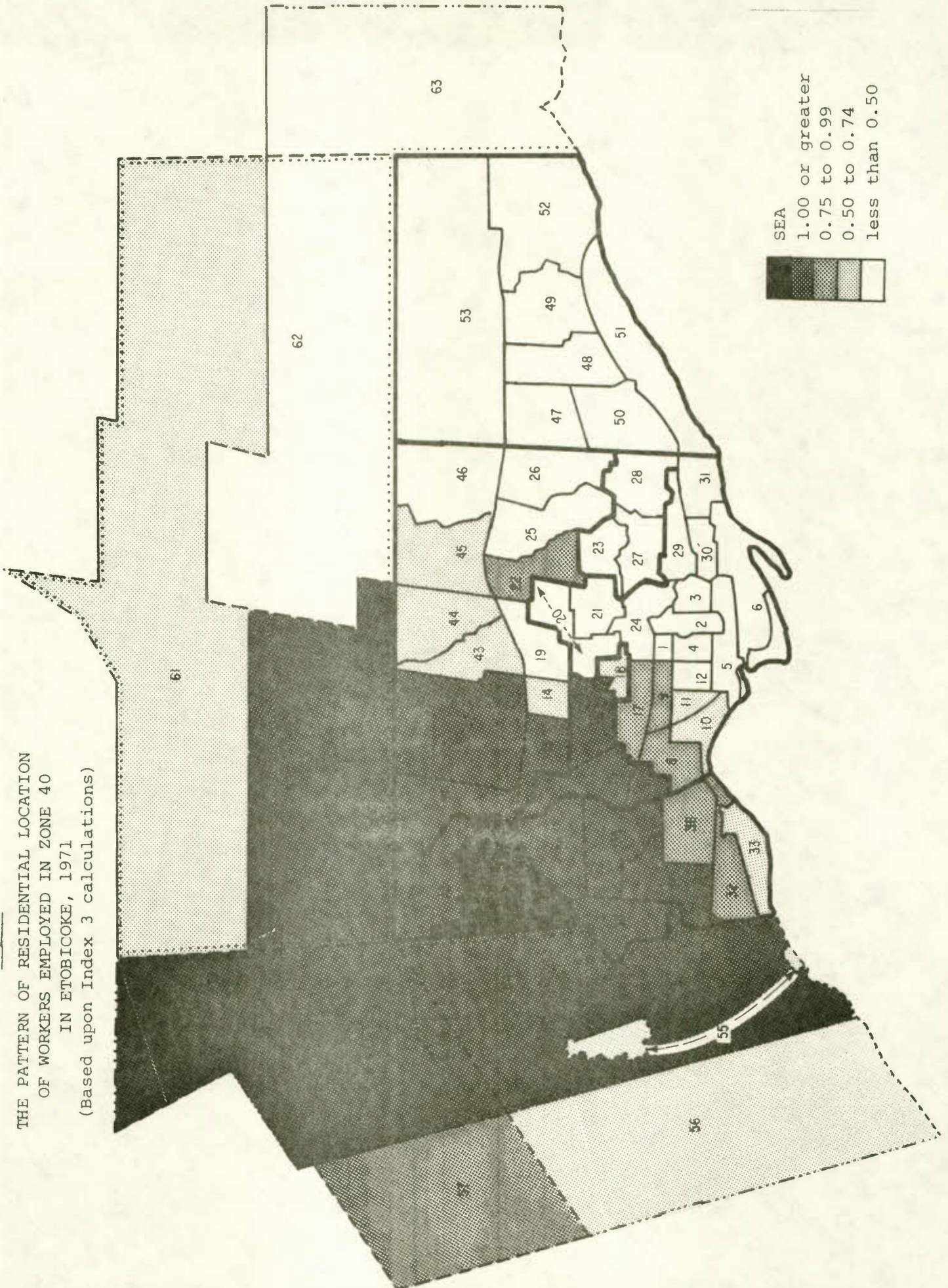
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO
INDEX 3) TO THE SECONDARY EMPLOYMENT AREA REPRESENTED
BY ZONE 40 IN THE BOROUGH OF ETOBICOKE, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA Zone 40
1(TC)	0.20
2(CBD)	0.22
3(TC)	0.15
4(TC)	0.33
5(TC)	0.00
6(TC)	0.00
7(Y)	1.02
8(TC)	0.86
9(TC)	0.98
10(TC)	0.59
11(TC)	0.64
12(TC)	0.45
13(NY)	1.60
14(NY)	0.60
15(Y)	2.03
16(Y)	1.07
17(TC)	0.79
18(Y)	0.50
19(NY)	0.48
20(TC)	0.33
21(TC)	0.25
22(NY)	0.76
23(EY)	0.08
24(TC)	0.19
25(NY)	0.22
26(NY)	0.38
27(EY)	0.21
28(EY)	0.13
29(TC)	0.27
30(TC)	0.47
31(TC)	0.26
32(E)	0.91
33(E)	0.74
34(E)	4.92
35(E)	2.31
36(E)	1.97
37(E)	1.69
38(E)	0.80
39(E)	6.54
40(E)	10.58
41(NY)	2.47
42(NY)	1.43
43(NY)	0.55
44(NY)	0.59
45(NY)	0.55
46(NY)	0.48
47(S)	0.32
48(S)	0.29
49(S)	0.31
50(S)	0.32
51(S)	0.21
52(S)	0.15
53(S)	0.37
54(WS)	1.60
55(WS)	0.73
56(WS)	0.50
57(WS)	0.82
58(WS)	1.07
59(WS)	2.57
60(NS)	1.51
61(NS)	0.63
62(NS)	0.36
63(ES)	0.18

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 9

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 40
IN ETOBICOKE, 1971
(Based upon Index 3 calculations)



5.2.2 Borough of Scarborough

Of the two designated SEAs (zones 47 and 50) in the borough of Scarborough, zone 47 was chosen for an analysis of journey-to-work patterns. The commutation rates for this zone, as calculated by Indices 1 and 2, are presented in Table 12. The residential location of workers, according to Index 3 calculations shown in Table 13, is visually represented in Map 10.

Zone 47, employing 25,525 workers (2.5 per cent of the CMA total), was the larger of the two Scarborough SEAs. With a resident working force of 18,825, this zone had a job ratio of 1.4. Of these resident workers, 18.4 per cent were employed within the zone. The commutation rates to this SEA indicate that it was a very important employment centre for the rest of the borough, attracting from 6.3 per cent to 11.0 per cent of the resident labour forces of the other Scarborough zones. The Index 2 calculations show that all zones in Scarborough supplied at least 3 per cent of this SEA's workforce and that over half (53.9 per cent) of those working in zone 47 resided in the borough. Reverse commuting, most notably from zones 50 and 51 (Scarborough) and zone 26 (North York), accounted for 36.3 per cent of the working labour force of this SEA. Central and intersuburban commuting patterns were also significant as they represented 29.8 per cent and 21.7 per cent, respectively, of those working in zone 47.³² The residential location pattern of

32 See Table 2A(i) in Appendix I.

Table 12

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
TO THE SECONDARY EMPLOYMENT AREA REPRESENTED BY ZONE 47
IN THE BOROUGH OF SCARBOROUGH, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA Zone 47	
	Index 1	Index 2
1(TC)	0.62	0.24
2(CBD)	0.14	0.06
3(TC)	0.86	0.53
4(TC)	1.03	0.53
5(TC)	0.78	0.06
6(TC)	3.45	0.06
7(Y)	0.29	0.06
8(TC)	0.47	0.41
9(TC)	1.08	0.65
10(TC)	0.78	0.65
11(TC)	1.14	0.47
12(TC)	0.74	0.47
13(NY)	0.90	0.53
14(NY)	0.90	0.35
15(Y)	0.63	0.41
16(Y)	0.65	0.47
17(TC)	0.95	0.71
18(Y)	1.10	0.71
19(NY)	1.29	0.77
20(TC)	0.65	0.53
21(TC)	0.65	0.65
22(NY)	1.41	0.35
23(EY)	0.90	0.41
24(TC)	0.59	0.47
25(NY)	3.24	2.01
26(NY)	6.80	5.49
27(EY)	1.95	1.24
28(EY)	4.26	3.19
29(TC)	3.13	3.07
30(TC)	2.24	1.18
31(TC)	2.38	1.77
32(E)	0.40	0.12
33(E)	0.26	0.18
34(E)	0.54	0.35
35(E)	0.65	0.29
36(E)	0.29	0.18
37(E)	0.54	0.18
38(E)	0.54	0.24
39(E)	1.08	0.41
40(E)	0.83	0.35
41(NY)	0.15	0.06
42(NY)	0.68	0.94
43(NY)	0.64	0.35
44(NY)	1.21	1.00
45(NY)	1.46	1.06
46(NY)	2.91	2.18
47(S)	18.38*	13.22**
48(S)	10.48	7.49
49(S)	11.01	8.85
50(S)	10.85	9.09
51(S)	6.27	6.14
52(S)	9.12	3.42
53(S)	9.99	5.66
54(WS)	0.24	0.53
55(WS)	0.45	0.12
56(WS)	0.21	0.18
57(WS)	0.00	0.00
58(WS)	0.19	0.12
59(WS)	0.34	0.18
60(NS)	0.52	0.12
61(NS)	1.39	1.00
62(NS)	2.13	2.01
63(ES)	5.54	2.95

* Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 13

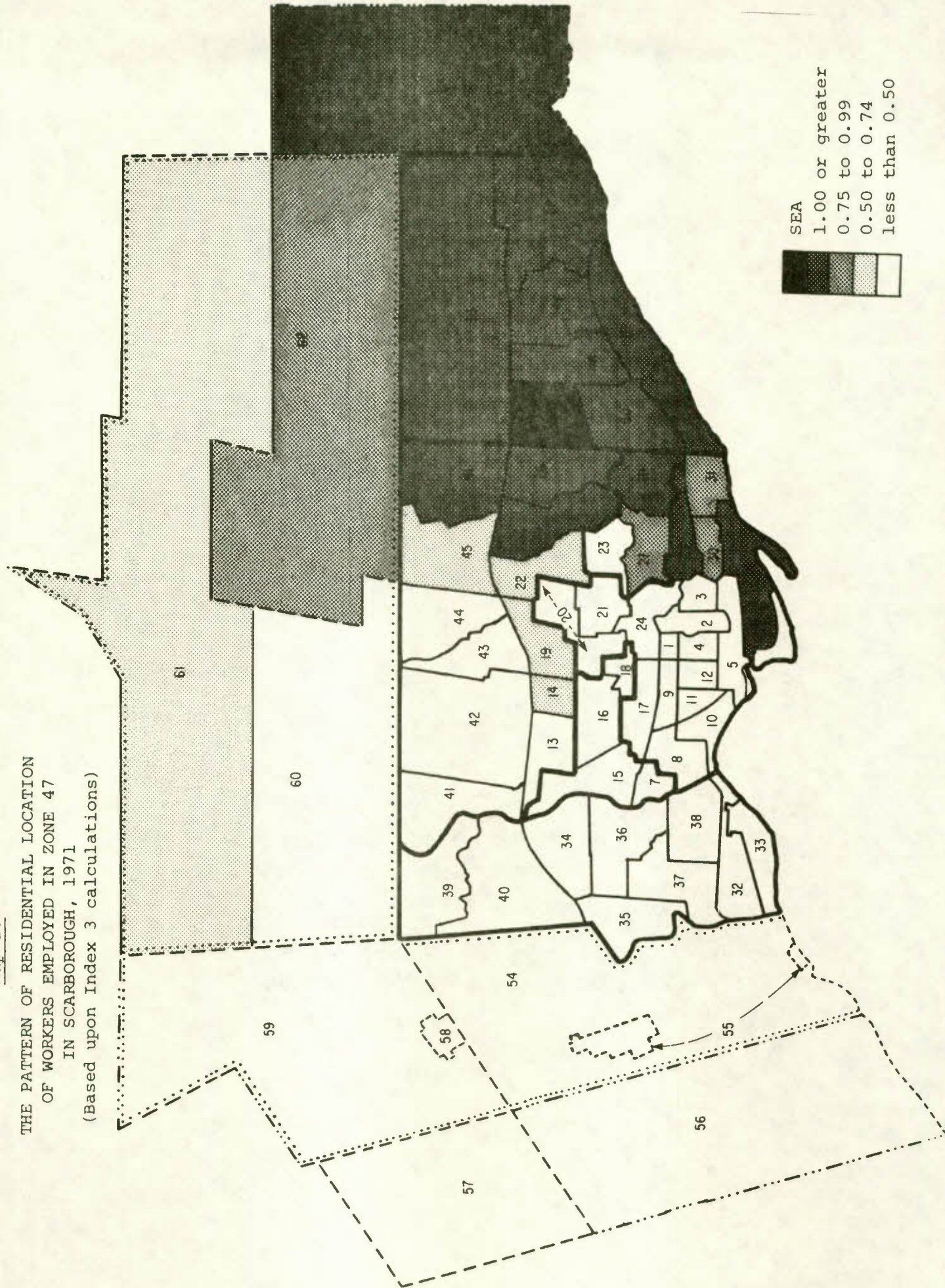
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO INDEX 3) TO THE SECONDARY EMPLOYMENT AREA REPRESENTED BY ZONE 47 IN THE BOROUGH OF SCARBOROUGH, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA Zone 47
1(TC)	0.25
2(CBD)	0.05
3(TC)	0.34
4(TC)	0.41
5(TC)	0.31
6(TC)	1.36
7(Y)	0.11
8(TC)	0.19
9(TC)	0.43
10(TC)	0.31
11(TC)	0.45
12(TC)	0.29
13(NY)	0.35
14(NY)	0.63
15(Y)	0.25
16(Y)	0.25
17(TC)	0.38
18(Y)	0.43
19(NY)	0.51
20(TC)	0.26
21(TC)	0.26
22(NY)	0.56
23(EY)	0.35
24(TC)	0.23
25(NY)	1.28
26(NY)	2.68
27(EY)	0.77
28(EY)	1.68
29(TC)	1.23
30(TC)	0.88
31(TC)	0.94
32(E)	0.16
33(E)	0.10
34(E)	0.21
35(E)	0.26
36(E)	0.11
37(E)	0.21
38(E)	0.17
39(E)	0.42
40(E)	0.33
41(NY)	0.06
42(NY)	0.27
43(NY)	0.25
44(NY)	0.48
45(NY)	0.57
46(NY)	1.15
47(S)	7.25
48(S)	4.13
49(S)	4.35
50(S)	4.28
51(S)	2.47
52(S)	3.60
53(S)	3.94
54(WS)	0.09
55(WS)	0.18
56(WS)	0.08
57(WS)	0.00
58(WS)	0.08
59(WS)	0.13
60(NS)	0.21
61(NS)	0.55
62(NS)	0.84
63(ES)	2.19

Source: Based on 1971 Census place-of-work, Statistics Canada.

Map 10

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 47
IN SCARBOROUGH, 1971
(Based upon Index 3 calculations)



workers employed in this SEA, as shown in Map 10, extended predominantly eastward as all zones in Scarborough and zone 63 in the East Sector were overrepresented in the working labour force of this SEA.

The analysis of journey-to-work patterns to SEAs in Scarborough suggests that both SEAs in this borough drew the majority of their workers from the home borough itself. Specifically, the proportion of the working labour force of zones 47 and 50 residing in Scarborough was 53.9 per cent and 56.7 per cent, respectively. In addition to Scarborough residents, the "employment pull" of these SEAs was restricted to other areas in the eastern half of the CMA, particularly the East Sector and the borough of East York.

5.2.3 Borough of North York

The secondary employment areas in North York are represented by zone 14, 25, 41, and 42. It is interesting to note that all but one (zone 25) are located in the western part of the borough. Out of these SEAs, we have chosen zone 42 to investigate the journey-to-work patterns. The commutation rates for this SEA, as calculated by Indices 1 and 2, are shown in Table 14. The residential location of workers employed in this SEA, based on the Index 3 calculations presented in Table 15, is shown in Map 11.

Planning zone 42 was the largest SEA in North York with a working labour force of 36,450 (3.5 per cent of the CMA total). With 35,385 resident workers, this zone had a

job ratio of 1.0. Over one-quarter (27.4 per cent) of these resident workers remained in the zone to work. The Index 1 calculations show that zone 42 was a significant employment centre for a number of planning zones in all directions. For example, to the north, zone 60 (North Sector) sent 9.1 per cent of its resident workers to this SEA. More than 5 per cent of the resident labour forces of zones 39 and 40, located to the west in Etobicoke, were employed in zone 42. In addition, residents of some centrally located zones were significantly attracted to this SEA, most prominently zone 15 in the borough of York (6.2 per cent of its RLF) and, surprisingly, zone 6 in Toronto city (6.9 per cent). Moreover, five zones in North York sent at least 5 per cent of their residential labour forces to this SEA, led by zone 41 which sent 15.3 per cent. The importance of commutation from other North York zones is evidenced by the Index 2 calculations. All four zones in the CMA (zones 13, 41, 43, and 44) which supplied more than 3 per cent of this SEA's workforce were in the borough. Since all the North York zones, except zone 41, are more centrally located than this SEA, it is not surprising then, to observe that reverse commutation was the most significant flow pattern to this SEA, bringing 42.3 per cent of the zone 42 WLF. Intersuburban and central commuting brought in 16.1 per cent and 14.9 per cent of those working in zone 42, respectively. The residential location of workers employed in this SEA, as shown in Map 11, was quite expansive, with an emphasis to the north.

Table 14

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
TO THE SECONDARY EMPLOYMENT AREA REPRESENTED BY ZONE 42
IN THE BOROUGH OF NORTH YORK, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA Zone 42	
	Index 1	Index 2
1(TC)	2.02	0.53
2(CBD)	0.27	0.08
3(TC)	0.86	0.37
4(TC)	1.38	0.33
5(TC)	0.78	0.04
6(TC)	6.90	0.08
7(Y)	1.72	0.25
8(TC)	1.27	0.78
9(TC)	2.85	1.19
10(TC)	1.27	0.74
11(TC)	2.14	0.62
12(TC)	1.94	0.86
13(NY)	10.05	4.16
14(NY)	7.18	1.11
15(Y)	6.21	2.84
16(Y)	4.77	2.43
17(TC)	3.58	1.85
18(Y)	3.76	1.69
19(NY)	3.58	1.48
20(TC)	2.11	1.19
21(TC)	1.66	1.15
22(NY)	2.82	0.49
23(EY)	1.15	0.37
24(TC)	1.10	0.62
25(NY)	1.43	0.62
26(NY)	2.19	1.23
27(EY)	0.56	0.25
28(EY)	1.59	0.82
29(TC)	1.26	0.86
30(TC)	1.12	0.41
31(TC)	0.48	0.25
32(E)	1.00	0.21
33(E)	0.94	0.45
34(E)	3.57	1.65
35(F)	1.56	0.49
36(E)	3.11	1.32
37(E)	0.90	0.21
38(E)	1.72	0.66
39(E)	5.38	1.44
40(E)	6.09	1.81
41(NY)	15.34	4.20
42(NY)	27.43*	26.63**
43(NY)	9.64	3.74
44(NY)	7.59	4.40
45(NY)	4.85	2.47
46(NY)	3.86	2.02
47(S)	1.56	0.78
48(S)	1.16	0.58
49(S)	1.25	0.70
50(S)	1.34	0.78
51(S)	0.78	0.53
52(S)	1.10	0.29
53(S)	1.98	0.78
54(WS)	1.59	2.47
55(WS)	0.45	0.08
56(WS)	0.56	0.33
57(WS)	1.10	0.41
58(WS)	1.24	0.53
59(WS)	3.07	1.11
60(NS)	9.11	1.44
61(NS)	4.35	2.18
62(NS)	4.00	2.63
63(ES)	1.55	0.58

* Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 15

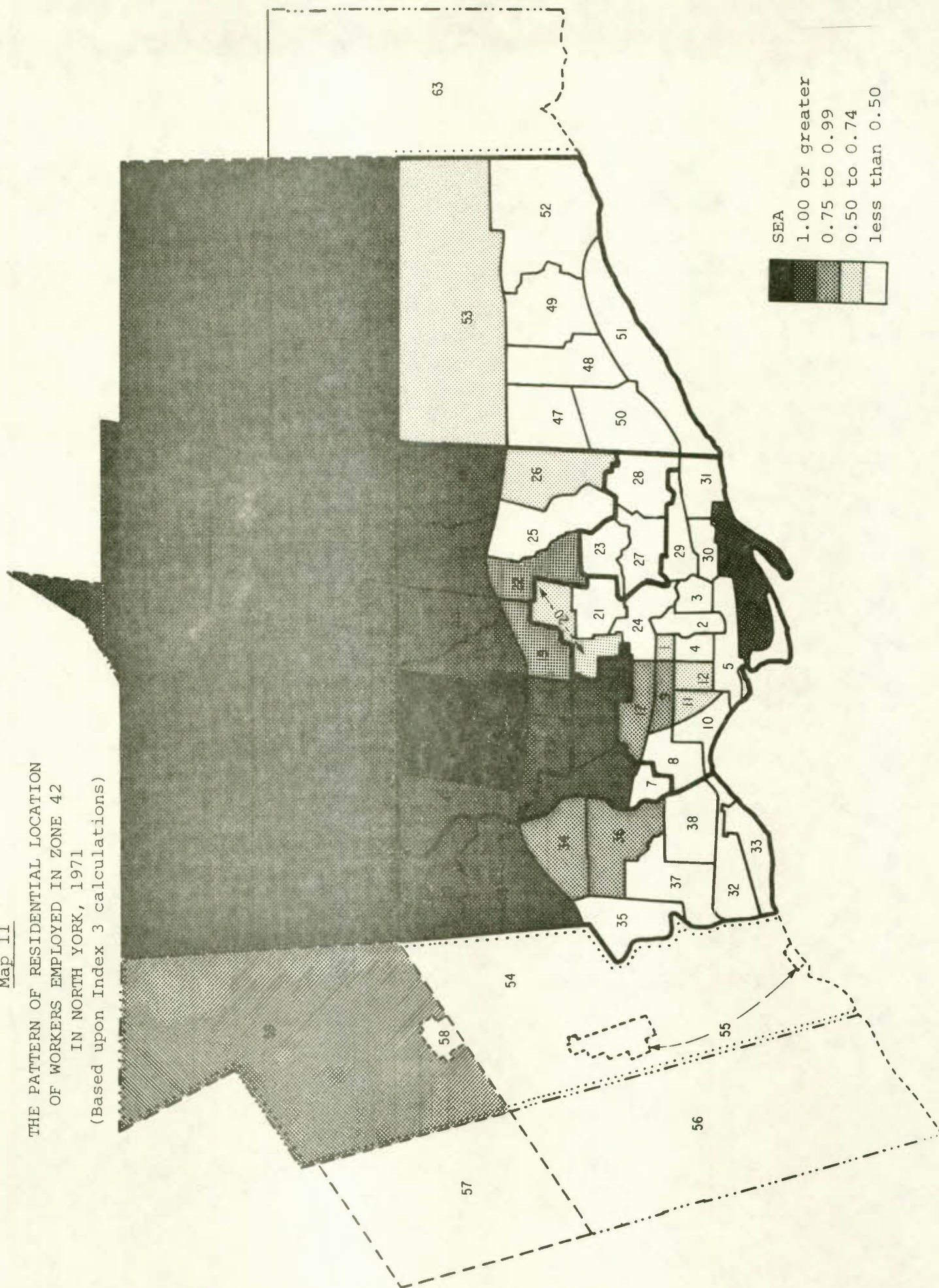
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO
INDEX 3) TO THE SECONDARY EMPLOYMENT AREA REPRESENTED BY
ZONE 42 IN THE BOROUGH OF NORTH YORK, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA Zone 42
1(TC)	0.56
2(CBD)	0.07
3(TC)	0.24
4(TC)	0.38
5(TC)	0.22
6(TC)	1.90
7(Y)	0.47
8(TC)	0.35
9(TC)	0.78
10(TC)	0.35
11(TC)	0.59
12(TC)	0.53
13(NY)	2.77
14(NY)	1.98
15(Y)	1.71
16(Y)	1.31
17(TC)	0.99
18(Y)	1.03
19(NY)	0.98
20(TC)	0.58
21(TC)	0.46
22(NY)	0.78
23(EY)	0.32
24(TC)	0.31
25(NY)	0.39
26(NY)	0.60
27(EY)	0.15
28(EY)	0.43
29(TC)	0.35
30(TC)	0.31
31(TC)	0.13
32(E)	0.28
33(E)	0.26
34(E)	0.98
35(E)	0.43
36(E)	0.86
37(E)	0.25
38(E)	0.47
39(E)	1.48
40(E)	1.68
41(NY)	4.22
42(NY)	7.55
43(NY)	2.65
44(NY)	2.09
45(NY)	1.33
46(NY)	1.06
47(S)	0.43
48(S)	0.32
49(S)	0.34
50(S)	0.37
51(S)	0.22
52(S)	0.30
53(S)	0.54
54(WS)	0.44
55(WS)	0.12
56(WS)	0.15
57(WS)	0.30
58(WS)	0.34
59(WS)	0.85
60(NS)	2.51
61(NS)	1.20
62(NS)	1.10
63(ES)	0.43

Source: Based on 1971 Census place-of-work, Statistics
Canada.

Map 11

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 42
IN NORTH YORK, 1971
(Based upon Index 3 calculations)



In general, the SEAs in the outer three boroughs were themselves relatively small suppliers of their own workforces, as only one SEA (zone 42 in North York) provided over 20 per cent of its own working labour force. Second, the pattern of residential location of those working in these SEAs was generally evenly distributed around the employment centre. The sole exception is zone 25 which had an eastern bias to the residential distribution of its workers. Finally, reverse commuting was the most important flow direction for three of the four SEAs in North York; however, central and intersuburban flows were also significant.³³

5.2.4 Observations

On the basis of the analysis then, the following generalizations can be made concerning the journey-to-work to secondary employment areas in the *outer three* boroughs of the Toronto CMA.

- (i) The strong correlation existing in the *inner three* municipalities ($r = .98$) between in-zone employment³⁴ and the size of the zone's working labour force was found to be insignificant for SEAs in the *outer three* boroughs. Similarly, the correlation between in-zone employment and the job ratio ($r = .70$, in the *inner three* municipalities) was found to be insignificant in the case of the outer boroughs SEAs. It would seem plausible to suggest that the larger spatial size of the zones and the lack of alternative employment opportunities in the outer three boroughs might be factors which

33 See Table 2A(i) in Appendix I.

34 Those working and residing in the same zone.

weakened these associations. In addition, however, it should be mentioned that socioeconomic characteristics and the diverse nature of the employment base may also have dictated, in part, the level of in-zone employment.

- (ii) While centrally directed commutation was predominant in the SEAs in the *inner three* municipalities, commutation to SEAs in the *outer three* boroughs was more omni-directional.³⁵ Central and reverse flows were particularly important in bringing workers to secondary employment areas in these boroughs. This would seem to reflect the geographical location of these boroughs between the populous areas of the periphery and the inner city. Centrally directed flows accounted for at least 23 per cent of the working labour force in all SEAs in the *outer three* boroughs (except zones 41 and 42 in north-west North York) and was most important in the case of the SEAs in Etobicoke (e.g., zones 37 and 38) which attracted workers residing in the heavily populated West Sector. Reverse commuting also accounted for at least 25 per cent of the working labour force of virtually all SEAs in the outer three boroughs, with the exception of zone 38 (Etobicoke) and zone 50 (Scarborough). Although intersuburban flows tended to be lighter than the central and reverse flows, they still accounted for at least 10 per cent of the working labour force of each SEA in the *outer three* boroughs. It should be mentioned, however, that intersuburban commuting between Etobicoke and Scarborough was almost non-existent due to the distance between them and the intervening employment opportunities. On the other hand, the commutation between North York and each of these boroughs was quite significant. Although this can be largely explained by geographical proximity, the importance of easy access via the primary (particularly, Highway 400-401 and Don Valley Parkway system) and secondary road network cannot be underestimated.
- (iii) By and large, the secondary employment areas in the *outer three* boroughs can be seen as employment sub-centres providing jobs primarily for those residing in nearby locations. This can be shown by examining the proportion of the working labour force of each SEA which resided in the borough of employment (including the SEA itself): zone 14 -- 46.1 per cent, zone 25 -- 35.4 per cent, zone 32 -- 47.0 per cent, zone 37 -- 44.9 per cent, zone

35 See Table 2A(i) in Appendix I.

38 -- 39.5 per cent, zone 40 -- 36.2 per cent, zone 41 -- 45.7 per cent, zone 42 -- 52.6 per cent, zone 47 -- 53.9 per cent, and zone 50 -- 56.7 per cent. Between one-third and three-fifths of those employed in each of the SEAs in the *outer three* boroughs, then, did not leave their borough of residence in the journey-to-work.

- (iv) The findings on the pattern of residential location of those employed in SEAs in the *outer three* boroughs suggest that workers were, in general, residentially concentrated in the same sector of conurbation in which they were employed, as found by Evans (1973) in London, U.K. For example, planning zones in the western part of the Toronto CMA tended to be consistently overrepresented, as residences, for those working in the SEAs in the western borough of Etobicoke. Similarly, eastern CMA zones were residentially overrepresented in the SEA working labour forces of the eastern borough of Scarborough. Although no single pattern characterized the SEAs in North York, those working in these employment areas tended to reside in the same part of the CMA in which they were employed. That is, workers employed in zone 25 in eastern North York were residentially concentrated in zones in the eastern half of the CMA while workers employed in zones 14 and 41 in western North York were residentially concentrated to the west. Finally, while a very wide residential distribution characterized zone 42 in the north-west part of the borough, most zones which were overrepresented lie in the northern half of the CMA.
- (v) Our findings do not convincingly support the proposition that those working in the employment sub-centres in the *outer three* boroughs will be residentially concentrated on the opposite side of the SEA from the CBD as found by Taaffe, Garner, and Yeates (1963) in Chicago. First of all, as maps 9, 13A, and 11 show, the three SEAs in northwest Metro (zones 40, 41, and 42) clearly did not exhibit this pattern. Moreover, in the cases of the other seven SEAs in the *outer three* boroughs, this proposition has only limited validity. While these employment sub-centres (zones 14, 25, 32, 37, 38, 47, and 50) had residential location patterns which were outwardly directed, there were still a number of residentially overrepresented zones, in each case, that were more centrally located than the SEA in question.

5.3 Journey-to-Work to SEAs in the *Peripheral* District (North Sector, East Sector and West Sector)

We shall now turn our attention to the journey-to-work patterns to the SEAs in the *peripheral* district of the Toronto CMA. Six major employment sub-centres have been identified in two of the three external sectors in the CMA (the East Sector consists of one single zone of a more residential character). From these six SEAs, we have chosen two SEAs to investigate the journey-to-work patterns. The calculated commutation/adjusted commutation rates for the other four SEAs in these outlying sectors are presented in Tables 15A to 18A and Maps 14a to 17a in Appendix II.

5.3.1 North Sector

In the North Sector, planning zones 60 and 62 have been designated as SEAs and we have chosen to analyse the journey-to-work patterns to the latter. The commutation rates to zone 62 are presented in Table 16 and the pattern of residential location (based on Index 3 calculations, Table 17) is illustrated in Map 12. Before analysing the work flows to this SEA, it should be noted that over half (51.7 per cent) of the North Sector's resident labour force remained in the sector to work.

Zone 62, which includes the towns of Richmond Hill and Markham, has been defined as an SEA despite a job ratio of 0.7. With a working labour force of 16,185 however (1.6 per cent of the CMA total), it did fulfill the second criterion for employment sub-centre status. The percentage of

resident workers employed in the zone was 34.3. According to Index 1 calculations, the only significant commuting flows (greater than 5 per cent of resident labour force) to this SEA originated in the other two zones in the North Sector. From outside the sector, only three zones (zones 44, 45, and 46, in North York) sent more than 2 per cent of their resident labour force to this SEA.

The most significant point which emerges from the Index 2 calculations is that 50.9 per cent of the working labour force of this SEA lived in the zone itself. An additional 8.1 per cent resided in the contiguous zone 61. Intersuburban commuting appears to have been relatively non-existent, accounting for 4.9 per cent of SEA workforce, while reverse and central direction commuting supplied 29.2 per cent and 15.0 per cent of the SEA workforce, respectively. Map 12 shows that, in addition to the two other zones within the sector, only four neighbouring zones (three in North York and one in Scarborough) were overrepresented as residential sites of those employed in zone 62.

This discussion of commutation to zone 62 and a look at Map 14a in Appendix II showing the pattern of residential location for zone 60 suggest that the two North Sector SEAs exhibited quite different labour catchment patterns. While the zone 62 workers were clustered immediately around the place of employment, those working in zone 60 were residentially distributed through the North Sector and parts of the West Sector, North York, and the borough of York.

Table 16

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
TO THE SECONDARY EMPLOYMENT AREA REPRESENTED BY ZONE 62
IN THE EXTERNAL NORTH SECTOR, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA Zone 62	
	Index 1	Index 2
1(TC)	0.16	0.09
2(CBD)	0.00	0.00
3(TC)	0.19	0.19
4(TC)	0.34	0.19
5(TC)	0.00	0.00
6(TC)	0.00	0.00
7(Y)	1.15	0.37
8(TC)	0.34	0.46
9(TC)	0.29	0.28
10(TC)	0.21	0.28
11(TC)	0.28	0.19
12(TC)	0.65	0.65
13(NY)	0.40	0.37
14(NY)	0.27	0.09
15(Y)	0.27	0.28
16(Y)	0.32	0.37
17(TC)	1.11	0.37
18(Y)	0.64	0.46
19(NY)	0.70	0.37
20(TC)	0.44	0.37
21(TC)	0.30	0.37
22(NY)	0.94	0.28
23(EY)	0.00	0.00
24(TC)	0.15	0.19
25(NY)	1.24	1.20
26(NY)	0.95	1.20
27(EY)	0.19	0.19
28(EY)	0.47	0.56
29(TC)	0.54	0.83
30(TC)	0.22	0.19
31(TC)	0.16	0.19
32(E)	0.20	0.09
33(E)	0.17	0.19
34(E)	0.18	0.19
35(E)	0.13	0.09
36(E)	0.19	0.19
37(E)	0.00	0.00
38(E)	0.11	0.09
39(E)	0.77	0.46
40(E)	0.28	0.19
41(NY)	0.90	0.56
42(NY)	0.89	1.95
43(NY)	0.42	0.37
44(NY)	2.48	3.24
45(NY)	2.91	3.34
46(NY)	2.05	2.41
47(S)	0.57	0.65
48(S)	1.16	1.30
49(S)	0.88	1.11
50(S)	0.49	0.65
51(S)	0.54	0.83
52(S)	0.94	0.56
53(S)	1.87	1.67
54(WS)	0.13	0.46
55(WS)	0.23	0.09
56(WS)	0.00	0.00
57(WS)	0.00	0.00
58(WS)	0.00	0.00
59(WS)	0.11	0.09
60(NS)	5.21	1.85
61(NS)	7.14	8.06
62(NS)	34.31*	50.88**
63(ES)	1.11	0.93

* Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 17

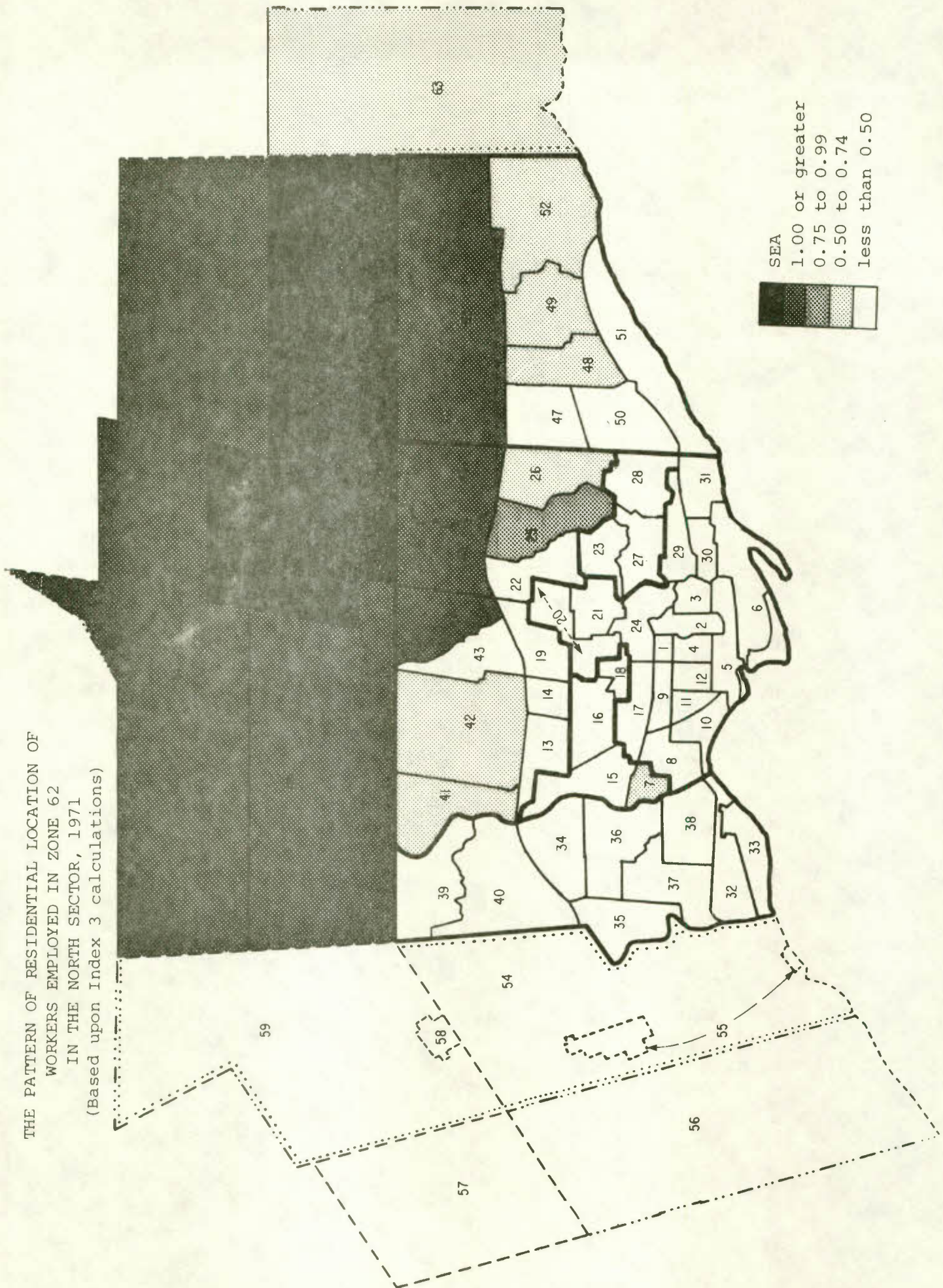
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO INDEX 3) TO THE SECONDARY EMPLOYMENT AREA REPRESENTED BY ZONE 62 IN THE EXTERNAL NORTH SECTOR, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA Zone 62
1(TC)	0.10
2(CBD)	0.00
3(TC)	0.12
4(TC)	0.21
5(TC)	0.00
6(TC)	0.00
7(Y)	0.71
8(TC)	0.21
9(TC)	0.18
10(TC)	0.13
11(TC)	0.18
12(TC)	0.40
13(NY)	0.25
14(NY)	0.16
15(Y)	0.17
16(Y)	0.20
17(TC)	0.20
18(Y)	0.28
19(NY)	0.25
20(TC)	0.18
21(TC)	0.15
22(NY)	0.44
23(EY)	0.00
24(TC)	0.09
25(NY)	0.77
26(NY)	0.59
27(EY)	0.11
28(EY)	0.29
29(TC)	0.34
30(TC)	0.14
31(TC)	0.10
32(E)	0.12
33(E)	0.11
34(E)	0.11
35(E)	0.08
36(E)	0.12
37(E)	0.00
38(E)	0.07
39(E)	0.48
40(E)	0.17
41(NY)	0.56
42(NY)	0.55
43(NY)	0.26
44(NY)	1.54
45(NY)	1.80
46(NY)	1.27
47(S)	0.36
48(S)	0.72
49(S)	0.55
50(S)	0.31
51(S)	0.34
52(S)	0.58
53(S)	1.16
54(WS)	0.08
55(WS)	0.14
56(WS)	0.00
57(WS)	0.00
58(WS)	0.00
59(WS)	0.07
60(WS)	3.23
61(NS)	4.42
62(NS)	21.27
63(ES)	0.69

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 12

THE PATTERN OF RESIDENTIAL LOCATION OF
WORKERS EMPLOYED IN ZONE 62
IN THE NORTH SECTOR, 1971
(Based upon Index 3 calculations)



5.3.2 West Sector

The importance of the West Sector as a source of employment is shown by the fact that four of its six planning zones (54, 55, 56, and 58) are secondary employment areas. It should be noted that almost two-thirds of the sector's resident labour force (63.0 per cent) remained in the sector to work. The commutation and adjusted commutation rates to zone 54, the SEA chosen for investigation of the patterns of journey-to-work in this sector, are shown in Tables 18 and 19, respectively. The patterns of residential location of workers employed in this SEA is illustrated in Map 13.

Planning zone 54 (Mississauga), with a working labour force of 50,385 (4.9 per cent of the CMA total) was the second most significant secondary employment area in the CMA. With a resident labour force of 56,460 (the largest in the CMA), however, it had a job ratio of only 0.9. Over one-third (34.3 per cent) of these resident workers were employed in the zone. The Index 1 calculations indicate that significant commuting flows to this SEA originated in zone 15 in York and in all zones of Etobicoke. Intrasuburban commuting from all other zones in the West Sector ranged from 8.1 per cent of the resident labour force of zone 57 to 24.7 per cent for zone 55. Index 2 calculations show that, in addition to the home zone which provided 38.5 per cent, only three zones in the CMA (zones 55, 56, and 59) supplied more than 3 per cent of the SEA's workforce. While reverse commuting was most significant to zone 54 (28.6 per cent of

Table 18

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
TO THE SECONDARY EMPLOYMENT AREA REPRESENTED BY ZONE 54
IN THE EXTERNAL WEST SECTOR, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA	
	Index 1	Index 2
1(TC)	1.09	0.21
2(CBD)	0.54	0.12
3(TC)	1.23	0.39
4(TC)	2.58	0.45
5(TC)	2.34	0.09
6(TC)	3.45	0.03
7(Y)	3.74	0.39
8(TC)	3.08	1.37
9(TC)	2.65	0.80
10(TC)	2.46	1.04
11(TC)	2.99	0.63
12(TC)	2.77	0.89
13(NY)	3.98	1.19
14(NY)	1.60	0.18
15(Y)	5.04	1.67
16(Y)	2.75	1.01
17(TC)	2.63	0.98
18(Y)	1.01	0.33
19(NY)	1.89	0.57
20(TC)	0.65	0.27
21(TC)	1.13	0.57
22(NY)	0.70	0.09
23(EY)	1.15	0.27
24(TC)	0.74	0.30
25(NY)	1.05	0.33
26(NY)	1.24	0.51
27(EY)	0.83	0.27
28(EY)	0.87	0.33
29(TC)	1.08	0.54
30(TC)	1.23	0.33
31(TC)	0.71	0.27
32(E)	9.24	1.37
33(E)	5.96	2.08
34(E)	8.66	2.89
35(E)	8.34	1.91
36(E)	4.95	1.52
37(E)	5.23	0.86
38(E)	3.87	1.07
39(E)	7.99	1.55
40(E)	8.17	1.76
41(NY)	4.66	0.92
42(NY)	3.94	2.77
43(NY)	1.91	0.54
44(NY)	1.63	0.68
45(NY)	1.05	0.39
46(NY)	1.10	0.42
47(S)	0.82	0.30
48(S)	0.66	0.24
49(S)	0.95	0.39
50(S)	0.78	0.33
51(S)	0.60	0.30
52(S)	0.31	0.06
53(S)	0.83	0.24
54(WS)	34.33*	38.46**
55(WS)	24.72	3.25
56(WS)	11.41	4.85
57(WS)	8.05	2.17
58(WS)	8.75	2.74
59(WS)	12.17	3.19
60(NS)	3.65	0.42
61(NS)	2.13	0.77
62(NS)	1.00	0.48
63(ES)	0.67	0.18

* Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 19

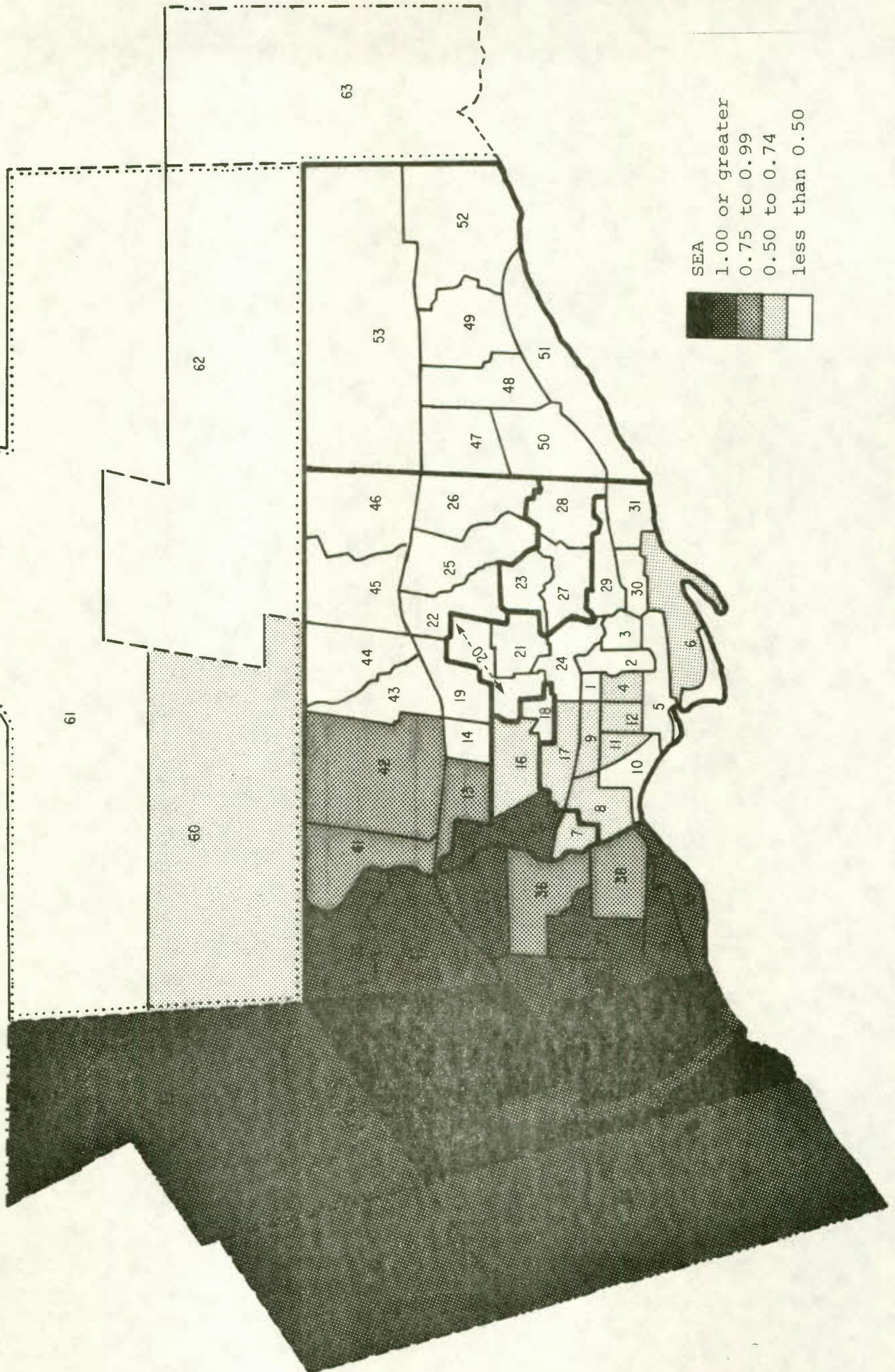
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO
INDEX 3) TO THE SECONDARY EMPLOYMENT AREA REPRESENTED BY
ZONE 54 IN THE EXTERNAL WEST SECTOR, TORONTO CMA, 1971

Zone of Residence	Work Location--SEA Zone 54
1(TC)	0.22
2(CBD)	0.11
3(TC)	0.25
4(TC)	0.51
5(TC)	0.47
6(TC)	0.69
7(Y)	0.74
8(TC)	0.61
9(TC)	0.53
10(TC)	0.49
11(TC)	0.60
12(TC)	0.55
13(NY)	0.79
14(NY)	0.32
15(Y)	1.00
16(Y)	0.55
17(TC)	0.52
18(Y)	0.20
19(NY)	0.38
20(TC)	0.13
21(TC)	0.22
22(NY)	0.14
23(EY)	0.23
24(TC)	0.15
25(NY)	0.21
26(NY)	0.25
27(EY)	0.17
28(EY)	0.17
29(TC)	0.22
30(TC)	0.25
31(TC)	0.14
32(E)	1.84
33(E)	1.19
34(E)	1.72
35(E)	1.66
36(E)	0.99
37(E)	1.04
38(E)	0.77
39(E)	1.59
40(E)	1.63
41(NY)	0.93
42(NY)	0.78
43(NY)	0.38
44(NY)	0.33
45(NY)	0.21
46(NY)	0.22
47(S)	0.16
48(S)	0.13
49(S)	0.19
50(S)	0.15
51(S)	0.12
52(S)	0.06
53(S)	0.17
54(WS)	6.83
55(WS)	4.92
56(WS)	2.27
57(WS)	1.60
58(WS)	1.74
59(WS)	2.42
60(NS)	0.73
61(NS)	0.42
62(NS)	0.20
63(ES)	0.13

Source: Based on 1971 Census place-of-work data, Statistics
Canada

Map 13

THE PATTERN OF RESIDENTIAL LOCATION OF
WORKERS EMPLOYED IN ZONE 54
IN THE WEST SECTOR, 1971
(Based upon Index 3 calculations)



the WLF), central flows (from the rest of the West Sector except zone 55 and from outside the CMA) and intersuburban flows accounted for 17.4 per cent and 15.6 per cent of the SEA's workforce, respectively.³⁶ Map 13 shows that the entire West Sector and virtually all of Etobicoke were overrepresented as the residential locations of workers employed in this SEA.

A look at Map 13 and Maps 15a to 17a (in Appendix II) suggest that, as in the North Sector, the SEAs in the West Sector exhibited two different patterns of residential location: clustering around the place of work (zones 56 and 58), and a wide residential distribution (zones 54 and 55).

5.3.3 Observations

In conclusion, the following observations are drawn regarding the journey-to-work to secondary employment areas in the "peripheral district":

- (i) As in the *outer three* boroughs, the level of "in-zone employment"³⁷ was relatively high and not significantly correlated with either the size of the working labour force or the job ratio for SEAs in the peripheral district. This lack of association would appear to have been the result of other factors which have dictated high rates of in-zone employment in the peripheral district. One of these factors is the extended size of the zones in this district which inhibits out-commutation. Another is the lingering "self-contained" nature of the communities which form the outer sector of the CMA. Towns such as Oakville (zone 56) and

36 See Table 2A(i) in Appendix I.

37 Those working and residing in the same zone.

Brampton (zone 58) developed as autonomous municipalities, and despite an increasing interdependency with Metropolitan Toronto, they still supply much of their own labour needs. While approximately 21 per cent of the CMA population is employed in the zone of residence, the figures for the peripheral SEAs are as follows: zone 60 -- 34.9 per cent; zone 62 -- 34.2 per cent; zone 54 -- 34.3 per cent; zone 55 -- 35.42 per cent; zone 56 -- 59.0 per cent; and zone 58 -- 55.2 per cent. In-commutation obviously tended to supply relatively fewer workers in the peripheral district than elsewhere in the CMA.

- (ii) Reverse commuting constituted the primary direction of commutation to four of the six SEAs (zones 54, 55, 60, and 62) in the peripheral district.³⁸ This predominance of reverse commuting largely reflects the external location of this district and the far greater population concentration in more central rather than less central areas. Reverse commutation was particularly heavy to zone 55 and to zone 60 (Vaughan), as it accounted for 56.3 per cent and 50.7 per cent of the two SEAs workforce, respectively. For zone 55, there was a notable flow of workers from Mississauga. The town of Vaughan attracted workers from the entire North Sector of the CMA and also from the borough of North York, York and parts of Etobicoke. Certainly the existence of Highway 400 provides easy access from these areas to zone 60.
- (iii) Central direction commuting flows were important for the West Sector SEAs represented by zones 56 and 58. These flows brought in 27.2 per cent and 14.4 per cent of the working labour forces of these SEAs respectively.³⁹ While the central flows to zone 56 (Oakville) originated outside the CMA, approximately three-quarters of the centrally directed commutation to zone 58 (Brampton) came from the more peripherally located zones 57 and 59 within the West Sector.
- (iv) As was mentioned earlier, Taaffe, Garner, and Yeates (1963) found residential clustering tendencies among those employed in peripheral workplaces. In the case of the Toronto CMA, however, two distinct patterns of residential location have

38 See Table 2A(i) in Appendix I.

39 *Ibid.*

been found to characterize the workforces of the SEAs in the peripheral district. The first, which applies to zones 56, 58, and 62, involves a distinctly "local" nature. The "employment pull" of these SEAs was significant only in the sector in which they are located and, in fact, these SEAs supplied the majority of their own labour needs (57.2, 57.8, and 51.0 per cent of the WLFs, respectively). Zones 54, 55, and 60, on the other hand, provided a lower share of their own working labour forces (38.6, 24.4, and 15.3 per cent, respectively) and, accordingly, attracted workers who were more widely distributed with respect to residential location.

Section 6: The Journey-to-Work from Major Residential Areas (MRAs)

Having discussed the commuting patterns to the CBD and to the Secondary Employment Areas, we shall now investigate the journey-to-work patterns of workers living in selected *Major Residential Areas* (MRAs). In Section 3.1, fourteen zones were designated as MRAs and these are shown in Map 4. Our primary interest concerns the destination of the out-commuting flows from the MRAs and the effect of their geographical location upon these patterns. For reasons similar to those mentioned in Section 3.6 regarding commutation to the SEAs, we will not discuss the journey-to-work patterns from all of the designated MRAs. Instead, we will focus upon seven MRAs, including one from Toronto City (representing the *inner three* municipalities), one from each of Etobicoke, Scarborough, and North York (representing the *outer three* boroughs), and one from each of the *peripheral* sectors -- the North Sector, the West Sector, and the East Sector. In each case, the MRA selected for the written analysis had the largest residential labour force of all the MRAs in the relevant municipality/sector. The essential data in terms of tables (19A-28A) and maps (18a-24a) for the remaining seven MRAs are included in Appendix III. The conclusions for each municipal grouping or sector included in the text, however, consider all of the relevant constituent SEAs.

6.1 The Journey-to-Work from the MRAs in the *inner three* Municipalities

The *inner three* municipalities have six designated MRAs represented by zones 8, 10, 15, 20, 28 and 29. From these we have chosen zone 29 as the MRA from which we will investigate the pattern of journey-to-work in detail. The commutation rates (calculated according to Indices 1 and 2) from this MRA are shown in Table 20. The adjusted commutation rates (calculated according to Index 4) are presented in Table 21 and Map 14.

Zone 29, in eastern Toronto city, had 24,690 resident workers which was equal to 2.5 per cent of the CMA total. Over two-thirds (67.1 per cent) of the zone 29 resident workers were employed in the city of Toronto. The out-commutation from this MRA was greatest to the CBD and zone 5 which employed 22.5 per cent and 10.5 per cent of the zone 29 resident workers, respectively. From Map 14, it can be seen that the job location of those living in zone 29 tended to be in those zones in close proximity to the MRA. There did not appear to be a bias in any direction as zones to the east (zones 28, 31, 47, and 50), the south (zones 6 and 30), the west (zones 1, 2, 3, 4, and 5) and the north (zones 21, 23, 26, and 27) of the MRA were "overrepresented" as the workplace of the zone 29 resident labour force.

Table 20

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY ZONE 29
IN TORONTO CITY, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 29	
	Index 1	Index 2
1(TC)	1.02	3.37
2(CBD)	22.54	3.39
3(TC)	2.82	6.14
4(TC)	3.00	2.44
5(TC)	10.52	4.65
6(TC)	1.44	4.86
7(Y)	0.00	0.00
8(TC)	0.48	1.22
9(TC)	0.60	1.40
10(TC)	1.32	2.29
11(TC)	0.54	1.69
12(TC)	0.42	1.31
13(NY)	0.36	0.78
14(NY)	0.84	1.07
15(Y)	0.24	0.48
16(Y)	0.54	0.80
17(TC)	1.62	1.97
18(Y)	0.18	1.82
19(NY)	0.36	1.12
20(TC)	0.30	1.04
21(TC)	2.28	2.46
22(NY)	0.48	2.32
23(EY)	2.88	4.44
24(TC)	1.44	1.90
25(NY)	2.76	2.17
26(NY)	1.74	3.81
27(EY)	0.66	4.51
28(EY)	2.70	6.20
29(TC)	12.68*	29.43**
30(TC)	3.19	8.33
31(TC)	0.90	4.79
32(E)	0.42	0.75
33(E)	0.24	0.41
34(E)	0.12	0.72
35(E)	0.06	0.32
36(E)	0.06	0.35
37(E)	0.90	1.14
38(E)	0.66	1.03
39(E)	0.00	0.00
40(E)	0.84	0.67
41(NY)	0.60	0.99
42(NY)	1.26	0.86
43(NY)	0.12	0.65
44(NY)	0.18	0.44
45(NY)	0.42	0.90
46(NY)	0.54	1.30
47(S)	3.13	3.07
48(S)	1.02	2.32
49(S)	0.78	2.06
50(S)	3.31	4.30
51(S)	0.60	2.20
52(S)	0.36	2.11
53(S)	0.54	1.64
54(WS)	1.08	0.54
55(WS)	0.06	0.16
56(WS)	0.24	0.27
57(WS)	0.00	0.00
58(WS)	0.06	0.10
59(WS)	0.12	0.25
60(NS)	0.30	0.57
61(NS)	0.36	0.64
62(NS)	0.54	0.83
63(ES)	0.08	0.40

* Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 21

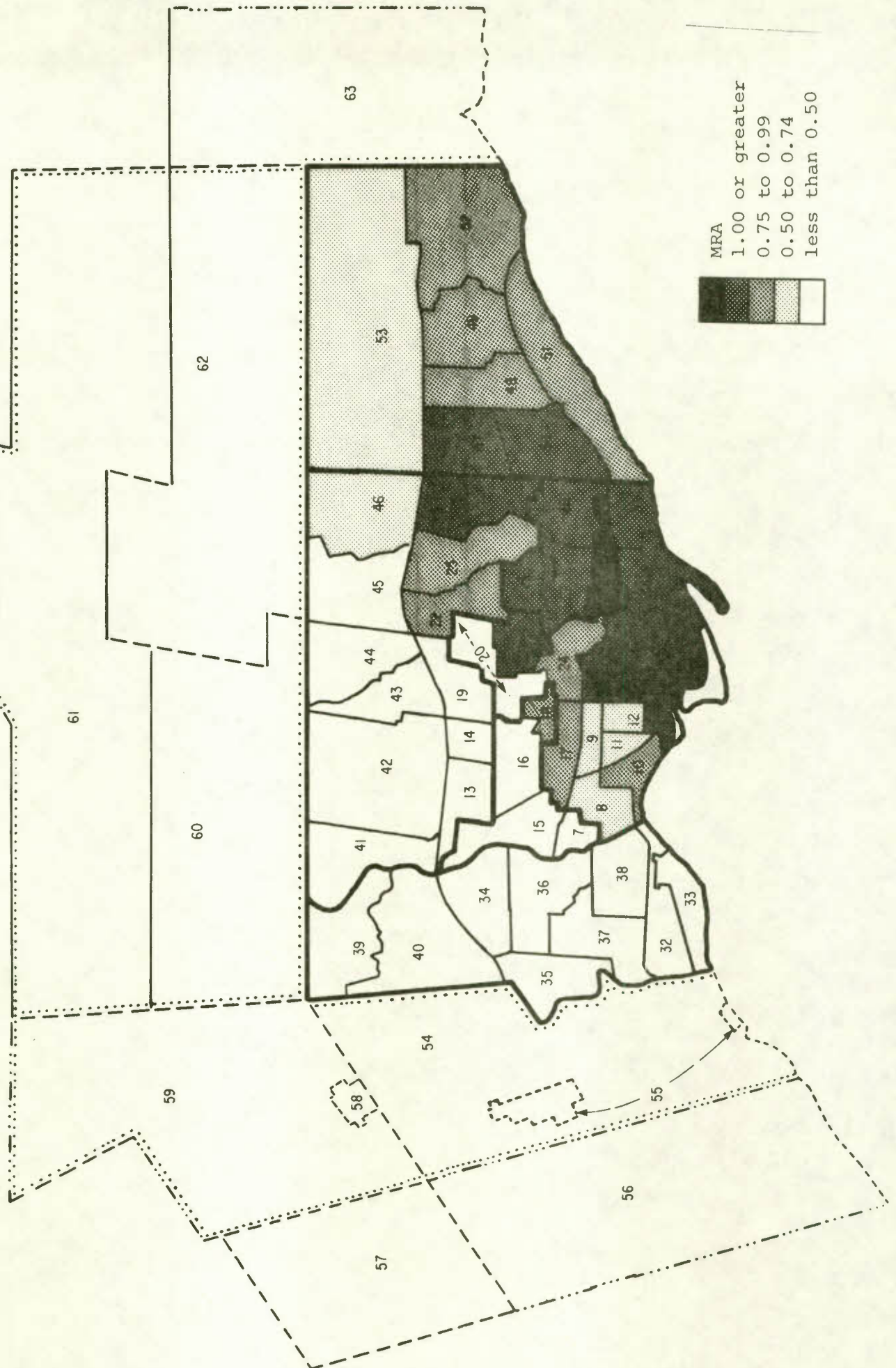
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO
INDEX 4) FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY
ZONE 29 IN TORONTO CITY, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 29
1(TC)	1.40
2(CBD)	1.41
3(TC)	2.55
4(TC)	1.01
5(TC)	1.93
6(TC)	2.02
7(Y)	0.00
8(TC)	0.51
9(TC)	0.58
10(TC)	0.95
11(TC)	0.70
12(TC)	0.54
13(NY)	0.33
14(NY)	0.45
15(Y)	0.20
16(Y)	0.33
17(TC)	0.82
18(Y)	0.76
19(NY)	0.46
20(TC)	0.43
21(TC)	1.02
22(NY)	0.96
23(EY)	1.84
24(TC)	0.79
25(NY)	0.90
26(NY)	1.58
27(EY)	1.87
28(EY)	2.58
29(TC)	12.23
30(TC)	3.46
31(TC)	1.99
32(E)	0.31
33(E)	0.17
34(E)	0.30
35(E)	0.13
36(E)	0.15
37(E)	0.47
38(E)	0.43
39(E)	0.00
40(E)	0.28
41(NY)	0.41
42(NY)	0.36
43(NY)	0.27
44(NY)	0.18
45(NY)	0.37
46(NY)	0.54
47(S)	1.28
48(S)	0.96
49(S)	0.86
50(S)	1.79
51(S)	0.92
52(S)	0.88
53(S)	0.68
54(WS)	0.22
55(WS)	0.06
56(WS)	0.11
57(WS)	0.00
58(WS)	0.04
59(WS)	0.10
60(NS)	0.24
61(NS)	0.26
62(NS)	0.35
63(ES)	0.17

Source: Based on 1971 Census place-of-work data, Statistics
Canada.

Map 14

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 29 IN TORONTO CITY, 1971
(Based upon Index 4 calculations)



6.1.1 Observations

The following observations arise from our analysis of the patterns of journey-to-work of those living in Major Residential Areas in the *inner three* municipalities.

- (i) Generally, as one would expect, the MRAs in the *inner three* municipalities were characterized by low rates of in-zone employment. While approximately 21 per cent of the CMA's resident workers were employed in their home zone, five of the six MRAs in the *inner three* municipalities had in-zone employment rates which were below 17 per cent. These low rates would seem to reflect relatively few employment opportunities in the MRAs themselves, which dictated a greater need for out-commutation. Only zone 10 in Toronto city exceeded the in-zone employment average for the CMA as it employed 21.9 per cent of its resident working force. It should be noted that this zone had the highest job ratio (0.68) and the largest working labour force (14,400) of all the MRAs in this district.
- (ii) Out-commutation from the Toronto City MRAs was predominantly centrally directed. For example, between two-thirds and three-quarters of the resident workers of each of the four MRAs in Toronto City were employed in that municipality. The CBD was the primary destination of these central commuting flows as it was the place of employment for over 20 per cent of the resident labour force of each of the Toronto City MRAs.
- (iii) Central commuting was also predominant from the MRAs in the boroughs of East York and York. Over half (52.2 per cent) of the resident workers of zone 28 (East York) were employed in Toronto city and an additional 16.3 per cent worked in the home borough. In the case of this MRA, too, the CBD was the major workplace as 23.4 per cent of the zone 28 residents were employed within its boundaries. While the out-commutation from zone 15 (York) was more omni-directional than from the other MRAs in this district, central flows were still most dominant as the majority (55.8 per cent) of its resident workers were employed in Toronto city or the home borough. Again, the CBD was the primary commuting destination, however, its employment pull was weaker in the case of zone 15 as it employed only 8.5 per cent of that MRA's

resident labour force. The lighter central commuting flows from zone 15 would seem to reflect the availability of nearby employment opportunities in the outer boroughs of North York and Etobicoke, which employed 19.3 per cent and 14.3 per cent of the MRAs resident workers, respectively.

- (iv) The pattern of job location, as calculated according to Index 4, indicates that workers residing in the *inner three* municipalities were concentrated with respect to employment about the zone of residence. Several variations of this overall pattern appear to have existed, however. For zones 8 and 29, this concentration was relatively equal in all directions. In the cases of zones 10 and 28, on the other hand, the job location concentration was biased somewhat towards the centre of the CMA. The pattern of job location for zone 20 residents was one of a north-south emphasis along the central corridor. Finally, the pattern of job location for zone 15 residents was biased outward towards the northern and western peripheries of the CMA.

6.2 The Journey-to-Work from the MRAs in the Outer Three Boroughs

6.2.1 Borough of Etobicoke

The borough of Etobicoke has only one designated MRA, defined by zone 33. This MRA, located on the lakeshore in Etobicoke, had 17,610 resident workers which accounted for 1.8 per cent of the CMA total. Over half (59.2 per cent) of this zone's resident labour force was employed within the borough of Etobicoke, including 25.2 per cent which worked in the MRA itself and 12.5 per cent which worked in the contiguous zone 32 (Table 22). Centrally directed commuting from zone 33 was greatest to the CBD (9.4 per cent of its RLF) and zone 5 (5.2 per cent). Significant reverse commuting occurred to zone 54 in the West Sector (6.0 per cent). Map 15, based on Table 23, shows that the job locations of

Table 22

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY
ZONE 33 IN THE BOROUGH OF ETOBICOKE, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA)	
	Index 1	Index 2
1 (TC)	0.17	0.40
2 (CBD)	9.37	1.00
3 (TC)	0.34	0.52
4 (TC)	1.79	1.03
5 (TC)	5.20	1.62
6 (TC)	0.43	1.01
7 (Y)	0.09	0.92
8 (TC)	0.94	1.68
9 (TC)	0.51	0.84
10 (TC)	1.79	2.19
11 (TC)	0.94	2.06
12 (TC)	0.17	0.37
13 (NY)	0.34	0.52
14 (NY)	0.43	0.38
15 (Y)	0.43	0.61
16 (Y)	0.43	0.44
17 (TC)	1.36	1.17
18 (Y)	0.00	0.00
19 (NY)	0.09	0.19
20 (TC)	0.17	0.42
21 (TC)	0.60	0.45
22 (NY)	0.08	0.29
23 (EY)	0.17	0.18
24 (TC)	0.51	0.48
25 (NY)	0.26	0.14
26 (NY)	0.08	0.13
27 (EY)	0.00	0.00
28 (EY)	0.17	0.28
29 (TC)	0.34	0.56
30 (TC)	0.34	0.63
31 (TC)	0.00	0.00
32 (E)	12.52	15.79
33 (E)	25.21*	30.71**
34 (E)	0.17	0.72
35 (E)	1.19	4.52
36 (E)	0.68	2.83
37 (E)	7.58	6.77
38 (E)	9.37	10.30
39 (E)	0.17	0.87
40 (E)	2.30	1.30
41 (NY)	0.51	0.60
42 (NY)	0.94	0.45
43 (NY)	0.08	0.33
44 (NY)	0.00	0.00
45 (NY)	0.34	0.51
46 (NY)	0.17	0.29
47 (S)	0.26	0.18
48 (S)	0.08	0.14
49 (S)	0.09	0.16
50 (S)	0.09	0.08
51 (S)	0.00	0.00
52 (S)	0.00	0.00
53 (S)	0.09	0.08
54 (WS)	5.96	2.08
55 (WS)	2.39	4.37
56 (WS)	0.77	0.61
57 (WS)	0.00	0.00
58 (WS)	0.34	0.40
59 (WS)	0.51	0.74
60 (NS)	0.68	0.91
61 (NS)	0.00	0.00
62 (NS)	0.17	0.19
63 (ES)	0.08	0.13

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 23

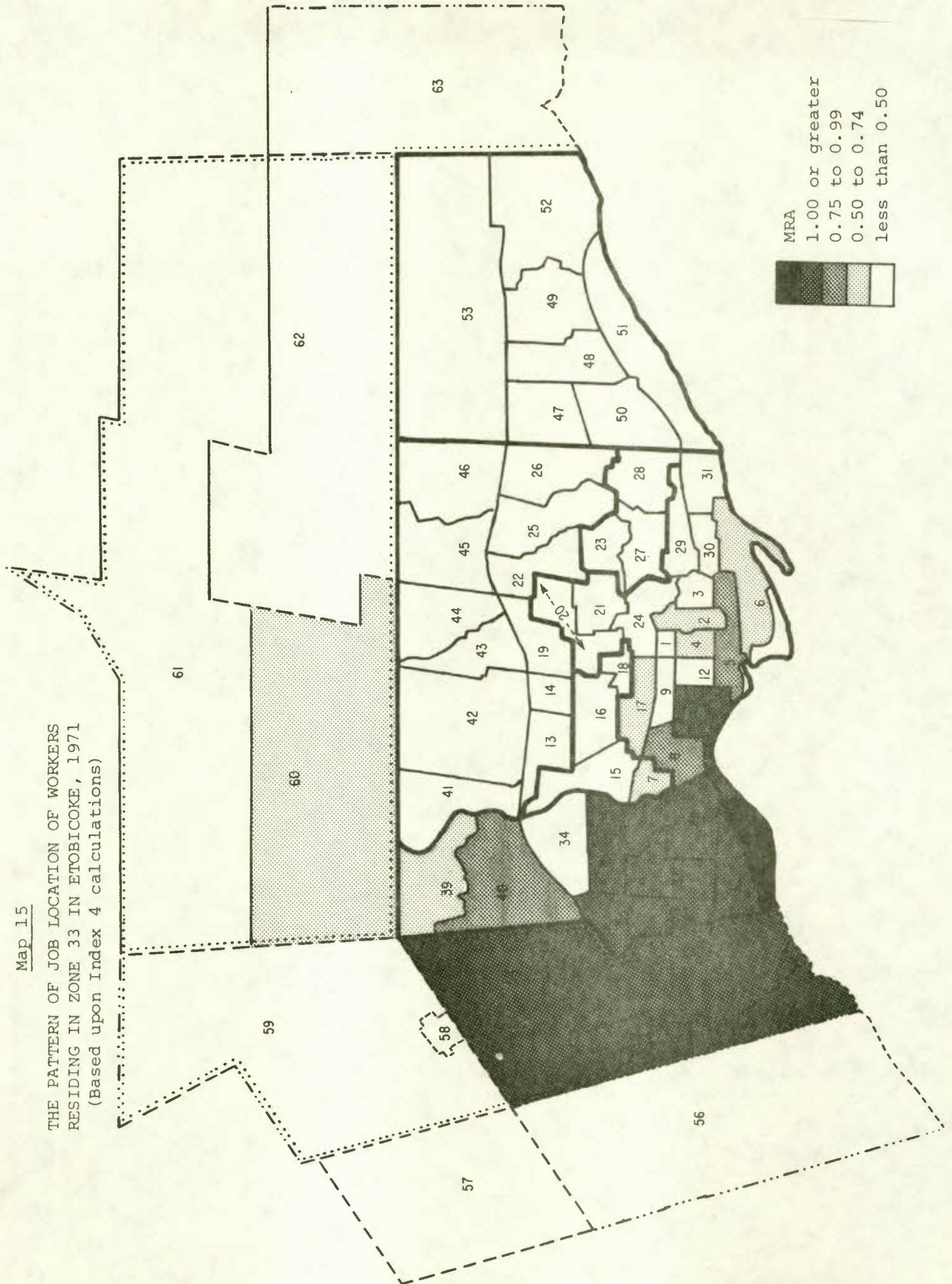
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO INDEX 4) FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY ZONE 33 IN THE BOROUGH OF ETOBICOKE, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 33
1 (TC)	0.23
2 (CBD)	0.59
3 (TC)	0.31
4 (TC)	0.60
5 (TC)	0.96
6 (TC)	0.60
7 (Y)	0.54
8 (TC)	0.99
9 (TC)	0.49
10 (TC)	1.29
11 (TC)	1.21
12 (TC)	0.22
13 (NY)	0.31
14 (NY)	0.23
15 (Y)	0.36
16 (Y)	0.26
17 (TC)	0.69
18 (Y)	0.00
19 (NY)	0.11
20 (TC)	0.24
21 (TC)	0.27
22 (NY)	0.17
23 (EY)	0.11
24 (TC)	0.28
25 (NY)	0.08
26 (NY)	0.08
27 (EY)	0.00
28 (EY)	0.16
29 (TC)	0.33
30 (TC)	0.37
31 (TC)	0.00
32 (E)	9.30
33 (E)	18.09
34 (E)	0.42
35 (E)	2.66
36 (E)	1.67
37 (E)	3.99
38 (E)	6.07
39 (E)	0.51
40 (E)	0.77
41 (NY)	0.35
42 (NY)	0.27
43 (NY)	0.19
44 (NY)	0.00
45 (NY)	0.30
46 (NY)	0.17
47 (S)	0.10
48 (S)	0.08
49 (S)	0.09
50 (S)	0.05
51 (S)	0.00
52 (S)	0.00
53 (S)	0.11
54 (WS)	1.23
55 (WS)	2.57
56 (WS)	0.36
57 (WS)	0.00
58 (WS)	0.23
59 (WS)	0.44
60 (NS)	0.53
61 (NS)	0.00
62 (NS)	0.11
63 (ES)	0.08

Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Map 15

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 33 IN ETOBICOKE, 1971
(Based upon Index 4 calculations)



workers residing in this MRA were concentrated in the borough of Etobicoke where five zones were overrepresented as workplaces for zone 33 residents. Only four other zones in the CMA including two in the West Sector and two in Toronto city, were overrepresented.

6.2.2 Borough of Scarborough

Zones 49 and 51 in the borough of Scarborough have been designated as Major Residential Areas. Of these two MRAs, we have chosen to investigate the journey-to-work patterns from zone 51 in the text. The commutation rates from this zone are shown in Table 24 and the adjusted commutation rates are presented in Table 25 and Map 16. Zone 51 was the largest residential area in Scarborough with a resident labour force of 24,885 (2.5 per cent of the CMA total). Only 37.9 per cent of this MRAs resident workers were employed in Scarborough. Commuting flows from this zone were greatest to the CBD and zone 5 in Toronto city (17.4 per cent and 6.7 per cent of the RLF of zone 51, respectively), and to zones 47 and 50 in Scarborough (6.3 per cent and 7.9 per cent, respectively). Map 16 which considers the pattern of job location for zone 51 residents indicates that most of the zones in the eastern half of the CMA were overrepresented as workplaces for this MRAs resident labour force.

Table 24

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY
ZONE 51 IN THE BOROUGH OF SCARBOROUGH, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA)	
	Index 1	Index 2
1(TC)	0.48	1.58
2(CBD)	17.36	2.61
3(TC)	1.51	3.26
4(TC)	2.59	2.10
5(TC)	6.69	2.95
6(TC)	1.57	5.26
7(Y)	0.00	0.00
8(TC)	0.18	0.46
9(TC)	0.24	0.56
10(TC)	0.48	0.83
11(TC)	0.00	0.00
12(TC)	0.24	0.75
13(NY)	0.12	0.26
14(NY)	0.48	0.61
15(Y)	0.30	0.61
16(Y)	0.24	0.35
17(TC)	0.60	0.73
18(Y)	0.00	0.00
19(NY)	0.30	0.93
20(TC)	0.12	0.42
21(TC)	1.87	2.01
22(NY)	0.24	1.16
23(EY)	2.29	3.51
24(TC)	1.21	1.58
25(NY)	4.40	3.45
26(NY)	1.81	3.94
27(EY)	0.72	4.92
28(EY)	2.53	5.79
29(TC)	2.05	4.74
30(TC)	1.75	4.56
31(TC)	1.27	6.71
32(E)	0.42	0.75
33(E)	0.12	0.21
34(E)	0.18	1.08
35(E)	0.06	0.32
36(E)	0.00	0.00
37(E)	0.42	0.53
38(E)	0.42	0.66
39(E)	0.12	0.87
40(E)	0.66	0.53
41(NY)	0.24	0.40
42(NY)	0.78	0.53
43(NY)	0.12	0.65
44(NY)	0.24	0.59
45(NY)	0.36	0.77
46(NY)	0.96	2.32
47(S)	6.27	6.14
48(S)	5.06	11.46
49(S)	3.38	8.89
50(S)	7.90	10.23
51(S)	12.54*	45.81**
52(S)	1.51	8.80
53(S)	1.27	3.83
54(WS)	0.60	0.30
55(WS)	0.06	0.16
56(WS)	0.00	0.00
57(WS)	0.00	0.00
58(WS)	0.12	0.20
59(WS)	0.06	0.12
60(NS)	0.54	1.02
61(NS)	0.06	0.11
62(NS)	0.54	0.83
63(ES)	1.15	2.55

* Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 25

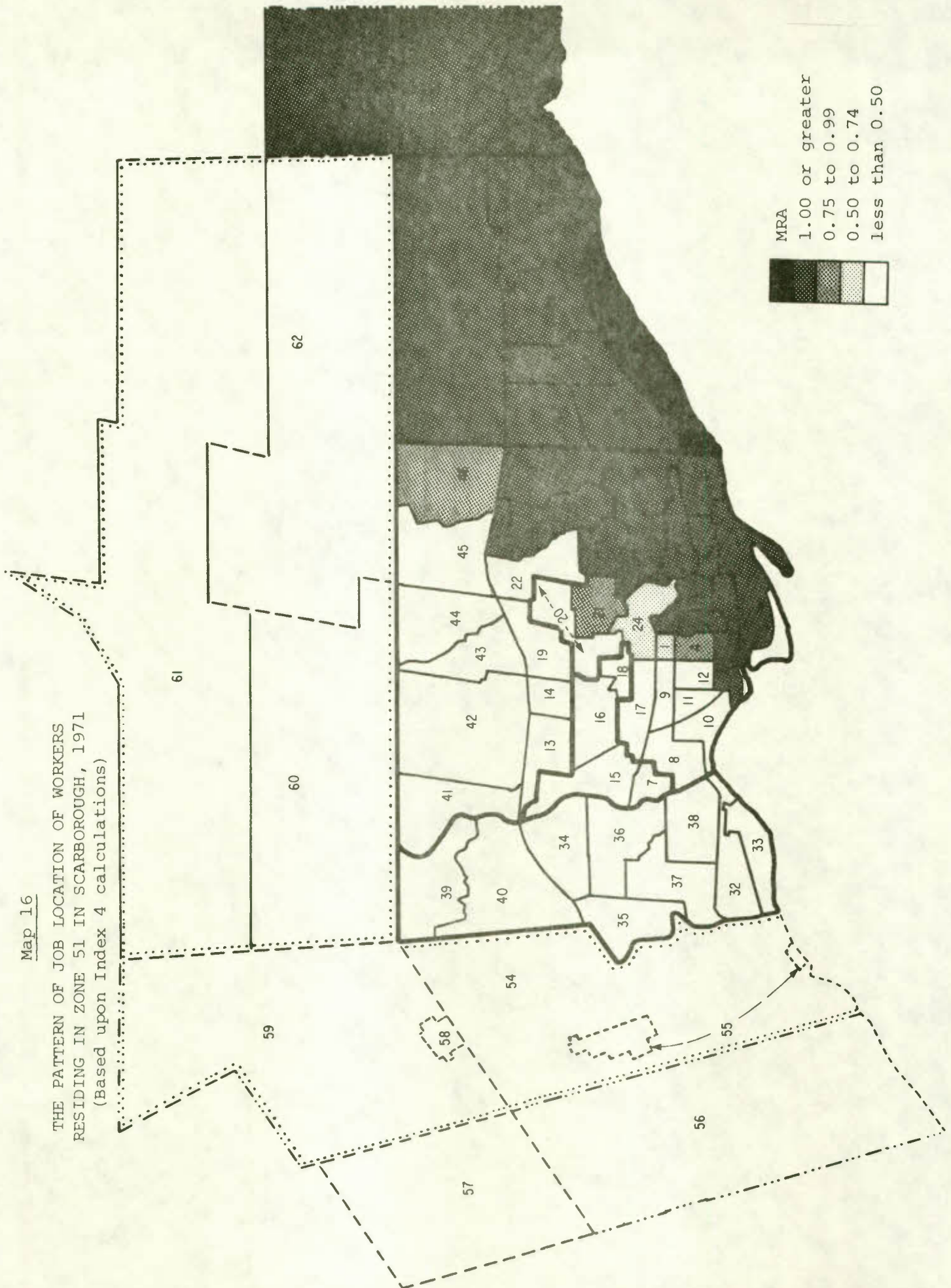
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO INDEX 4) FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY ZONE 51 IN THE BOROUGH OF SCARBOROUGH, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 51
1(TC)	0.66
2(CBD)	1.09
3(TC)	1.36
4(TC)	0.88
5(TC)	1.23
6(TC)	2.19
7(Y)	0.00
8(TC)	0.19
9(TC)	0.23
10(TC)	0.35
11(TC)	0.00
12(TC)	0.31
13(NY)	0.11
14(NY)	0.26
15(Y)	0.25
16(Y)	0.15
17(TC)	0.30
18(Y)	0.00
19(NY)	0.39
20(TC)	0.17
21(TC)	0.84
22(NY)	0.48
23(EY)	1.46
24(TC)	0.66
25(NY)	1.44
26(NY)	1.64
27(EY)	2.05
28(EY)	2.41
29(TC)	1.98
30(TC)	1.90
31(TC)	2.80
32(E)	0.31
33(E)	0.09
34(E)	0.45
35(E)	0.13
36(E)	0.00
37(E)	0.22
38(E)	0.27
39(E)	0.36
40(E)	0.22
41(NY)	0.17
42(NY)	0.22
43(NY)	0.27
44(NY)	0.24
45(NY)	0.32
46(NY)	0.97
47(S)	2.56
48(S)	4.78
49(S)	3.71
50(S)	4.27
51(S)	19.10
52(S)	3.67
53(S)	1.59
54(WS)	0.12
55(WS)	0.07
56(WS)	0.00
57(WS)	0.00
58(WS)	0.08
59(WS)	0.05
60(NS)	0.42
61(NS)	0.04
62(NS)	0.35
63(ES)	1.06

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 16

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 51 IN SCARBOROUGH, 1971
(Based upon Index 4 calculations)



6.2.3 Borough of North York

Of the two designated MRAs (zones 26 and 44) in the borough of North York, zone 44 has been selected for more detailed investigation. The commutation and adjusted commutation rates for this MRA are presented in Tables 26 and 27, respectively. Map 17 shows the pattern of job location of zone 44 residents.

Zone 44 had a resident labour force of 21,135, or 2.1 per cent of the CMA total. The percentage of these resident workers who were employed in the borough of North York was 46.4, including 16.2 per cent who worked in the MRA itself. The major commuting destination was the CBD which employed 14.8 per cent of the zone 44 resident workers. From Map 17, it can be seen that zones on all sides of this MRA were overrepresented as workplaces. This pattern, however, extends furthest towards the CMA centre.

6.2.4 Observations

Our analysis of the journey-to-work from the MRAs in the *outer three* boroughs can be summarized by the following points:

- (i) As in the *inner three* municipalities, MRAs in the *outer three* boroughs generally had low rates of 'in-zone employment'. The only exception was zone 33 (Etobicoke), which employed 25.2 per cent of its resident labour force. This zone, with a job ratio of 0.82 and a working labour force of 14,460, offered more opportunity for employment than any other MRA in the outer three boroughs.

Table 26

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY
ZONE 44 IN THE BOROUGH OF NORTH YORK, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 44	
	Index 1	Index 2
1(TC)	0.50	1.39
2(CBD)	14.76	1.88
3(TC)	0.71	1.31
4(TC)	2.77	1.90
5(TC)	4.76	1.78
6(TC)	0.14	0.40
7(Y)	0.07	0.92
8(TC)	0.78	1.68
9(TC)	0.64	1.26
10(TC)	0.28	0.42
11(TC)	0.28	0.75
12(TC)	0.71	1.87
13(NY)	0.99	1.83
14(NY)	3.69	3.98
15(Y)	0.64	1.09
16(Y)	1.06	1.33
17(TC)	1.42	1.46
18(Y)	0.57	4.85
19(NY)	2.20	5.77
20(TC)	1.06	3.12
21(TC)	3.12	2.85
22(NY)	0.85	3.48
23(EY)	1.28	1.66
24(TC)	1.14	1.27
25(NY)	2.13	1.42
26(NY)	0.64	1.18
27(EY)	0.00	0.00
28(EY)	0.64	1.24
29(TC)	0.21	0.42
30(TC)	0.43	0.94
31(TC)	0.21	0.96
32(E)	0.57	0.86
33(E)	0.57	0.83
34(E)	0.28	1.44
35(E)	0.07	0.32
36(E)	0.07	0.35
37(E)	0.50	0.53
38(E)	0.78	1.03
39(E)	0.14	0.87
40(E)	1.85	1.25
41(NY)	2.27	3.18
42(NY)	7.59	4.40
43(NY)	1.92	8.82
44(NY)	16.18*	33.48**
45(NY)	6.32	11.44
46(NY)	1.63	3.33
47(S)	1.21	1.00
48(S)	0.35	0.68
49(S)	0.21	0.48
50(S)	0.64	0.70
51(S)	0.21	0.66
52(S)	0.07	0.35
53(S)	0.35	0.91
54(WS)	1.63	0.68
55(WS)	0.07	0.16
56(WS)	0.14	0.14
57(WS)	0.14	0.25
58(WS)	0.14	0.20
59(WS)	0.28	0.49
60(NS)	1.92	3.06
61(NS)	0.28	0.42
62(NS)	2.48	3.24
63(ES)	0.43	0.81

* Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 27

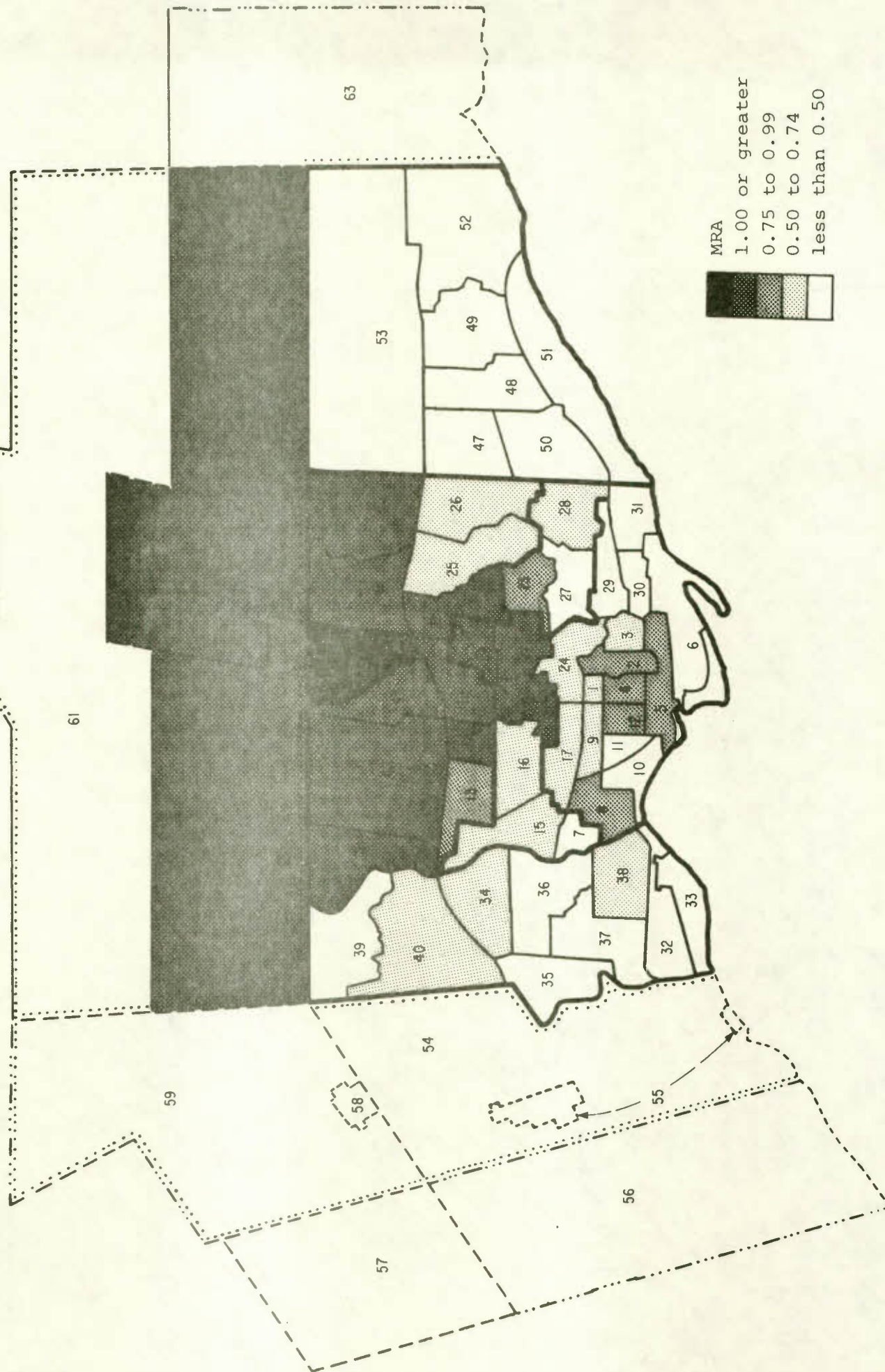
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO INDEX 4) FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY ZONE 44 IN THE BOROUGH OF NORTH YORK, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 44
1(TC)	0.68
2(CBD)	0.92
3(TC)	0.64
4(TC)	0.93
5(TC)	0.87
6(TC)	0.20
7(Y)	0.45
8(TC)	0.82
9(TC)	0.62
10(TC)	0.20
11(TC)	0.37
12(TC)	0.92
13(NY)	0.90
14(NY)	1.95
15(Y)	0.54
16(Y)	0.65
17(TC)	0.72
18(Y)	2.38
19(NY)	2.83
20(TC)	1.53
21(TC)	1.40
22(NY)	1.71
23(EY)	0.82
24(TC)	0.62
25(NY)	0.70
26(NY)	0.58
27(EY)	0.00
28(EY)	0.61
29(TC)	0.21
30(TC)	0.46
31(TC)	0.47
32(E)	0.42
33(E)	0.41
34(E)	0.71
35(E)	0.16
36(E)	0.17
37(E)	0.26
38(E)	0.51
39(E)	0.43
40(E)	0.62
41(NY)	1.56
42(NY)	2.16
43(NY)	4.33
44(NY)	16.44
45(NY)	5.62
46(NY)	1.64
47(S)	0.49
48(S)	0.33
49(S)	0.23
50(S)	0.35
51(S)	0.32
52(S)	0.17
53(S)	0.45
54(WS)	0.34
55(WS)	0.08
56(WS)	0.07
57(WS)	0.12
58(WS)	0.10
59(WS)	0.24
60(NS)	1.50
61(NS)	0.21
62(NS)	1.59
63(ES)	0.40

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 17

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 44 IN NORTH YORK, 1971
(Based upon Index 4 calculations)



- (ii) Despite spatial distance and intervening employment opportunities, significant commutation to the CBD originated from MRAs in the outer three boroughs. These rates of commutation ranged from 9.4 per cent of the RLF of zone 33 (Etobicoke) to 17.6 per cent of the RLF of zone 26 (North York). With the exception of zone 33, the CBD was the primary destination of out-commuting flows for all MRAs in the *outer three* boroughs.
- (iii) Differing patterns of job location, as shown in Maps 15 to 17 in the text and 23a to 24a in Appendix III, characterize the MRAs in the outer three boroughs. While the pattern for zone 33 in Etobicoke was one of in-borough overrepresentation, the patterns for the MRAs in Scarborough and North York were centrally biased as several zones in the inner three municipalities were overrepresented as workplaces for these MRAs' residents.
- (iv) In general, centrally directed commuting from MRAs in the peripheral district extended no further than the CBD.

6.3 The Journey-to-Work from the MRAs in the *Peripheral District*

6.3.1 North Sector

Zone 61, with a resident labour force of 18,285 (1.8 per cent of the CMA total), has been designated as the only Major Residential Area in the North Sector. The commutation and adjusted commutation rates from this zone are shown in Tables 28 and 29, respectively. Over half (53.2 per cent) of this MRA's resident labour force was employed within the zone itself. The highest commutation flows were to zones 60 and 62 in the North Sector (7.1 per cent and 4.4 per cent of the zone 61 RLF, respectively), to the CBD (4.5 per cent), and to zone 42 in North York (4.4 per cent). Map 18 shows that only four zones in the CMA (zones 60 and 62, zone 42, and zone 53 in Scarborough) were overrepresented as workplaces for the resident labour force of this MRA.

Table 28

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY ZONE 61
IN THE PERIPHERAL NORTH SECTOR, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA)	
	Index 1	Index 2
1 (TC)	0.25	0.59
2 (CBD)	4.51	0.50
3 (TC)	0.25	0.39
4 (TC)	0.57	0.34
5 (TC)	0.98	0.32
6 (TC)	0.33	0.81
7 (Y)	0.00	0.00
8 (TC)	0.08	0.15
9 (TC)	0.33	0.56
10 (TC)	0.08	0.10
11 (TC)	0.08	0.19
12 (TC)	0.08	0.19
13 (NY)	0.66	1.04
14 (NY)	0.98	0.92
15 (Y)	0.41	0.61
16 (Y)	0.66	0.71
17 (TC)	0.66	0.58
18 (Y)	0.00	0.00
19 (NY)	0.25	0.56
20 (TC)	0.16	0.42
21 (TC)	0.90	0.71
22 (NY)	0.16	0.58
23 (EY)	0.33	0.37
24 (TC)	0.66	0.63
25 (NY)	1.80	1.04
26 (NY)	0.33	0.53
27 (EY)	0.08	0.41
28 (EY)	0.33	0.55
29 (TC)	0.33	0.56
30 (TC)	0.16	0.31
31 (TC)	0.00	0.00
32 (E)	0.25	0.32
33 (E)	0.08	0.10
34 (E)	0.08	0.36
35 (E)	0.25	0.97
36 (E)	0.08	0.35
37 (E)	0.57	0.53
38 (E)	0.08	0.09
39 (E)	0.00	0.00
40 (E)	1.97	1.16
41 (NY)	1.06	1.29
42 (NY)	4.35	2.18
43 (NY)	0.08	0.33
44 (NY)	0.82	1.47
45 (NY)	0.98	1.54
46 (NY)	0.74	1.30
47 (S)	1.39	1.00
48 (S)	0.41	0.68
49 (S)	0.25	0.48
50 (S)	0.66	0.63
51 (S)	0.08	0.22
52 (S)	0.25	1.06
53 (S)	0.98	2.19
54 (WS)	2.13	0.77
55 (WS)	0.08	0.16
56 (WS)	0.08	0.07
57 (WS)	0.00	0.00
58 (WS)	0.41	0.50
59 (WS)	0.82	1.23
60 (NS)	4.35	6.00
61 (NS)	53.16*	68.64**
62 (NS)	7.14	8.06
63 (ES)	0.33	0.54

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 29

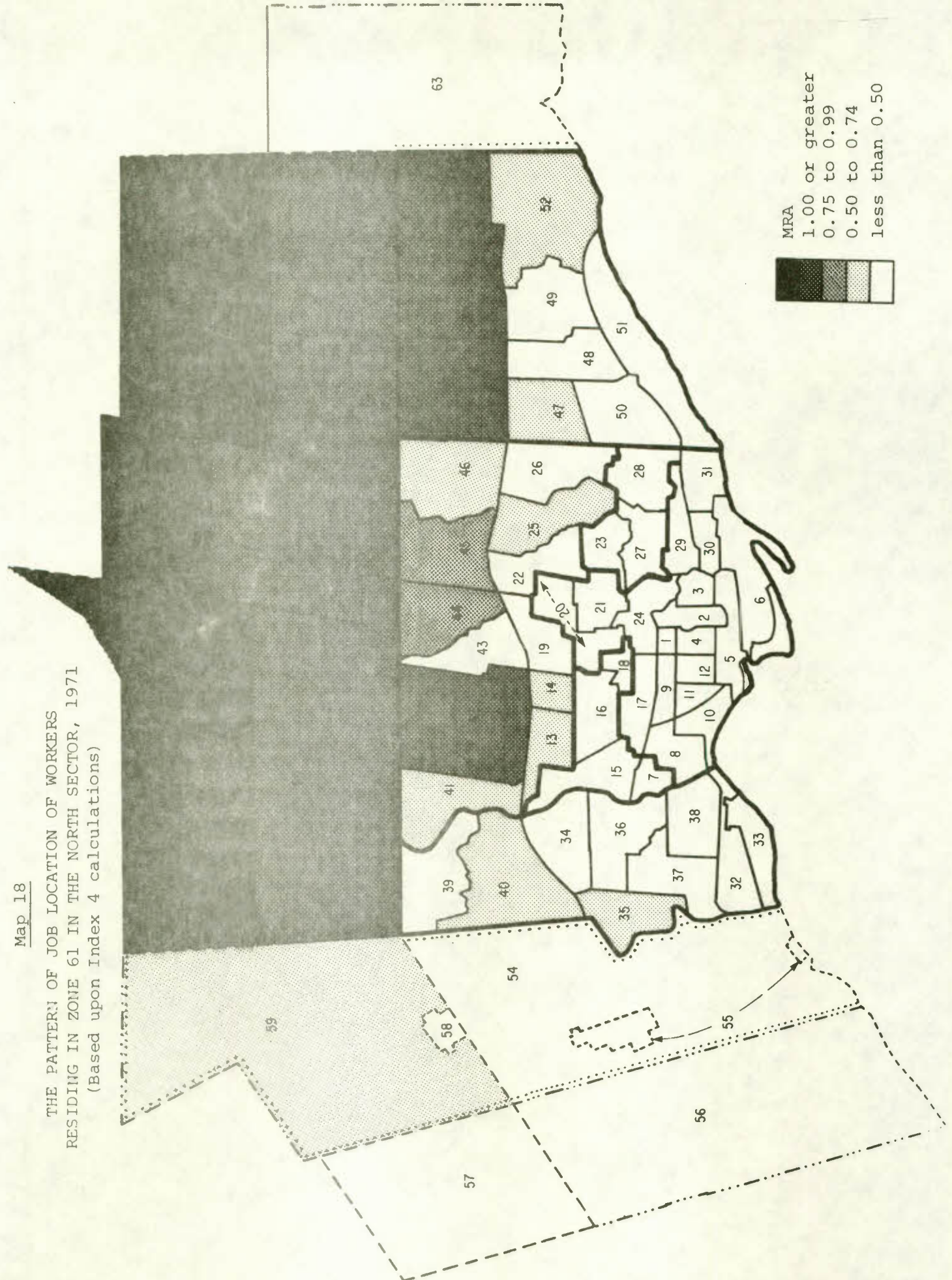
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO
INDEX 4) FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY
ZONE 61 IN THE PERIPHERAL NORTH SECTOR, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 61
1 (TC)	0.34
2 (CBD)	0.28
3 (TC)	0.22
4 (TC)	0.19
5 (TC)	0.18
6 (TC)	0.46
7 (Y)	0.00
8 (TC)	0.09
9 (TC)	0.32
10 (TC)	0.06
11 (TC)	0.11
12 (TC)	0.11
13 (NY)	0.59
14 (NY)	0.52
15 (Y)	0.34
16 (Y)	0.40
17 (TC)	0.33
18 (Y)	0.00
19 (NY)	0.32
20 (TC)	0.24
21 (TC)	0.40
22 (NY)	0.33
23 (EY)	0.21
24 (TC)	0.36
25 (NY)	0.59
26 (NY)	0.30
27 (EY)	0.23
28 (EY)	0.31
29 (TC)	0.32
30 (TC)	0.18
31 (TC)	0.00
32 (E)	0.18
33 (E)	0.06
34 (E)	0.20
35 (E)	0.55
36 (E)	0.20
37 (E)	0.30
38 (E)	0.05
39 (E)	0.00
40 (E)	0.66
41 (NY)	0.73
42 (NY)	1.24
43 (NY)	0.19
44 (NY)	0.83
45 (NY)	0.88
46 (NY)	0.74
47 (S)	0.57
48 (S)	0.39
49 (S)	0.27
50 (S)	0.35
51 (S)	0.12
52 (S)	0.60
53 (S)	1.24
54 (WS)	0.44
55 (WS)	0.09
56 (WS)	0.04
57 (WS)	0.00
58 (WS)	0.28
59 (WS)	0.70
60 (NS)	3.41
61 (NS)	38.95
62 (NS)	4.58
63 (ES)	0.31

Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Map 18

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 61 IN THE NORTH SECTOR, 1971
(Based upon Index 4 calculations)



6.3.2 West Sector

The sole Major Residential Area in the West Sector is zone 59, which had 13,185 resident workers (1.3 per cent of the CMA total). The commutation rates are shown in Table 30 and the adjusted commutation rates are presented in Table 31 and Map 19. The percentage of the zone's resident labour force which worked in the West Sector was 60.2, including 32.7 per cent, 12.2 per cent, and 11.8 per cent in the MRA itself, in zone 54, and in zone 58, respectively. The highest commutation flow from zone 59 to outside the West Sector was to zone 40 in Etobicoke where 8.0 per cent of the MRA's resident workers were employed. Zone 59 was an insignificant supplier of workers for the inner three municipalities as it provided no more than 1.5 per cent of the working labour force of any zone in these municipalities. Map 19 shows that zones 54, 55, 57, and 58 in the West Sector, zones 34, 35, 37, and 40 in Etobicoke, zone 60 in the North Sector, zone 41 in North York, and zone 16 in York were overrepresented as workplaces for the zone 59 resident labour force.

6.3.3 East Sector

Zone 63 had a resident labour force of 13,530 or 1.4 per cent of the CMA total. The commutation rates from this zone are shown in Table 32 and the adjusted commutation rates are presented in Table 33 and Map 20. Almost 40 per cent of this MRA's resident labour force was employed in zone 63 itself. The Index 1 calculations show that the out-commutation flows were well-dispersed, as only two zones in

Table 30

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY ZONE 59
IN THE PERIPHERAL WEST SECTOR, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA)	
	Index 1	Index 2
1 (TC)	0.23	0.40
2 (CBD)	3.98	0.32
3 (TC)	0.00	0.00
4 (TC)	0.80	0.34
5 (TC)	1.37	0.32
6 (TC)	0.11	0.20
7 (Y)	0.11	0.92
8 (TC)	0.57	0.76
9 (TC)	0.00	0.00
10 (TC)	0.46	0.42
11 (TC)	0.23	0.37
12 (TC)	0.11	0.19
13 (NY)	0.57	0.65
14 (NY)	0.68	0.46
15 (Y)	0.91	0.97
16 (Y)	1.93	1.50
17 (TC)	0.80	0.51
18 (Y)	0.11	0.61
19 (NY)	0.11	0.19
20 (TC)	0.00	0.00
21 (TC)	0.46	0.26
22 (NY)	0.00	0.00
23 (EY)	0.11	0.09
24 (TC)	0.34	0.24
25 (NY)	0.68	0.28
26 (NY)	0.00	0.00
27 (EY)	0.00	0.00
28 (EY)	0.11	0.14
29 (TC)	0.23	0.28
30 (TC)	0.00	0.00
31 (TC)	0.00	0.00
32 (E)	1.02	0.97
33 (E)	1.02	0.93
34 (E)	0.46	1.44
35 (E)	0.46	1.29
36 (E)	0.34	1.06
37 (E)	2.28	1.52
38 (E)	1.37	1.12
39 (E)	0.23	0.87
40 (E)	7.96	3.37
41 (NY)	2.05	1.79
42 (NY)	3.07	1.11
43 (NY)	0.11	0.33
44 (NY)	0.11	0.15
45 (NY)	0.34	0.39
46 (NY)	0.11	0.14
47 (S)	0.34	0.18
48 (S)	0.11	0.14
49 (S)	0.11	0.16
50 (S)	0.23	0.16
51 (S)	0.11	0.22
52 (S)	0.00	0.00
53 (S)	0.00	0.00
54 (WS)	12.17	3.19
55 (WS)	1.14	1.56
56 (WS)	0.80	0.47
57 (WS)	1.59	1.76
58 (WS)	11.83	10.33
59 (WS)	32.65*	35.43**
60 (NS)	1.93	1.93
61 (NS)	0.57	0.53
62 (NS)	0.11	0.09
63 (ES)	0.11	0.13

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 31

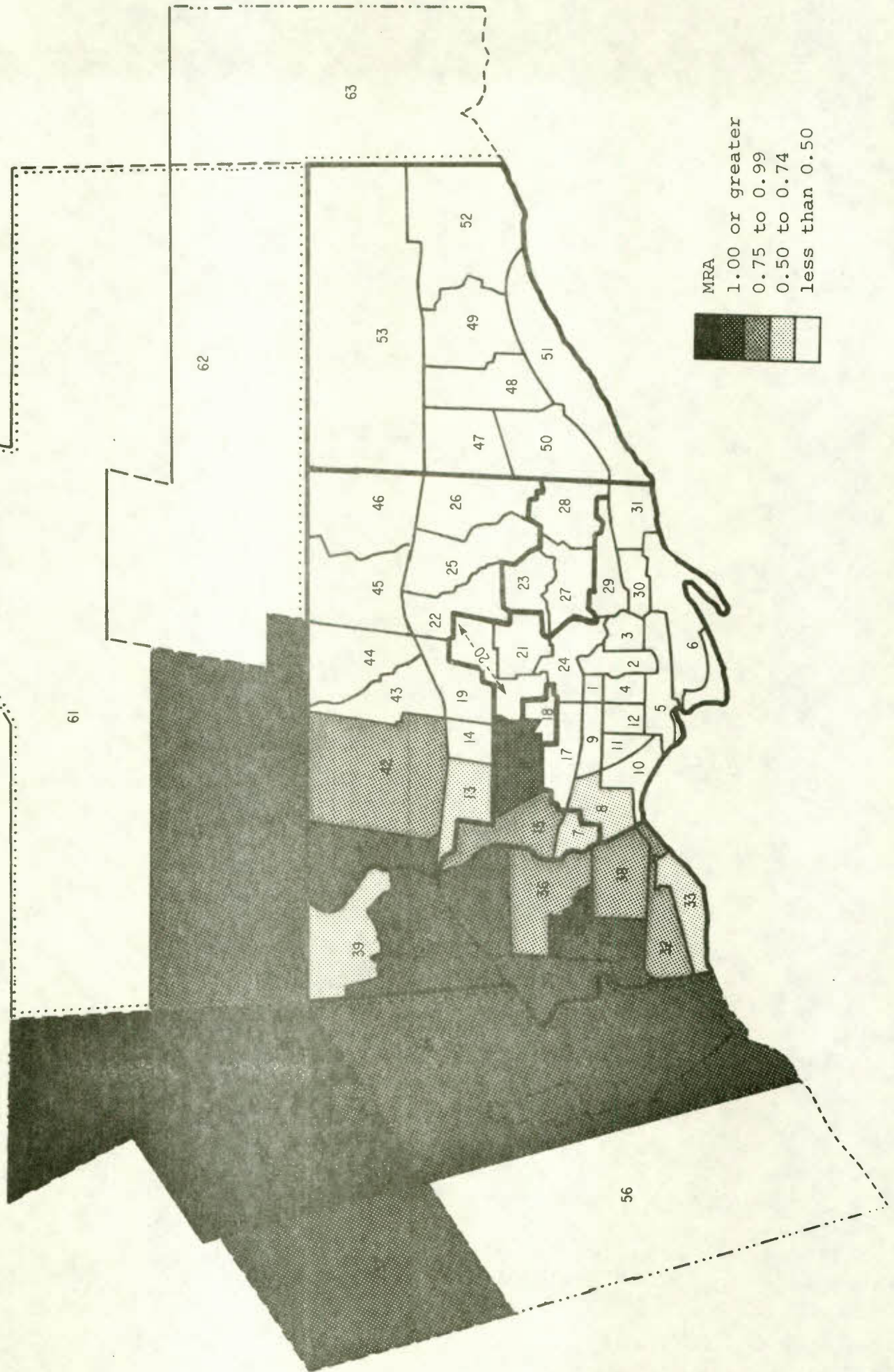
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO
INDEX 4) FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY
ZONE 59 IN THE PERIPHERAL WEST SECTOR, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 59
1 (TC)	0.31
2 (CBD)	0.25
3 (TC)	0.00
4 (TC)	0.27
5 (TC)	0.25
6 (TC)	0.16
7 (Y)	0.72
8 (TC)	0.60
9 (TC)	0.00
10 (TC)	0.33
11 (TC)	0.29
12 (TC)	0.15
13 (NY)	0.51
14 (NY)	0.36
15 (Y)	0.76
16 (Y)	1.18
17 (TC)	0.40
18 (Y)	0.48
19 (NY)	0.15
20 (TC)	0.00
21 (TC)	0.20
22 (NY)	0.00
23 (EY)	0.07
24 (TC)	0.19
25 (NY)	0.22
26 (NY)	0.00
27 (EY)	0.00
28 (EY)	0.11
29 (TC)	0.22
30 (TC)	0.00
31 (TC)	0.00
32 (E)	0.76
33 (E)	0.73
34 (E)	1.13
35 (E)	1.02
36 (E)	0.83
37 (E)	1.20
38 (E)	0.88
39 (E)	0.68
40 (E)	2.65
41 (NY)	1.41
42 (NY)	0.87
43 (NY)	0.26
44 (NY)	0.12
45 (NY)	0.30
46 (NY)	0.11
47 (S)	0.14
48 (S)	0.11
49 (S)	0.12
50 (S)	0.12
51 (S)	0.17
52 (S)	0.00
53 (S)	0.00
54 (WS)	2.51
55 (WS)	1.23
56 (WS)	0.37
57 (WS)	1.39
58 (WS)	8.13
59 (WS)	27.88
60 (NS)	1.52
61 (NS)	0.42
62 (NS)	0.07
63 (ES)	0.11

Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Map 19

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 59 IN THE WEST SECTOR, 1971
(Based upon Index 4 calculations)



the entire CMA received more than 5 per cent of the workers residing in this MRA. These zones were the CBD (10.9 per cent of the zone 63 RLF) and zone 47 in Scarborough (5.5 per cent). Finally, Map 20 indicates that all zones in Scarborough and East York, zones 25, 26 and 46 in North York, and zone 6 in Toronto city were also overrepresented as workplaces for zone 63 residents.

6.3.4 Observations

On the basis of our analysis, the following observations can be made with respect to the journey-to-work from Major Residential Areas in the "peripheral district":

- (i) The three MRAs in the "peripheral district" had very high rates of "in-zone employment". This was particularly true of zone 61 (North Sector) where 53.2 per cent of the resident labour force was employed in the zone. While zone 63 (East Sector) and zone 59 (West Sector) had lower rates of in-zone employment (39.5 per cent and 32.7 per cent of their respective resident labour forces), the tendency of their residents to work in the home zone was well above the CMA average. These high levels of in-zone employment were largely the result of the extended area size of these zones and the relatively 'self-sufficient' employment nature of the municipalities in the periphery. This suggests, in general, that the further a residential area is from the centre of the CMA, the greater will be the percentage of resident labour force employed in the home zone.
- (ii) Zone 59 in the West Sector and zone 61 in the North Sector exhibited similar patterns of job location. That is, workers residing in both of these MRAs tended to be concentrated, with respect to employment, close to the home zone. This is evidenced by the fact that over 60 per cent of those living in each of these MRAs was employed in the sector of residence (zone 59 -- 60.2 per cent and zone 61 -- 64.7 per cent). As a result of these high rates of in-sector employment, out-commutation to other parts of the CMA was relatively light. The outflows that did exist,

Table 32

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2)
FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY ZONE 63
IN THE PERIPHERAL EAST SECTOR, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA)	
	Index 1	Index 2
1 (TC)	0.00	0.00
2 (CBD)	10.86	0.89
3 (TC)	0.44	0.52
4 (TC)	2.11	0.93
5 (TC)	3.14	0.75
6 (TC)	1.22	2.23
7 (Y)	0.00	0.00
8 (TC)	0.11	0.15
9 (TC)	0.11	0.14
10 (TC)	0.11	0.10
11 (TC)	0.11	0.19
12 (TC)	0.00	0.00
13 (NY)	0.33	0.39
14 (NY)	0.55	0.38
15 (Y)	0.55	0.61
16 (Y)	0.44	0.35
17 (TC)	0.44	0.29
18 (Y)	0.11	0.61
19 (NY)	0.22	0.37
20 (TC)	0.11	0.21
21 (TC)	1.33	0.78
22 (NY)	0.11	0.29
23 (EY)	1.66	1.39
24 (TC)	0.67	0.48
25 (NY)	3.77	1.61
26 (NY)	1.44	1.71
27 (EY)	0.78	2.87
28 (EY)	1.33	1.65
29 (TC)	0.78	0.98
30 (TC)	0.44	0.63
31 (TC)	0.44	1.28
32 (E)	0.33	0.32
33 (E)	0.22	0.21
34 (E)	0.11	0.36
35 (E)	0.11	0.32
36 (E)	0.00	0.00
37 (E)	0.22	0.15
38 (E)	0.11	0.09
39 (E)	0.22	0.87
40 (E)	0.55	0.24
41 (NY)	0.33	0.30
42 (NY)	1.55	0.58
43 (NY)	0.22	0.65
44 (NY)	0.22	0.29
45 (NY)	0.33	0.39
46 (NY)	1.66	2.17
47 (S)	5.54	2.95
48 (S)	2.11	2.59
49 (S)	2.33	3.33
50 (S)	2.88	2.03
51 (S)	1.22	2.42
52 (S)	2.55	8.10
53 (S)	1.66	2.73
54 (WS)	0.67	0.18
55 (WS)	0.11	0.16
56 (WS)	0.11	0.07
57 (WS)	0.11	0.13
58 (WS)	0.00	0.00
59 (WS)	0.11	0.12
60 (NS)	0.22	0.23
61 (NS)	0.55	0.53
62 (NS)	1.11	0.93
63 (ES)	39.47*	47.85**

*Indicates the percentage of the resident labour force living living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 33

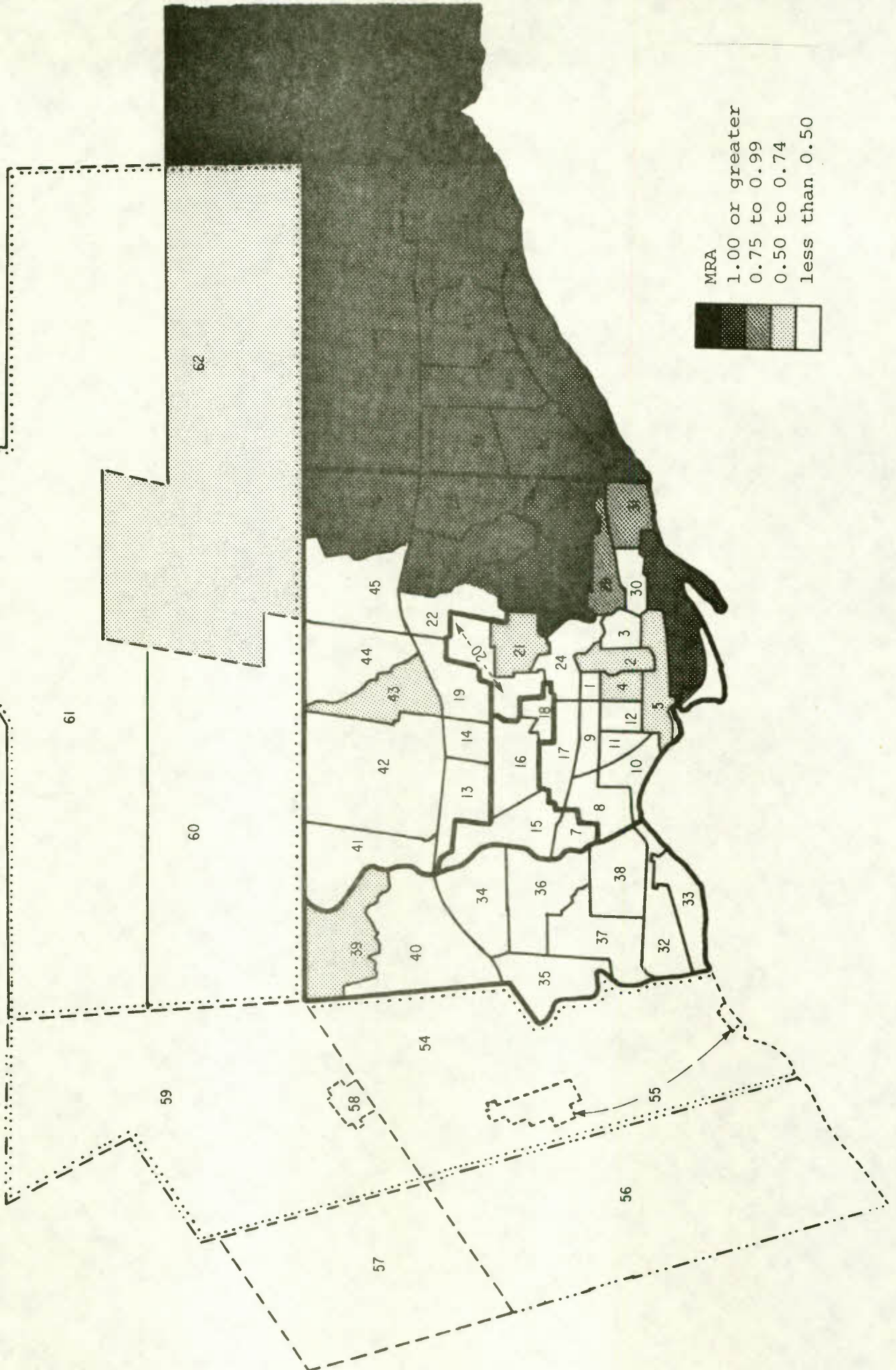
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO
INDEX 4) FROM THE MAJOR RESIDENTIAL AREA REPRESENTED BY
ZONE 63 IN THE PERIPHERAL EAST SECTOR, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 63
1 (TC)	0.00
2 (CBD)	0.68
3 (TC)	0.40
4 (TC)	0.71
5 (TC)	0.58
6 (TC)	1.71
7 (Y)	0.00
8 (TC)	0.12
9 (TC)	0.11
10 (TC)	0.08
11 (TC)	0.14
12 (TC)	0.00
13 (NY)	0.30
14 (NY)	0.29
15 (Y)	0.46
16 (Y)	0.27
17 (TC)	0.22
18 (Y)	0.46
19 (NY)	0.29
20 (TC)	0.16
21 (TC)	0.60
22 (NY)	0.22
23 (EY)	1.06
24 (TC)	0.36
25 (NY)	1.23
26 (NY)	1.31
27 (EY)	2.20
28 (EY)	1.27
29 (TC)	0.75
30 (TC)	0.48
31 (TC)	0.98
32 (E)	0.25
33 (E)	0.16
34 (E)	0.28
35 (E)	0.25
36 (E)	0.00
37 (E)	0.12
38 (E)	0.07
39 (E)	0.67
40 (E)	0.18
41 (NY)	0.23
42 (NY)	0.44
43 (NY)	0.50
44 (NY)	0.23
45 (NY)	0.30
46 (NY)	1.67
47 (S)	2.26
48 (S)	1.99
49 (S)	2.56
50 (S)	1.56
51 (S)	1.86
52 (S)	6.21
53 (S)	2.10
54 (WS)	0.14
55 (WS)	0.12
56 (WS)	0.05
57 (WS)	0.10
58 (WS)	0.00
59 (WS)	0.09
60 (NS)	0.17
61 (NS)	0.41
62 (NS)	0.71
63 (ES)	36.70

Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Map 20

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 63 IN THE EAST SECTOR, 1971
(Based upon Index 4 calculations)



however, were primarily centrally directed to the contiguous outer three boroughs and the core of the CMA. Specifically, 15.1 per cent and 13.0 per cent of the zone 59 residents were employed in Etobicoke and the inner three municipalities, respectively, while 12.2 per cent and 12.3 per cent of the zone 61 residents commuted to North York and the inner three municipalities. The relatively compact distribution of the MRA's residents is illustrated in Maps 18 and 19.

- (iii) Zone 63 in the East Sector was characterised by a more extended pattern of job location than the other two MRAs in the peripheral district. With only 39.5 per cent of its resident workers employed in the home sector, over 60 per cent had jobs situated elsewhere in the CMA. The major destinations of these out-commuters were the inner three municipalities (27.4 per cent of the RLF) and Scarborough (18.3 per cent of the RLF). Map 20 shows that most of the zones in the eastern half of the CMA were overrepresented as employment sites for those living in this MRA. The more extended pattern of job location for zone 63 residents can be largely attributed to the fact that fewer employment opportunities were available close to this MRA than to zones 59 and 61.
- (iv) As would be expected, the commutation to the CBD decreased as we move outward to the MRAs in the external sectors. Only 4.5 per cent of the RLF of zone 61 (North Sector) and 4.0 per cent of the RLF of zone 59 (West Sector) were employed in the CBD. The corresponding figure for zone 63 (East Sector) was considerably higher (10.9 per cent), again reflecting the fewer employment opportunities available in the eastern half of the CMA.

Section 7: Distance and the Journey-to-Work

Having considered the interzonal patterns of journey-to-work in the Toronto CMA, we now direct our inquiry towards the question of distances⁴⁰ travelled by workers commuting between the place of residence and the place of employment. Distance is an important factor in any consideration of the journey-to-work and is one of the broad indicators of travel demand. This section begins with a brief examination of the spatial distribution of residences and jobs in Toronto CMA by distance from the CBD. Following this, we consider the actual average distances commuted,⁴¹ first with respect to the location of the employment site and then with respect to residential location.

7.1 Distance from the CBD and the Spatial Distribution of Residences and Jobs

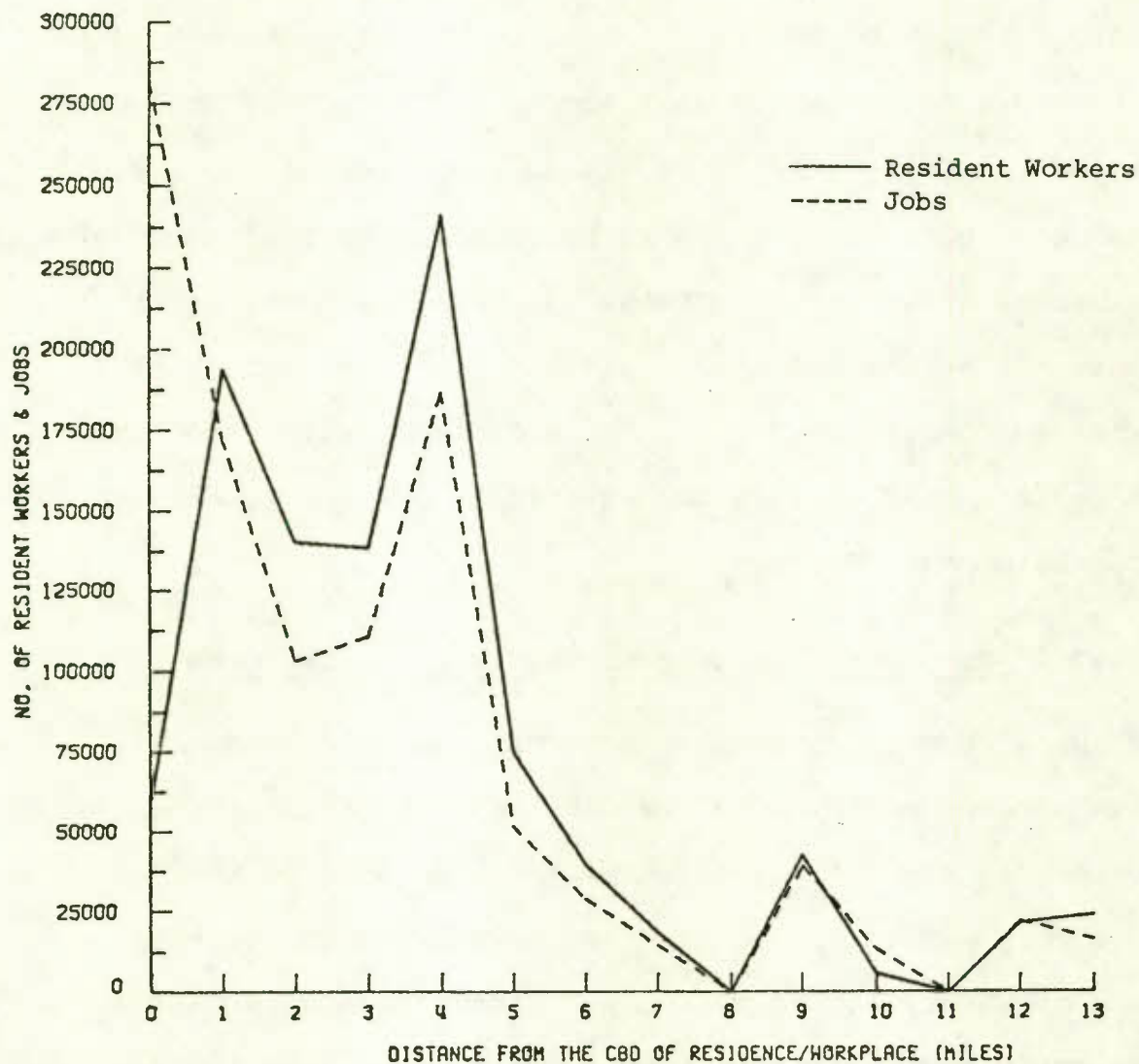
As we have seen, the Toronto CMA has a number of significant employment centres in addition to the Central Business District. Despite this fact, however, Figure 1 illustrates that the pattern of job location was somewhat centralized as over 275,000 workers (26.5 per cent of the CMA total) were employed within two miles of the CBD. With the exception of an upswing between eight and ten miles from

40 In all cases, commuting distance has been calculated as an average airline-mile distance between the zone of residence and the zone of employment.

41 The average journey-to-work distances, discussed in this section, do not include the distances travelled by the commuters from outside the CMA.

Figure 1

DISTRIBUTION OF RESIDENCES AND JOBS
BY DISTANCE FROM THE CBD, TORONTO CMA, 1971



(Scale on X-axis) 0 = 0 to 2 miles
1 = 2 > to 4 miles
2 = 4 > to 6 miles
3 = 6 > to 8 miles
:
:
13 = 26 > to 28 miles

the CBD, however, the number of jobs generally decreased sharply with distance from the CMA core. In comparison to this relatively centralized pattern of job location, Figure 1 shows that the residences of workers were somewhat more evenly distributed across the CMA. A strong central concentration did not exist as only about 60,000 workers (6.0 per cent of the CMA total) lived within two miles of the CBD. Outside of this first two-mile band, however, the number of residences consistently exceeds the number of jobs until twenty miles from the CBD. This pattern of an excess of residences over jobs between two and twenty miles from the CMA centre, then, infers the existence of major centrally directed commuting flows.

7.2 Commuting Distance to the Place of Employment

From the preceding sections, we have seen that while workers employed in the CBD were residentially distributed across the CMA, those working in the SEAs in the *outer three* boroughs tended to live in close proximity to the place of work. In the *peripheral* district, however, some SEAs exhibited a pattern of wide residential distribution while others showed residential concentration close to the employment site. These results raise the critical issue of the comparison of average commuting distances to the CBD and to the *outer three* and the *peripheral* secondary employment areas. This question is very important for future metropolitan transportation problems and traffic flows. Taaffe,

Garner and Yeates (1963) have pointed out its potential significance.

If the "average length" of the peripheral journey-to-work is less than that to the CBD, then, all other things being equal, one might expect metropolitan traffic congestion to be alleviated by the continuing trend toward industrial decentralization (p. 15).

Previous studies carried out in large metropolitan areas [for example, Taaffe, Garner and Yeates (1963) in Chicago; and Hoover and Vernon (1959) in New York] have found that the average distance travelled by peripheral commuters is significantly less than that travelled by CBD commuters. Evans (1973), in his London, UK Study, arrived at a similar conclusion as he found supporting evidence for his hypothesis that "the further a place of work is from the CBD, the shorter will be the average journey-to-work" (p. 201).

On the basis of these findings then, we might expect that, in Toronto CMA, the distance of the journey-to-work would be greatest to the CBD and would successively decrease the further the place of employment was from the CMA centre. From Table 34, which aggregates the zonal data in Table 35, it can be seen, however, that this is not the case. The average journey-to-work distance travelled by workers employed in the periphery (6.0 miles) was greater than that travelled by CBD commuters (5.7 miles); however, CBD commuters did travel greater distances than those working in the *inner three* municipalities and *outer three* boroughs.

Table 34

AVERAGE COMMUTING DISTANCE BY MUNICIPALITY/SECTOR
OF EMPLOYMENT, TORONTO CMA, 1971

Municipality/Sector of Employment	Average Commuting Distance by Workers Employed in the Municipality/Sector (in miles)
CBD	5.70
Toronto City	4.46
York	3.97
East York	4.20
Average "Inner Three" Municipalities	4.28
Etobicoke	5.23
North York	4.61
Scarborough	4.36
Average "Outer Three" Boroughs	4.74
West Sector	5.94
North Sector	6.06
East Sector	6.40
Average "Peripheral District"	6.00

Source: Based on 1971 Census place-of-work data, Statistics
Canada.

Table 35

AVERAGE COMMUTING DISTANCE BY ZONES AT
THE PLACE OF WORK, TORONTO CMA, 1971

Zone of Employment	Average Commuting Distance by Workers Employed in the Zone (in miles)
1 (TC)	3.70
2 (CBD)	5.70
3 (TC)	4.20
4 (TC)	4.90
5 (TC)	5.70
6 (TC)	6.10
7 (Y)	3.20
8 (TC)	3.80
9 (TC)	3.90
10 (TC)	3.70
11 (TC)	4.00
12 (TC)	3.50
13 (NY)	4.20
14 (NY)	4.40
15 (Y)	4.20
16 (Y)	4.10
17 (TC)	4.00
18 (Y)	2.50
19 (NY)	3.60
20 (TC)	2.50
21 (TC)	4.40
22 (NY)	3.70
23 (EY)	4.60
24 (TC)	4.20
25 (NY)	4.90
26 (NY)	4.10
27 (EY)	3.60
28 (EY)	3.80
29 (TC)	3.40
30 (TC)	4.30
31 (TC)	2.80
32 (E)	5.10
33 (E)	4.50
34 (E)	4.00
35 (E)	4.20
36 (E)	3.50
37 (E)	5.40
38 (E)	4.90
39 (E)	5.00
40 (E)	6.40
41 (NY)	5.90
42 (NY)	5.20
43 (NY)	3.50
44 (NY)	3.60
45 (NY)	4.80
46 (NY)	4.90
47 (S)	4.60
48 (S)	3.80
49 (S)	4.00
50 (S)	4.10
51 (S)	3.70
52 (S)	4.90
53 (S)	5.70
54 (WS)	7.30
55 (WS)	5.20
56 (WS)	5.00
57 (WS)	3.50
58 (WS)	4.30
59 (WS)	6.40
60 (NS)	8.50
61 (NS)	4.40
62 (NS)	5.30
63 (ES)	6.40

Source: Based on 1971 Census place-of-work data, Statistics
Canada.

Certain factors can be identified as accounting, at least in part, for the inconsistency between our findings in the Toronto CMA and the previous studies cited above. First, much of this earlier research emerged from information collected in the fifties while our study is based on 1971 data. Certainly North American urban centres have undergone significant changes in the intervening years and some of these might well have affected the journey-to-work. For example, public and private transportation facilities in suburban areas have improved significantly in this period and, consequently, workers in 1971 could afford to commute greater distances to peripheral employment sites than they could two decades earlier.

Second, the long average commuting distance to the peripheral workplaces would seem to be the result of a small, yet significant, minority who travel relatively great distances to jobs in this district. This is shown in Table 36 where the percentage distribution of commuters by distance travelled is given. It indicates that 27.3 per cent, 22.3 per cent, and 20.2 per cent of those working in the East, North, and West Sectors, respectively, travelled ten miles or more to the place of employment. In contrast to this, only 11.3 per cent of the CBD workforce commuted ten miles or more to work. Despite the longer average commuting distance to employment in the external sectors, Table 36 also shows that a smaller percentage of those employed in the CBD travelled short distances to work than those working anywhere

Table 36

AVERAGE COMMUTING DISTANCE AND PERCENTAGE DISTRIBUTION OF WORKERS
BY MUNICIPALITY/SECTOR OF EMPLOYMENT, TORONTO CMA, 1971

Commuting Distance (miles)	CBD	Toronto City	York	East York	Etobicoke	North York	Scarborough	West Sector	North Sector	East Sector	Total CMA
0 - 1.99	12.96	32.80	41.35	32.45	27.46	28.35	28.28	33.17	20.85	63.91	27.96
2 - 3.99	29.26	22.53	27.00	27.43	16.93	27.54	34.18	23.28	29.70	0.00	25.30
4 - 5.99	18.83	16.74	11.11	19.46	21.52	18.05	13.76	5.99	10.52	0.00	15.91
6 - 7.99	13.07	11.24	7.33	9.81	13.22	10.63	7.10	6.52	8.17	5.21	10.45
8 - 9.99	14.62	8.42	5.05	3.63	8.05	6.05	6.73	10.89	8.43	3.59	8.82
10 - 11.99	2.17	3.09	2.46	2.74	3.19	3.71	4.51	6.74	9.08	7.36	3.81
12 - 13.99	4.68	2.63	2.23	0.80	3.26	2.03	2.15	3.91	5.24	3.41	3.07
14 - 15.99	1.39	0.61	1.37	1.34	3.09	0.82	1.20	2.48	4.37	3.77	1.52
16 - 17.99	0.00	0.33	0.23	1.54	0.97	0.82	0.58	2.75	0.95	2.87	0.79
18 - 19.99	1.38	0.69	0.27	0.00	1.61	0.98	0.76	1.40	0.95	3.59	1.04
20 +	1.64	0.91	1.59	0.80	0.70	1.04	0.75	2.87	1.75	6.28	1.32
Total*	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*Totals may not tally due to rounding.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

else in the CMA. Only 13.0 per cent of the CBD working labour force journeyed less than two miles to the jobs while the comparable figures for the municipalities/sectors range from 27.5 per cent (Etobicoke) to 63.9 per cent (East Sector). Similarly, a smaller proportion of the CBD workforce (41.5 per cent) lived within four miles of the job than the workforce employed in any of the municipalities/sectors. In Figures 2 to 11, commuting distances for the CMA total are compared, in turn, to the journey-to-work lengths to the CBD and to the municipalities/sectors. These figures indicate a general trend that non-CBD workplaces employed relatively more workers who travelled very short distances to work than the CMA average.

7.3 Commuting Distance from the Place of Residence

Having examined the journey-to-work distances to the place of employment, we will now turn our attention to average commuting distances travelled from the place of residence. Evans (1973) found in London, UK that residents in peripheral locations tended to commute farther to work than those living more centrally. He attributed this to the fact that "those living near the centre will travel only to the CBD or nearby workplaces while those living further out will still travel to the CBD and to intermediate workplaces" (p. 201). From Table 37 we can see that Evans' conclusion was also valid for Toronto CMA. This table, which aggregates the zonal data presented in Table 38, shows that the further workers lived from the CBD, the longer their journey-to-work

Figure 2

DISTANCE PROFILES - CMA AND CBD COMMUTERS,
TORONTO CMA, 1971

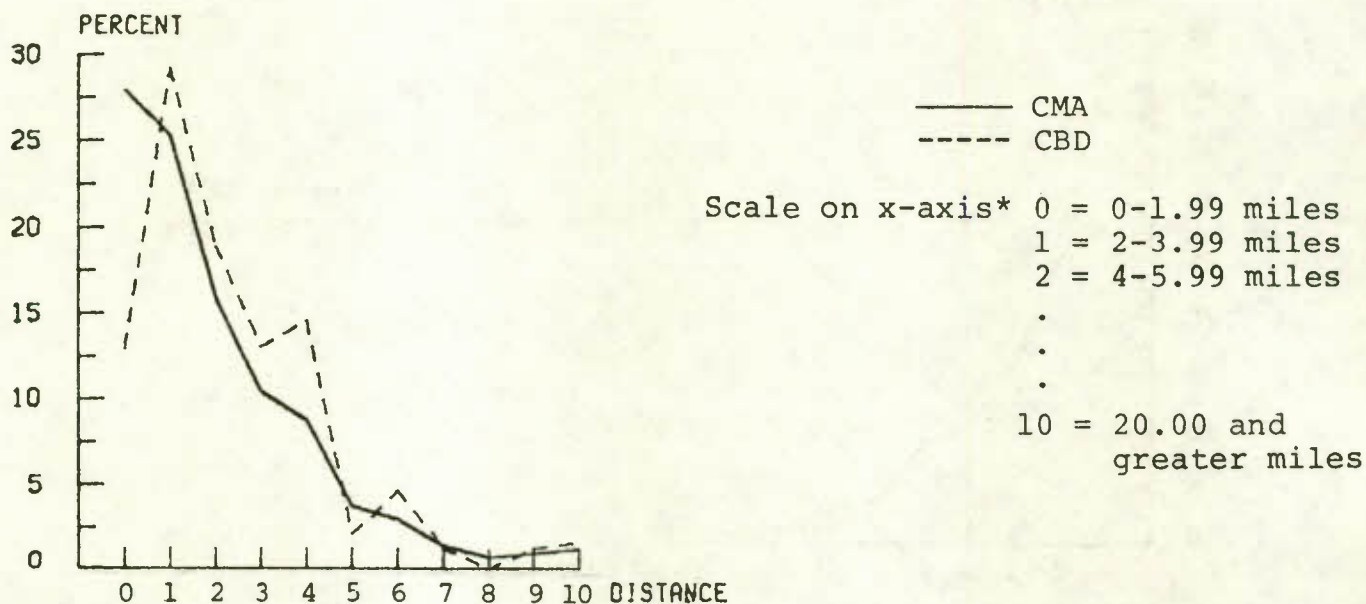
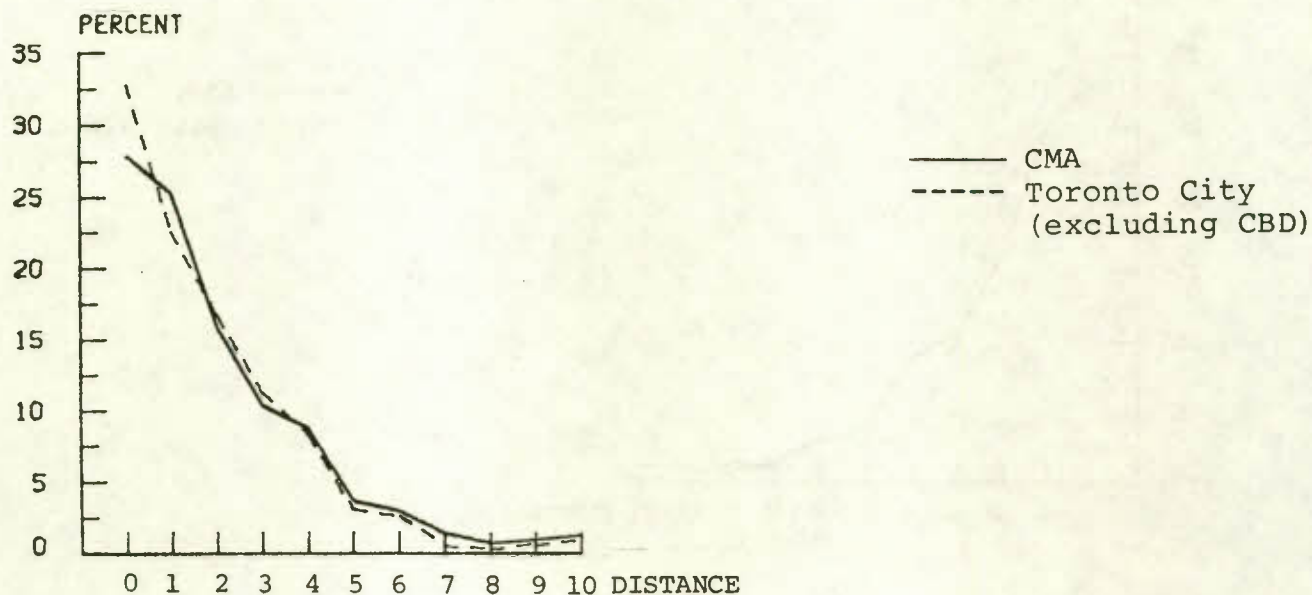


Figure 3

DISTANCE PROFILES - CMA AND TORONTO CITY (EXCLUDING CBD)
COMMUTERS, TORONTO CMA, 1971



*This scale applies to all the Figures from 2-11 (inclusive).

Figure 4

DISTANCE PROFILES - CMA AND YORK COMMUTERS,
TORONTO CMA, 1971

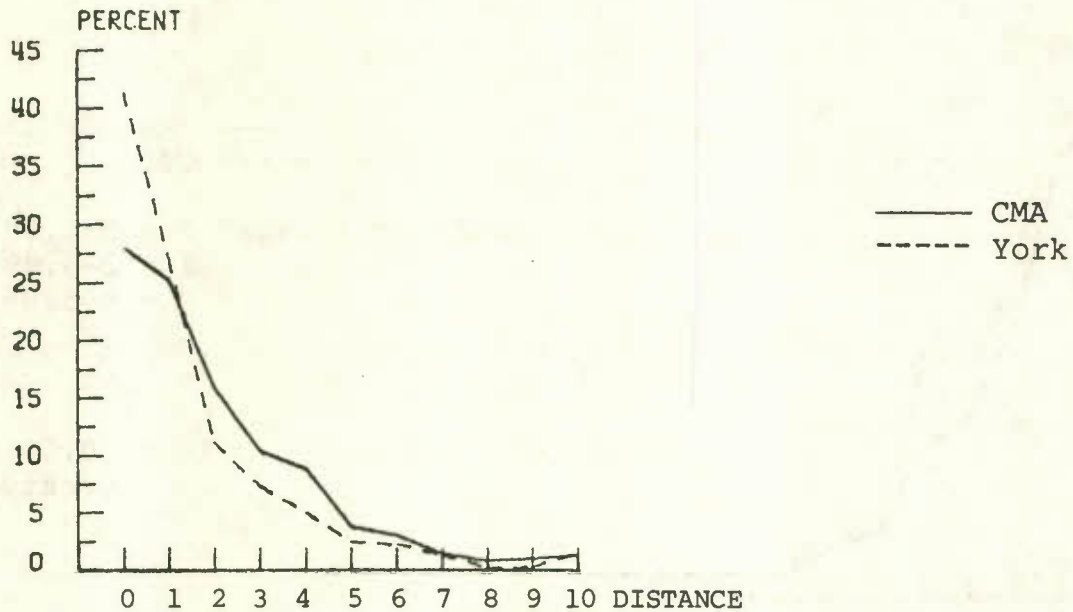


Figure 5

DISTANCE PROFILES - CMA AND EAST YORK
COMMUTERS, TORONTO CMA, 1971

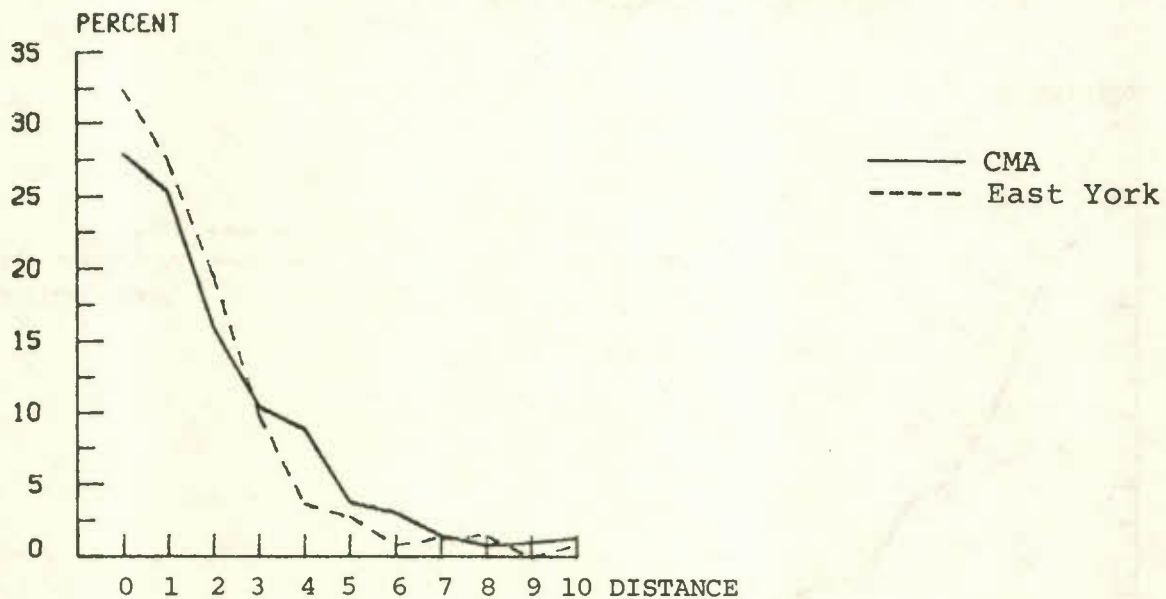


Figure 6

DISTANCE PROFILES - CMA AND ETOBICOKE
COMMUTERS, TORONTO CMA, 1971

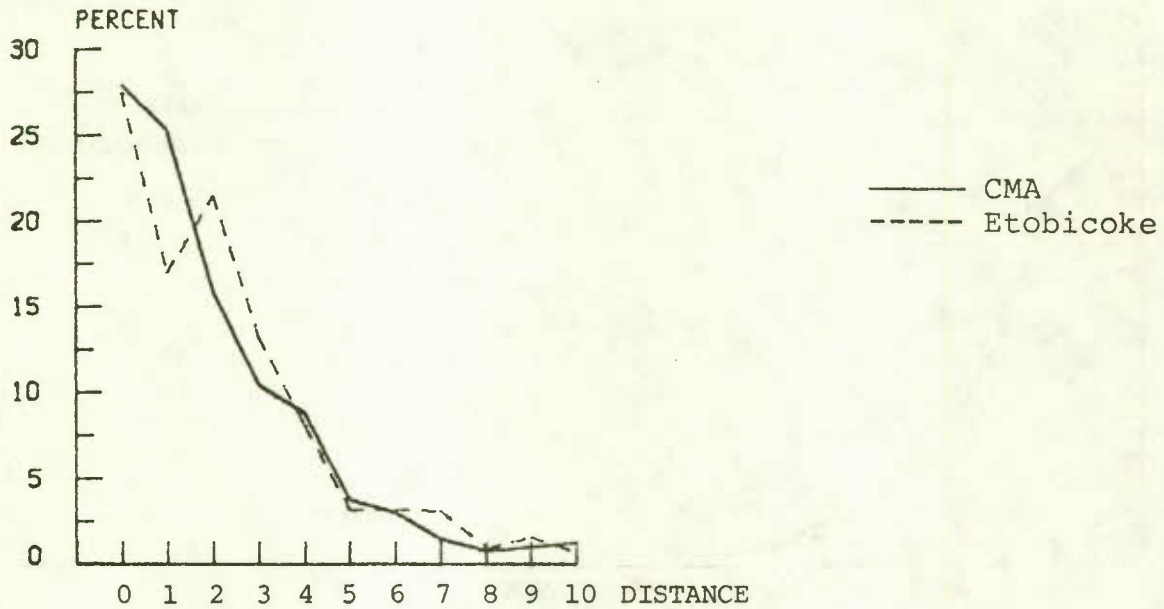


Figure 7

DISTANCE PROFILES - CMA AND NORTH YORK
COMMUTERS, TORONTO CMA, 1971

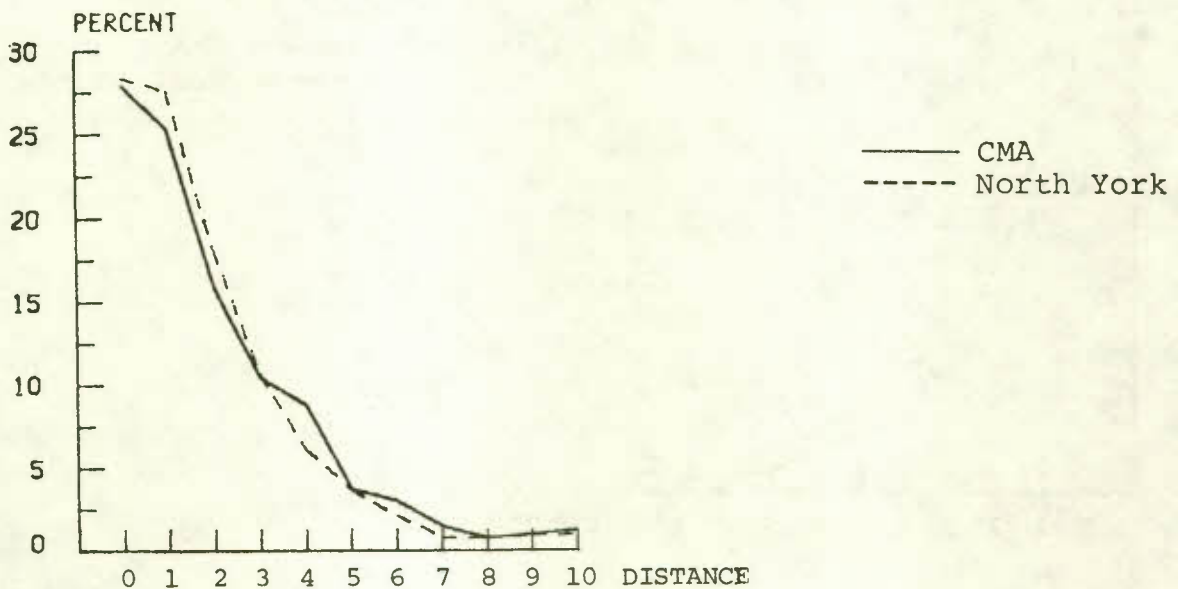


Figure 8

DISTANCE PROFILES - CMA AND SCARBOROUGH
COMMUTERS, TORONTO CMA, 1971

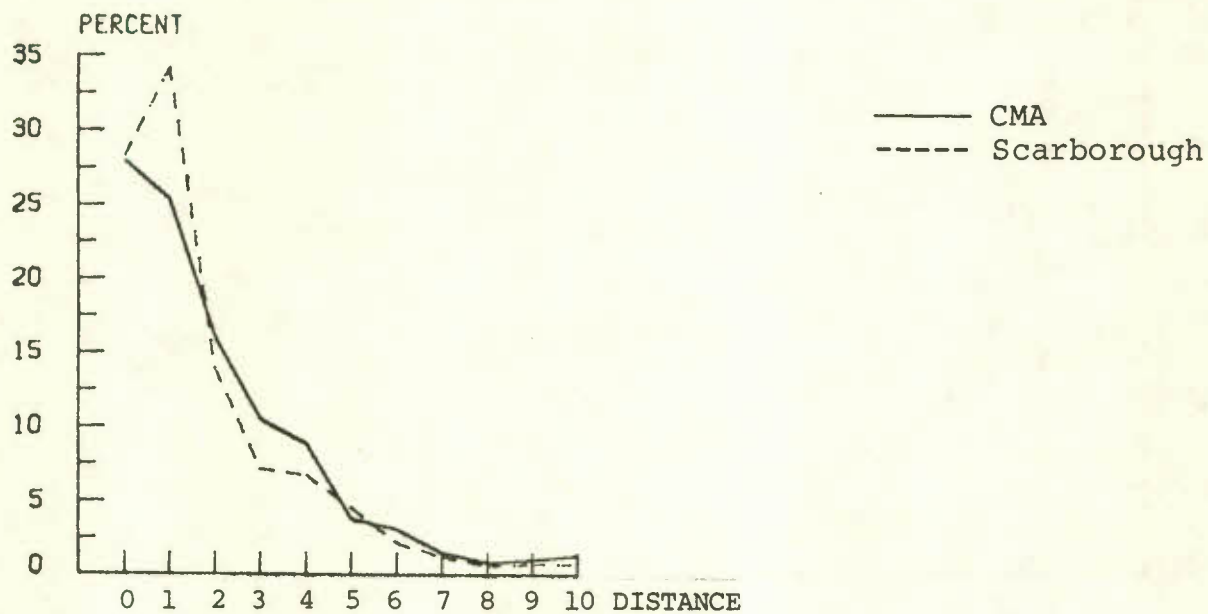


Figure 9

DISTANCE PROFILES - CMA AND WEST SECTOR
COMMUTERS, TORONTO CMA, 1971

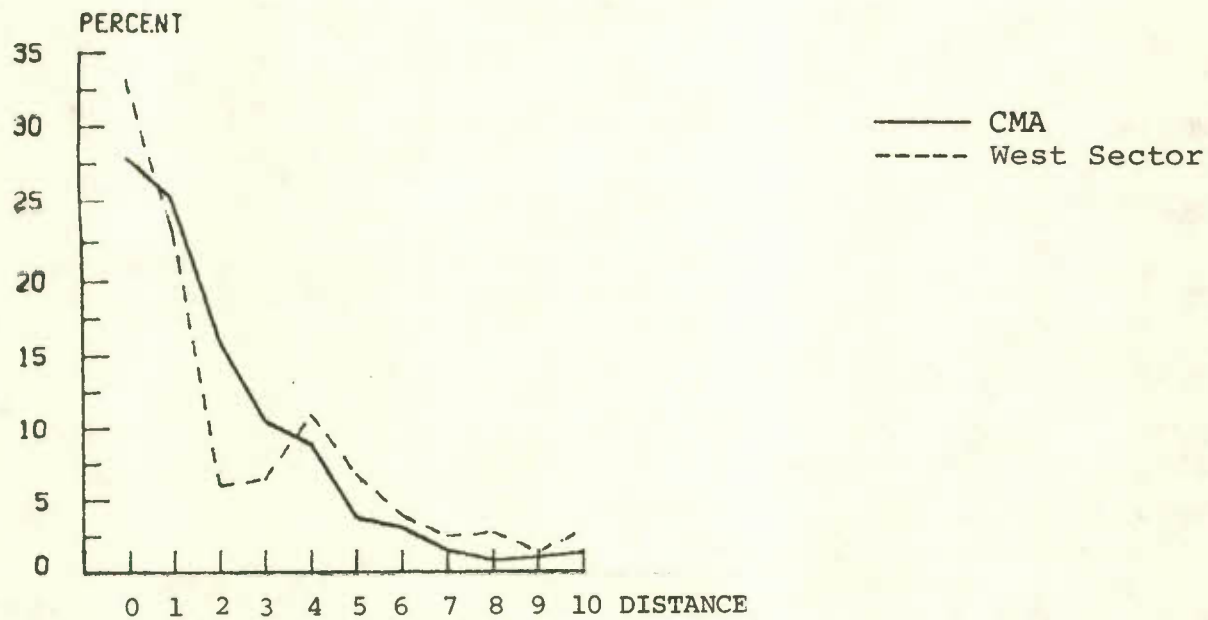


Figure 10

DISTANCE PROFILES - CMA AND NORTH SECTOR
COMMUTERS, TORONTO CMA, 1971

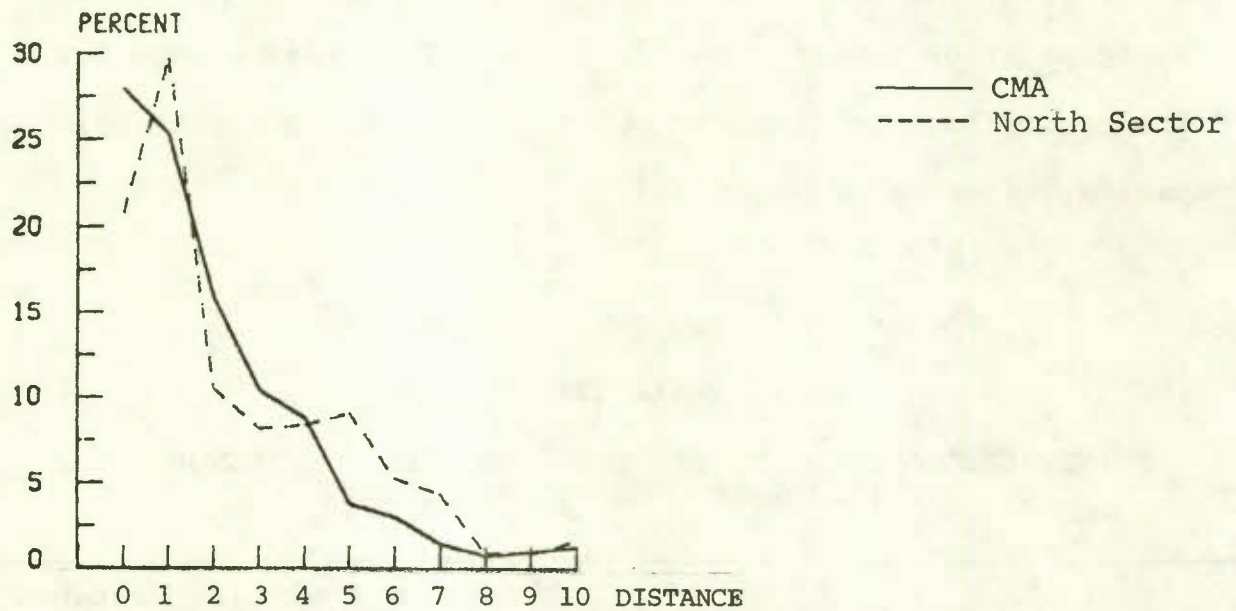
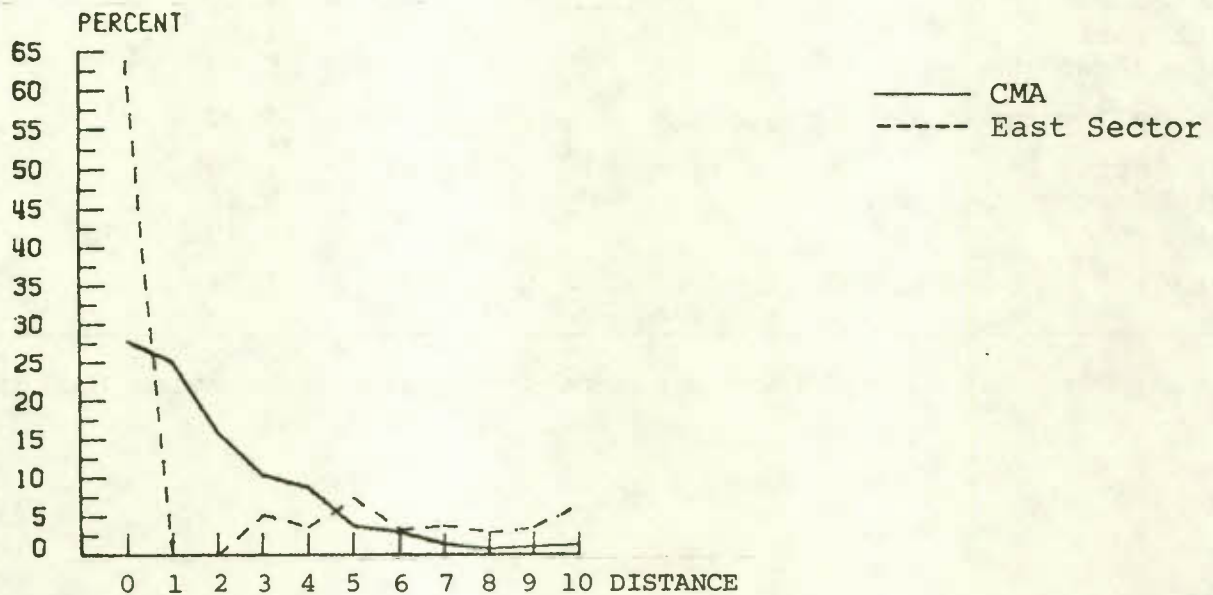


Figure 11

DISTANCE PROFILES - CMA AND EAST SECTOR
COMMUTERS, TORONTO CMA, 1971



tended to be. Workers residing in the CBD commuted, on the average, only 1.7 miles to work. The average commuting distance for zonal resident labour forces in the inner three municipalities however was 3.5 miles. This figure rose for the outer three boroughs to 5.2 miles and for the external sectors, it reached 7.3 miles.

Table 37

AVERAGE COMMUTING DISTANCE BY MUNICIPALITY/SECTOR
OF RESIDENCE, TORONTO CMA, 1971

Municipality/Sector of Residence	Average Commuting Distance by Workers Resident in the Municipality/Sector (in miles)
CBD	1.70
Toronto City	3.47
York	3.98
East York	3.83
Average "Inner Three" Municipalities	3.59
Etobicoke	4.87
North York	4.96
Scarborough	5.93
Average "Outer Three" Boroughs	5.22
West Sector	6.59
North Sector	8.46
East Sector	10.40
Average "Peripheral District"	7.34

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 38

AVERAGE COMMUTING DISTANCE BY ZONES AT
THE PLACE OF RESIDENCE, TORONTO CMA, 1971

Zone of Residence	Average Commuting Distance by Workers Resident in the Zone (in miles)
1 (TC)	2.40
2 (CBD)	1.70
3 (TC)	2.60
4 (TC)	2.70
5 (TC)	2.60
6 (TC)	4.40
7 (Y)	4.70
8 (TC)	4.10
9 (TC)	3.60
10 (TC)	3.40
11 (TC)	3.60
12 (TC)	3.60
13 (NY)	4.20
14 (NY)	3.70
15 (Y)	4.10
16 (Y)	4.00
17 (TC)	3.60
18 (Y)	3.60
19 (NY)	4.20
20 (TC)	3.70
21 (TC)	3.40
22 (NY)	4.70
23 (EY)	3.50
24 (TC)	2.50
25 (NY)	4.30
26 (NY)	5.00
27 (EY)	3.40
28 (EY)	4.40
29 (TC)	3.80
30 (TC)	3.70
31 (TC)	4.30
32 (E)	3.90
33 (E)	4.00
34 (E)	5.20
35 (E)	5.50
36 (E)	5.30
37 (E)	5.00
38 (E)	4.10
39 (E)	6.10
40 (E)	4.90
41 (NY)	4.80
42 (NY)	4.60
43 (NY)	5.20
44 (NY)	5.80
45 (NY)	5.60
46 (NY)	6.10
47 (S)	5.00
48 (S)	5.70
49 (S)	6.50
50 (S)	5.00
51 (S)	6.00
52 (S)	8.50
53 (S)	6.20
54 (WS)	6.70
55 (WS)	5.50
56 (WS)	7.40
57 (WS)	6.80
58 (WS)	4.20
59 (WS)	8.00
60 (NS)	6.70
61 (NS)	10.00
62 (NS)	7.70
63 (ES)	10.40

Source: Based on 1971 Census place-of-work data, Statistics
Canada.

7.4 Observations

In conclusion, our discussion of distance travelled in the journey-to-work for Toronto CMA has yielded the following observations:

- (i) The farther the worker lived from the Toronto CMA centre, the longer the journey-to-work tended to be. This is largely due to the strength of the central core as an area of employment.
- (ii) Workers employed in the CBD tended to commute longer distances than those working in the *inner three* municipalities and the *outer three* boroughs. It would appear that this tendency was the result of different patterns of residential location characterizing CBD and non-CBD employment centres. While the latter tended to attract workers who lived in close proximity, the former employed labour forces which were residentially distributed across the CMA.
- (iii) The average commuting distance to jobs in the *peripheral* district was longer than to workplaces anywhere else in the CMA, including the CBD. Although almost half of those employed in this district travelled less than two miles to work, the high average commuting distance (6 miles) can be largely accounted for by the significant number who travelled very long distances to their jobs. These findings regarding distance travelled to work in the periphery are consistent with our conclusions in an earlier section concerning the journey-to-work to SEAs. In particular, we found that employment centres in the *peripheral* district exhibited both extended and clustered patterns of residential distribution of their workers.

Section 8: Summary and Conclusions

In this final section, the major conclusions which have arisen from our analysis of the journey-to-work in the Toronto CMA will be presented. While the detailed nature of the preceding report makes a concise summary somewhat problematic, the following emerge as prominent observations.

Observation 1

Out-of-home-zone commuting is the rule, not the exception.

It seems reasonable to expect that, for a single urban region, there is an approximate balance between the resident labour force and the working labour force, even if some residents work outside the region and some "outsiders" commute into the region for employment. At a more micro level of analysis, however, it is clear that there will generally be an imbalance between the resident labour force and the working labour force of the individual intra-urban zones. If this were not so, job commuting would not be the urban issue that it actually is in every major metropolitan region in the world.

These zonal imbalances arise from differences in the patterns of residence and job location. The data and maps compiled for the Toronto CMA in this report clearly indicate that the spatial distribution of residences was wider and less dense than was the distribution of jobs. Employment opportunities *were not* exclusively concentrated in the central area of the region; the majority were

concentrated in a significant number of fairly widely dispersed employment areas, but the most important of these was the central business district. No similar concentration of residences existed in the urban area.

Given this residential/job imbalance, commuting is a natural and expected outcome. Indeed, we found this to be the case in Toronto CMA as approximately four out of every five workers left their zone of residence to work. Certainly, this very high overall rate of out-commutation cannot be totally explained, however, by the different patterns of residence and job location. If it was, zones in which the job ratio (number of jobs over the number of employed residents) was greater than one would tend to have had low out-commuting rates (or high in-zone employment rates); for some (employment) zones the expectation held, for others it did not. If one assumes that the absolute size of the zonal working labour force reflects the variety of available occupational opportunities as well, one would expect that (employment) zones with high levels of employment opportunities would have had high rates of home-zone employment (low out-commuting rates); again the correlation held for some employment zones and not for others.

On the basis of this surprisingly weak resident-job matching, it is clear, then, that workers *do not* choose their place of work and/or place of residence merely to minimize access (travel time/cost) between these two locations. Factors other than distance/access are obviously of considerable

importance although, of course, one expects this factor to play some major role in the decision processes.

The observed patterns of the relationships between where people live and where they work do not provide explanations but they do lead to questions that demand answers. In seeking to provide some of the relevant answers, new models and quantitative evaluations will be developed and presented in our following report(s) on socioeconomic factors which affect journey-to-work patterns and distances.

Observation 2

A hierarchy of employment areas exists as indicated by the size of the zonal workforce, the directional and distance characteristics of its employment pull and its attractiveness as a workplace for resident workers.

While the Toronto CMA is characterized by a series of employment centres, we do observe that the most important employment zone of the CMA is the CBD (zone 2). It is, by far, the largest employment zone in the urban region as it employed approximately 16 per cent of the CMA's working labour force. As well, despite a noticeable north-east bias, the CBD pulled its labour supply from all possible directions, albeit with diminishing attractiveness as distance increased. On the basis of the average commuting distance travelled by its working labour force, the CBD ranked very high among all zones. Moreover, it was well above average in its attractiveness, as a job centre, for its own resident labour force. Given its very large size as an employment area and these

features of importance for the whole of the CMA, the CBD might be considered the pinnacle of the hierarchy of employment areas. Its predominance is also reflected in the fact that it was largely responsible for the strong (but not overwhelming) central commuting tendency in the region and its great attractiveness to residents of other *employment* areas. Thus, transportation facilities are strongly orientated towards this central zone, from both residential and employment areas throughout the CMA. It should also be noted that the CBD also appeared as a "barrier"; there was very little travel by-passing the CBD from residences on one side to jobs on the opposite side.

Below this pinnacle, and perhaps an extension of it, are three employment zones (4, 5, and 24 in Toronto city) contiguous to the CBD which also pulled in workers from virtually all zones in all possible directions. Together, these three zones provided jobs for approximately 10 per cent of the CMA workforce. By virtue of their geographical location and CBD-like employment characteristics, zones 4, 5, and 24 can be lumped together, along with the CBD, to form an "extended central business district" (ECBD). This enlarged employment centre (zones 2, 4, 5, and 24) provided jobs for 26 per cent of the CMA's working labour force and certainly represented the dominant destination in the centrally orientated commuting pattern of the CMA. While the home-zone employment was relatively lower for these three contiguous zones (given the very strong employment pull of

the CBD), together with the CBD, the in-ECBD employment of resident workers was very high compared to the CMA average.

The five secondary employment areas in the *inner three* which are not contiguous to the CBD exhibited employment characteristics which were quite different from those of the ECBD. With the exception of zone 6 (Toronto city), the working labour forces of these SEAs travelled shorter average commuting distances than their CBD counterpart. While all employment zones in this level below the CBD and ECBD had surprisingly low home-zone employment levels, the rate of such employment was highly correlated with the size of the employment base and job ratio of the relative zone. Another factor which clearly distinguishes these SEAs from the CBD and ECBD was the bias away from the CBD in the direction of employment pull of residents of other zones who worked in these SEAs. This seems to suggest that there existed a stronger work requirements-to-resident occupational skills linkage in comparison to the diverse linkages associated with the CBD and ECBD. Still, this tier of employment centres was strongly characterized by centrally orientated commuting patterns.

The suburban tier of SEAs (in the *outer three*) is distinguished from those in the *inner three* tier (excluding the ECBD) by somewhat higher rates of in-zone employment and slightly longer average distances to work. To some extent, these differences can simply be attributed to the extended

spatial dimensions of these suburban zones.⁴² Thus, the larger zonal areas in the *outer three* heighten the probability of in-zone employment while, at the same time, increasing the distance required for inter-zone travel. Still, it is evident that the residential location of workers employed in the suburban tier tended to be concentrated in the same general sector as the SEA in question. From a directional perspective, then, reverse and intersuburban flows became more important relative to central commuting.

As with the employment centres in the *outer three*, home-zone employment in the peripheral SEAs cannot be explained by the size of the working labour force or job ratio; their high rates of in-zone employment probably derived from features such as the large physical dimensions of these zones and the traditional development that was independent from that of the central city. It follows that reverse commuting was generally very significant and that centrally orientated commuting (from outside the CMA) tended to terminate in these SEAs. While one might expect a relatively lower distance to work for employees in the periphery, on average this expectation was not borne out by the evidence. This was due, in

42 In contrast to the SEAs in the *inner three*, the correlation between in-zone employment and both the job ratio and the size of the working labour force was not significant for SEAs in the *outer three*. In addition to the effect of the greater spatial size of the suburban SEAs, the lack of alternative employment opportunities in the *outer three* and the degree of employee-job matching may also have dictated, in part, the level of in-zone employment.

large part, to the relatively small, but significant, proportion of workers who commuted very long distances to jobs in the periphery. It should be noted, however, that there was a high proportion of workers who also travelled relatively short distances (compared to workers in the *inner* and *outer three*) to employment in the periphery.

The hierarchy of employment centres emerges as a pyramid topped by the CBD which was important as an employment centre for the whole region. The "base" of the pyramid is formed by the less central and largely more independent employment zones which were particularly attractive to their own residents and workers living in the same urban sector.

Observation 3

As the location of workers' residences becomes more peripheral, and less central employment areas exist as alternatives, the attractiveness of the core area, as a workplace, diminishes.

Given the proximity of diverse and numerous employment opportunities, it is not surprising that workers residing in the *inner three* municipalities were predominantly employed in this central area of the CMA. In fact, the majority of the workers living in major residential zones (MRAs) in these municipalities had jobs in Toronto city itself. From all of the MRAs in the *inner three*, the primary destination of this centrally directed commutation was the CBD.

The workers resident in the suburban MRAs of the *outer three* boroughs continued to have a significant affinity to jobs in the centre of the metropolitan area but, where alternative employment opportunities were present, this tendency was less strong. Thus, from the West (Etobicoke), centrally oriented commuting was weaker than from the east (Scarborough) and north (North York) where proximate employment opportunities were relatively fewer.

The dominant job location for workers living in the peripheral district MRAs was the sector of residence, itself. This would appear to have been partly due to the spatial size of these sectors and, also, to their "self-sufficient" nature. As a result of these high rates of in-sector employment, out-commutation to other parts of the CMA, including the central area, was relatively light. From the MRAs in the *periphery*, as from those in the *outer three*, the degree of commutation to the inner city was strongly influenced by the availability of intervening employment opportunities; to the east, with relatively few job opportunities, the attractiveness of the central city was always stronger than for the residents in the northern and western MRAs.

What emerges, then, besides a mirror image of the discussion of the journey-to-work patterns associated with the SEAs, is a more distinct impression of how people make employment choices from the perspective of a relatively fixed residential location. The picture which develops is that people will try to work reasonably close to where they

live, if at all possible. That is, if individuals perceive their residential location to be fixed, they will seek to work in areas that provide ease of access *if* such work areas are available. While some are likely to find satisfactory jobs nearby, residents of less economically active areas must commute to work in more distant locations, most notably the central district.

Observation 4

The metropolitan area is comprised of reasonably distinct sections all connected by commuting ties with the central city but all somewhat segregated from other sections due to specialized location linkages.

The urban system is defined to some extent by its everyday travel patterns of which the journey-to-work is by far the most significant. It has already been noted, from both a "destination" and an "origin" perspective, that the CBD and ECBD were important commuting destinations for workers resident throughout the CMA. The stable and oft-repeated commuting flows to and from these employment centres (and to a lesser degree, other smaller work places) act as important integrating forces in the urban system.

In many ways, however, the patterns of journey-to-work do not provide very strong linkages between the various districts of the CMA. For example, we have earlier noted that there was very little across-CBD commutation, i.e., people tended to work in the CBD or on the same side of it as their residential location. Since centrally

orientated commutation was generally very important, then, the CBD acted as a prominent barrier between the eastern and western halves of the CMA.

We also comment on the tendency of peripheral areas to be self-serving (i.e., high home-zone employment); again this pattern segregates rather than unites the urban area. Moreover, many of the SEAs in both the *inner* and *outer three* tended to draw their non-resident labour supplies from zones in reasonably close proximity. Because of this uneven "gravitational" pull of various employment centres, these residential patterns do not necessarily act as integrating elements in the urban system.

Observation 5

The Toronto CMA has many employment centres, numerous residential communities and a complex overlay of commuting patterns; throughout the area centrally orientated, reverse and inter-suburban commuting patterns interact with each other.

The simple, classical model of urban form, which depicts single employment nucleus, is an inappropriate (and even misleading) explanatory tool for large, economically sophisticated metropolitan areas. Operationally, the only value of this model is to approximate the pattern of centrally orientated commuting *which ends up in the CBD*. All other types of journey-to-work flows cannot be adequately considered by this model.

In fact, as we have seen in the Toronto CMA, those various commuting flows *not* destined for the CBD constitute a very significant element of the overall journey-to-work pattern. The flows not accommodated in the classical single-nucleus model include central commuting which stops short of the CBD, reverse commuting and inter-suburban commuting. While the CBD is, of course, an important destination of central commuting flows, a significant number of suburban and peripheral district residents commuted centrally to jobs *not* located in the core area.⁴³ Moreover, reverse direction commuting brought many workers to jobs less centrally located than their residences. The terminal point of this commutation was most often the *outer three* (particularly North York) rather than the external sectors.

Although they were found to be less significant than central or reverse commuting, intersuburban flows did constitute a relatively important journey-to-work pattern between North York and its two adjacent boroughs, Etobicoke and Scarborough. Thus, it appears that, in addition to centrally oriented commuting, these other types of flows are, indeed, significant indicators of the employment-related travel demand in the Toronto CMA. An awareness of their dimensions depends, of course, upon the recognition of multiple employment centres within a single urban system.

43 For example, *only about half* of those commuting in a central direction from each of the external sectors were destined for jobs in Toronto city, including the CBD.

The omnidirectionality of commuting, notwithstanding, the major confluence of transportation still occurs in the inner city and along the major routes leading into it in the morning and late afternoon. The morning and late afternoon reverse flow is, of course, much lighter. The cross flows of intersuburban travel are not particularly in conflict with this morning or late afternoon "rush hour" traffic pattern, but intersection traffic management can be a major problem in and of itself since the transportation system is generally constructed to feed the central city, not the dispersed SEAs.

Managing the transportation network to efficiently move people to jobs is not the sole option of civic administration. Given that most transportation facilities are designed to carry peak capacity in both (opposite) directions, new and relocated employment opportunities might be deliberately located to utilize the reverse flow's underutilized (and therefore wasteful) capacity. Likewise, particular housing developments might be better planned to bring workers' residences into closer proximity to their relevant employment areas. Planning land use has two (at least) interrelated objectives; to efficiently match people and jobs, and to encourage effective private and social choice in consideration of the housing and community aspirations of the population.

These observations emerging from our descriptive review of residential and job location patterns, and the complex journey-to-work networks that link them, suggest that currently available theories and models need to be extended in order to be relevant to the urban management of a metropolis such as the Toronto CMA. The complexity of this urban system's journey-to-work pattern(s) can be more effectively managed if its dimensions are more clearly specified. This paper represents a first step in the process of specification.

APPENDIX I

A Note on Commuting Indices

In addition to Indices 1 to 4, discussed in the text, the following could also be considered to summarize census commuting figures.

$$\text{Index 5: } X_5 = \frac{A_{ij}}{OC_i} \cdot 100$$

$$\text{Index 6: } X_6 = \frac{A_{ij} - A_{ji}}{RLF_i} \cdot 100$$

where: A_{ij} and RLF_i are as defined in the text earlier in context of index 1, and

X_5 = percentage of out-commuters of zone i commuting to zone j;

X_6 = net commutation rate from zone i to zone j;

OC_i = total number of out-commuters from zone i;

A_{ji} = number of out-commuters from zone j to zone i.

Index 5 represents the number of workers commuting from zone i to zone j as a percentage of total out-commuters from zone i. Index 6 measures the net commutation rate. The net commutation rate from zone i to zone j is the total inflow of workers from zone i to zone j minus the total outflow of workers from zone j to zone i expressed as a percentage of total resident labour force of zone i.

Indices 5 and 6, however, do not provide significant elaboration of the essential commuting processes and, as a result, they have not been used in our analyses. Both Indices 1 and 5 measure the extent to which a zone is

dependent upon jobs in other zones to place its excess supply of labour. While Index 5, at first glance, seems to be a refinement over Index 1 because it directly indicates the commuter flow proportions, it does not necessarily produce improvements. Index 1 gives the commutation rate as a percentage of the total resident labour force (of zone *i*) whereas Index 5 evaluates the commutation rate as a percentage of total out-commuters (from zone *i*). Because the denominator in Index 1 includes all resident workers of zone *i*, this index implicitly considers the importance of any zone *j* relative to all job locations of the RLF of zone *i*, *including* the home residential zone -- which must be considered the most attractive employment area for its RLF. Thus, Index 5 gives a partial picture of the total resident labour force by excluding those persons whose place of work is the same as the place of residence.¹

Index 6, on the other hand, considers the *net* commuting flows between pairs of zones, say, one residential and one employment. Since, however, every zone has some residential and some employment characteristics, it is interesting to consider the degree of dominance of designated "employment" zones over "residential" zones, based on the residential zone's RLF. The higher the value of Index 6 the greater degree of dominance that a zone exercises over other

1 For a detailed discussion of these two indices, see R. Gagnon, "Study of Commuting in the Ottawa-Hull and Toronto Areas", Statistics Canada, Working Paper (Geographical Series) No. 2E, December 1975, pp. 36-37.

zones, as a labour market centre. It almost goes without saying, however, that for transportation planning purposes, one must deal with gross, not net, commuting flows.

Table 1A

INCOMMUTERS AND OUTCOMMUTERS AND IN-ZONE EMPLOYMENT
BY ZONES, TORONTO CMA, 1971

Planning Zone No.	Outcommuters	Incommuters	Percentage of Resident Labour Force Employed in the Zone
1(TC)	8,265	6,210	14.2
2(CRD)	4,455	159,180	59.7
3(TC)	13,620	9,495	12.8
4(TC)	6,420	28,425	26.3
5(TC)	1,155	55,680	39.8
6(TC)	375	7,350	13.8
7(Y)	4,920	1,335	5.7
8(TC)	19,605	7,065	12.4
9(TC)	13,035	8,520	14.6
10(TC)	16,620	9,735	21.9
11(TC)	9,045	6,525	14.1
12(TC)	13,965	5,745	14.1
13(NY)	13,125	9,540	12.9
14(NY)	4,230	18,195	25.0
15(Y)	13,995	9,690	16.1
16(Y)	15,720	14,130	15.3
17(TC)	15,465	17,205	18.0
18(Y)	15,495	1,605	5.3
19(NY)	12,885	5,850	14.6
20(TC)	17,475	4,050	15.3
21(TC)	20,880	18,720	17.5
22(NY)	5,415	4,200	15.3
23(EY)	10,035	14,535	14.5
24(TC)	16,545	15,195	18.5
25(NY)	11,970	27,960	23.9
26(NY)	18,540	9,450	9.6
27(EY)	15,120	2,610	6.5
28(EY)	16,905	8,790	11.0
29(TC)	21,795	7,590	12.7
30(TC)	11,535	7,695	13.8
31(TC)	16,695	2,475	11.7
32(E)	5,610	12,105	24.9
33(E)	13,170	10,020	25.2
34(E)	15,405	2,775	8.3
35(E)	10,110	3,255	12.1
36(E)	14,175	2,970	8.3
37(E)	6,555	17,955	21.1
38(E)	11,295	13,365	19.0
39(E)	8,865	2,550	9.2
40(E)	7,275	27,570	32.8
41(NY)	7,665	12,780	23.2
42(NY)	25,680	26,745	27.4
43(NY)	12,645	3,075	10.7
44(NY)	17,715	6,795	16.2
45(NY)	15,345	8,460	17.3
46(NY)	16,755	8,055	12.0
47(S)	14,925	22,065	18.4
48(S)	15,690	8,505	13.7
49(S)	16,995	6,015	16.8
50(S)	17,760	15,675	16.6
51(S)	21,765	3,690	12.5
52(S)	8,160	2,880	14.5
53(S)	12,510	6,330	13.2
54(WS)	37,080	31,005	34.3
55(WS)	4,275	7,275	35.4
56(WS)	8,775	9,495	59.0
57(WS)	5,235	3,540	61.5
58(WS)	7,065	6,390	55.2
59(WS)	8,880	7,845	32.7
60(NS)	3,750	11,235	34.9
61(NS)	8,565	4,440	53.2
62(NS)	15,765	7,950	34.3
63(ES)	8,190	5,820	39.5

Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Table 2A
JOURNEY-TO-WORK FLOWS FROM RESIDENTIAL AREAS TO WORKPLACES, TORONTO CMA, 1971
(PERCENTAGE OF RESIDENT LABOUR FORCE)

Place of Work Place of Residence	CBD (1)	Toronto City (Excluding CBD)	York	East York	Sub-Total "Inner Three" Municipalities (2)	Etoibi- North coke York	Scar- borough	Sub-Total "Outer Three" Boroughs (3)	West Sector	North Sector	East Sector	Sub-Total "Peripheral District" (4)	Total* 1+2+3+4 = 100 %
CBD (F)	50.70	27.13	0.94	1.49	29.56	2.17	5.69	1.76	0.67	0.13	0.00	0.80	100
Toronto City (Outside CBD)	25.31	47.13	2.41	2.59	52.13	5.61	9.61	3.64	2.70	0.78	0.17	3.65	100
York	13.53	31.11	17.62	1.84	50.57	9.68	17.86	1.87	4.35	1.74	0.13	6.22	100
East York	26.25	30.79	0.89	16.56	48.24	1.98	12.88	7.89	1.21	0.60	0.31	2.12	100
Etoibicoke	10.74	17.37	3.96	0.57	21.90	46.29	9.23	1.18	9.33	1.30	0.07	12.82	100
North York	13.48	19.46	3.99	2.53	25.98	5.83	42.87	5.20	3.05	3.30	0.28	6.63	100
Scarborough	13.47	18.93	0.81	5.47	25.21	2.29	15.17	39.91	1.12	1.64	1.16	3.92	100
West Sector	6.85	7.29	1.29	0.37	8.95	14.95	4.71	0.54	63.00	0.77	0.07	63.84	100
North Sector	7.11	8.11	1.87	1.43	11.41	3.00	18.20	4.96	2.74	51.67	0.28	54.69	100
East Sector	10.86	11.56	1.10	3.76	16.42	1.88	10.75	18.29	1.10	1.88	39.46	42.44	100
Outside CMA	8.80	9.63	1.26	1.65	12.54	8.93	10.02	5.79	33.78	11.90	8.28	53.96	100

*Total may not add up due to rounding.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 2A (i)

DIRECTION OF COMMUTING AND IN-ZONE EMPLOYMENT AS A
PERCENTAGE OF SEA'S WORKING LABOUR FORCE, TORONTO CMA, 1971

Work Location (SEA) Zone No.	Direction			In-zone Employment	Total*
	Central	Reverse	Intersuburban		
<u>"Inner Three Municipalities"</u>					
4	92.53	--	--	7.47	100.00
5	98.64	--	--	1.36	100.00
6	99.19	--	--	0.81	100.00
16	63.72	19.50	--	16.78	100.00
17	66.12	17.42	--	16.46	100.00
21	59.82	21.06	--	19.12	100.00
23	63.23	26.33	--	10.44	100.00
24	66.03	14.18	--	19.79	100.00
<u>"Outer Three Boroughs"</u>					
14	37.34	38.55	17.67	7.19	100.00
25	27.15	30.20	30.78	11.87	100.00
32	33.81	42.53	10.34	13.32	100.00
37	36.55	43.05	11.50	8.90	100.00
38	50.24	22.12	12.07	16.57	100.00
40	23.28	27.53	37.77	11.42	100.00
41	9.89	54.49	20.31	15.31	100.00
42	14.91	42.32	16.14	26.63	100.00
47	29.82	36.32	21.65	13.22	100.00
50	42.69	24.66	15.66	18.36	100.00
<u>"Peripheral District"</u>					
54	17.43	28.56	15.55	38.46	100.00
55	13.19	56.33	5.32	24.34	100.00
56	27.24	14.87	--	57.11	100.00
58	14.36	12.85	--	73.17	100.00
60	10.29	50.74	23.79	15.18	100.00
62	14.99	29.22	4.91	50.88	100.00

* Totals may not add up due to rounding.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

APPENDIX II

(SUPPLEMENTARY TABLES AND MAPS TO SECTION 5)

Table 3A

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2) TO OTHER SECONDARY EMPLOYMENT AREAS IN TORONTO CITY, TORONTO CMA, 1971

Zone of Residence	Work Locations, SEAs							
	Zone 4		Zone 6		Zone 17		Zone 24	
	Index 1	Index 2	Index 1	Index 2	Index 1	Index 2	Index 1	Index 2
1(TC)	10.75	3.37	0.31	0.40	1.40	0.66	2.49	1.27
2(CBD)	7.60	2.73	0.54	0.81	0.54	0.29	2.44	1.43
3(TC)	4.90	2.49	0.96	2.02	1.06	0.80	1.73	1.43
4(TC)	26.33*	7.47**	0.34	0.40	0.69	0.29	1.89	0.87
5(TC)	4.69	0.29	0.00	0.00	1.56	0.15	3.13	0.32
6(TC)	10.34	0.15	13.79*	0.81**	0.00	0.00	0.00	0.00
7(Y)	3.74	0.63	1.15	0.81	5.46	1.38	1.15	0.32
8(TC)	4.56	3.32	0.54	1.62	4.42	4.81	1.74	2.06
9(TC)	4.13	2.05	0.89	1.82	5.01	3.71	1.28	1.03
10(TC)	4.23	2.93	0.70	2.02	1.90	1.97	1.48	1.66
11(TC)	4.70	1.61	0.71	1.01	2.85	1.46	0.57	0.32
12(TC)	7.10	3.76	1.20	2.63	2.31	1.82	1.94	1.66
13(NY)	1.49	0.73	0.20	0.40	3.78	2.77	1.19	0.95
14(NY)	2.93	0.54	0.53	0.40	2.93	0.80	1.33	0.40
15(Y)	1.35	0.73	0.45	1.01	5.85	4.73	0.90	0.79
16(Y)	3.39	2.05	0.40	1.01	5.33	4.81	1.94	1.90
17(TC)	3.02	1.86	0.56	1.42	17.98*	16.46**	2.70	2.69
18(Y)	5.04	2.69	0.37	0.81	6.42	5.10	3.30	2.85
19(NY)	4.37	2.15	0.20	0.40	2.19	1.60	2.39	1.90
20(TC)	4.94	3.32	0.29	0.81	1.38	1.38	3.63	3.96
21(TC)	4.56	3.76	0.12	0.40	1.36	1.68	4.15	5.54
22(NY)	3.52	0.73	0.70	0.61	0.70	0.22	2.11	0.71
23(EY)	4.48	1.71	0.38	0.61	1.02	0.58	3.71	2.30
24(TC)	6.80	4.49	0.37	1.01	1.18	1.17	18.48*	19.79**
25(NY)	3.15	1.61	0.29	0.61	0.38	0.29	3.24	2.69
26(NY)	2.41	1.61	0.73	2.02	0.59	0.58	2.34	2.53
27(EY)	3.71	1.95	1.95	4.25	1.21	0.95	2.04	1.74
28(EY)	2.68	1.66	2.05	5.26	0.87	0.80	1.89	1.90
29(TC)	3.00	2.44	1.44	4.86	1.62	1.97	1.44	1.90
30(TC)	3.36	1.46	4.92	8.70	0.78	0.51	0.78	0.55
31(TC)	3.01	1.86	3.33	8.50	0.87	0.80	1.59	1.58
32(E)	1.61	0.39	0.40	0.40	1.00	0.36	0.40	0.16
33(E)	1.79	1.03	0.43	1.01	1.36	1.17	0.51	0.48
34(E)	1.96	1.07	0.18	0.40	3.57	2.91	0.98	0.87
35(E)	1.69	0.63	0.26	0.40	2.35	1.31	1.04	0.63
36(E)	3.30	1.66	0.29	0.61	2.72	2.04	2.04	1.66
37(E)	2.71	0.73	0.18	0.20	3.43	1.38	1.08	0.48
38(E)	3.12	1.42	0.22	0.40	2.47	1.68	1.40	1.03
39(E)	0.77	0.24	0.15	0.20	1.38	0.66	0.92	0.48
40(E)	0.83	0.29	0.14	0.20	1.94	1.02	0.97	0.55
41(NY)	0.60	0.20	0.30	0.40	3.16	1.53	0.60	0.32
42(NY)	1.31	1.51	0.25	1.21	3.43	5.90	0.72	1.35
43(NY)	3.92	1.81	0.32	0.61	2.01	1.38	1.80	1.35
44(NY)	2.77	1.90	0.14	0.40	1.42	1.46	1.14	1.27
45(NY)	2.75	1.66	0.57	1.42	1.05	0.95	2.51	2.45
46(NY)	1.81	1.12	0.87	2.23	0.79	0.73	1.73	1.74
47(S)	2.13	1.27	1.39	3.44	0.49	0.44	0.98	0.95
48(S)	1.57	0.93	1.32	3.24	1.07	0.95	0.83	0.79
49(S)	1.91	1.27	1.17	3.24	0.73	0.73	0.88	0.95
50(S)	1.90	1.32	1.76	5.06	0.56	0.58	1.55	1.74
51(S)	2.59	2.10	1.57	5.26	0.60	0.73	1.21	1.58
52(S)	2.04	0.63	1.73	2.23	0.79	0.36	0.79	0.40
53(S)	1.77	0.83	0.42	0.81	0.42	0.29	1.87	1.43
54(WS)	1.43	2.64	0.24	1.82	0.82	2.26	0.72	2.14
55(WS)	0.91	0.20	0.23	0.20	0.23	0.07	0.68	0.24
56(WS)	0.56	0.39	0.07	0.20	0.35	0.36	0.70	0.79
57(WS)	0.22	0.10	0.22	0.40	0.11	0.07	0.22	0.16
58(WS)	0.48	0.24	0.10	0.20	0.38	0.29	0.10	0.08
59(WS)	0.80	0.34	0.11	0.20	0.80	0.51	0.34	0.24
60(NS)	1.04	0.20	0.00	0.00	1.04	0.29	0.78	0.24
61(NS)	0.57	0.34	0.33	0.81	0.66	0.58	0.66	0.63
62(WS)	1.19	0.93	0.44	1.42	0.94	1.09	1.13	1.43
63(ZS)	2.11	0.93	1.22	2.23	0.44	0.29	0.67	0.48

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 4A

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2) TO
SECONDARY EMPLOYMENT AREA IN THE BOROUGH OF YORK, TORONTO CMA, 1971

Zone of Residence	Work Location SEA	
	Index 1	Index 2
1 (TC)	0.93	0.53
2 (CBD)	0.27	0.18
3 (TC)	0.48	0.44
4 (TC)	0.34	0.18
5 (TC)	0.00	0.00
6 (TC)	0.00	0.00
7 (Y)	2.01	0.62
8 (TC)	1.61	2.12
9 (TC)	2.26	2.03
10 (TC)	1.06	1.33
11 (TC)	1.42	0.88
12 (TC)	1.57	1.50
13 (NY)	7.46	6.63
14 (NY)	5.85	1.94
15 (Y)	7.73	7.60
16 (Y)	15.35*	16.78**
17 (TC)	3.02	3.36
18 (Y)	3.94	3.80
19 (NY)	1.29	1.15
20 (TC)	1.60	1.94
21 (TC)	0.71	1.06
22 (NY)	0.00	0.00
23 (EY)	0.51	0.35
24 (TC)	0.67	0.80
25 (NY)	0.48	0.44
26 (NY)	0.37	0.44
27 (EY)	0.65	0.62
28 (EY)	0.32	0.35
29 (TC)	0.54	0.80
30 (TC)	0.78	0.62
31 (TC)	0.32	0.35
32 (F)	0.20	0.09
33 (E)	0.43	0.44
34 (E)	3.13	3.09
35 (E)	1.56	1.06
36 (E)	2.52	2.30
37 (E)	2.16	1.06
38 (E)	1.40	1.15
39 (E)	3.84	2.21
40 (E)	3.46	2.21
41 (NY)	3.31	1.94
42 (NY)	3.86	8.04
43 (NY)	1.69	1.41
44 (NY)	1.06	1.33
45 (NY)	0.89	0.97
46 (NY)	0.63	0.71
47 (S)	0.74	0.80
48 (S)	0.50	0.53
49 (S)	0.37	0.44
50 (S)	0.28	0.35
51 (S)	0.24	0.35
52 (S)	0.47	0.27
53 (S)	0.52	0.44
54 (WS)	0.77	2.56
55 (WS)	0.23	0.09
56 (WS)	0.35	0.44
57 (WS)	0.44	0.35
58 (WS)	0.19	0.18
59 (WS)	1.93	1.50
60 (NS)	2.34	0.80
61 (NS)	0.66	0.71
62 (NS)	1.06	1.50
63 (ES)	0.44	0.35

*Indicates the percentage of the resident labour force living
and working in the same zone.

**Indicates the percentage of the working labour force living
and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 5A

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2) TO
SECONDARY EMPLOYMENT AREA IN THE BOROUGH OF EAST YORK, TORONTO CMA, 1971

Zone of Residence	Work Location SFA	
	Index 1	Index 2
1 (TC)	0.93	0.55
2 (CBD)	0.68	0.46
3 (TC)	1.92	1.85
4 (TC)	1.38	0.74
5 (TC)	2.34	0.28
6 (TC)	0.00	0.00
7 (Y)	0.86	0.28
8 (TC)	1.14	1.57
9 (TC)	0.88	0.83
10 (TC)	0.70	0.92
11 (TC)	0.29	0.18
12 (TC)	1.29	1.29
13 (NY)	1.00	0.92
14 (NY)	0.53	0.18
15 (Y)	0.45	0.46
16 (Y)	1.62	1.85
17 (TC)	0.80	0.92
18 (Y)	2.02	2.03
19 (NY)	0.80	0.74
20 (TC)	1.16	1.48
21 (TC)	2.37	3.70
22 (NY)	1.17	0.46
23 (EY)	14.45*	10.44**
24 (TC)	1.33	1.66
25 (NY)	3.62	3.51
26 (NY)	3.73	4.71
27 (EY)	5.19	5.18
28 (EY)	3.39	3.97
29 (TC)	2.88	4.44
30 (TC)	2.58	2.13
31 (TC)	2.70	3.14
32 (E)	0.00	0.00
33 (E)	0.17	0.18
34 (E)	0.45	0.46
35 (E)	0.26	0.18
36 (E)	0.58	0.55
37 (E)	0.18	0.09
38 (E)	0.54	0.46
39 (E)	0.92	0.55
40 (E)	0.42	0.28
41 (NY)	0.30	0.18
42 (NY)	0.59	1.29
43 (NY)	0.74	0.65
44 (NY)	1.28	1.66
45 (NY)	1.94	2.22
46 (NY)	2.28	2.68
47 (S)	3.11	3.51
48 (S)	3.22	3.60
49 (S)	1.91	2.40
50 (S)	2.68	3.51
51 (S)	2.29	3.51
52 (S)	1.57	0.92
53 (S)	1.98	1.76
54 (WS)	0.53	1.85
55 (WS)	0.00	0.00
56 (WS)	0.14	0.18
57 (WS)	0.11	0.09
58 (WS)	0.10	0.09
59 (WS)	0.11	0.09
60 (NS)	0.52	0.18
61 (NS)	0.33	0.37
62 (NS)	1.44	2.13
63 (ES)	1.66	1.39

*Indicates the percentage of the resident labour force living
and working in the same zone.

**Indicates the percentage of the working labour force living
and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 6A

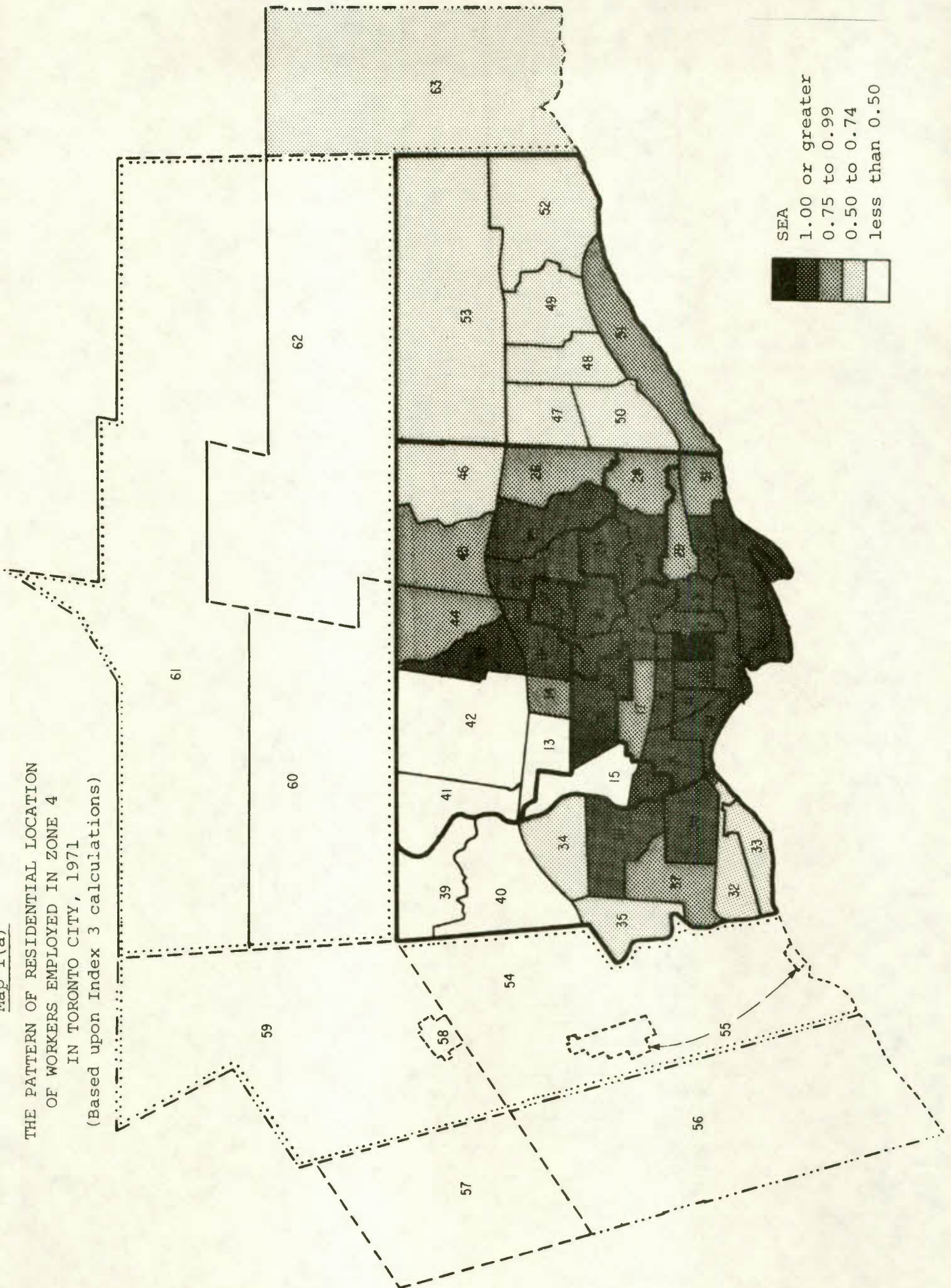
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 3) TO OTHER SECONDARY EMPLOYMENT AREAS
IN TORONTO CITY, TORONTO CMA, 1971

Zone of Residence	Work Locations SEAs			
	Zone 4	Zone 6	Zone 17	Zone 24
1(TC)	3.51	0.42	0.68	1.32
2(CBD)	2.48	0.73	0.26	1.29
3(TC)	1.60	1.30	0.51	0.92
4(TC)	8.60	0.47	0.34	1.00
5(TC)	1.53	0.00	0.76	1.65
6(TC)	3.38	18.67	0.00	0.00
7(Y)	1.22	1.56	2.66	0.61
8(TC)	1.49	0.73	2.15	0.92
9(TC)	1.35	1.20	2.44	0.68
10(TC)	1.38	0.95	0.93	0.78
11(TC)	1.54	0.96	1.39	0.30
12(TC)	2.32	1.62	1.12	1.03
13(NY)	0.49	0.27	1.84	0.63
14(NY)	0.96	0.72	1.43	0.70
15(Y)	0.44	0.61	2.85	0.48
16(Y)	1.11	0.55	2.60	1.03
17(TC)	0.99	0.75	8.76	1.43
18(Y)	1.65	0.50	3.13	1.75
19(NY)	1.43	0.27	1.07	1.26
20(TC)	1.61	0.39	0.67	1.92
21(TC)	1.49	0.16	0.66	2.20
22(NY)	1.15	0.95	0.34	1.12
23(EY)	1.46	0.52	0.50	1.96
24(TC)	2.22	0.50	0.58	9.78
25(NY)	1.03	0.39	0.19	1.72
26(NY)	0.79	0.99	0.29	1.24
27(EY)	1.21	2.64	0.59	1.08
28(EY)	0.88	2.78	0.42	1.00
29(TC)	0.98	1.95	0.79	0.76
30(TC)	1.10	6.53	0.38	0.42
31(TC)	0.98	4.51	0.42	0.84
32(E)	0.52	0.54	0.49	0.21
33(E)	0.58	0.58	0.66	0.27
34(E)	0.64	0.24	1.74	0.52
35(E)	0.55	0.35	1.14	0.55
36(E)	1.08	0.39	1.32	1.08
37(E)	0.88	0.24	1.67	0.57
38(E)	1.02	0.29	1.20	0.74
39(E)	0.25	0.21	0.67	0.43
40(E)	0.27	0.19	0.94	0.51
41(NY)	0.20	0.41	1.54	0.32
42(NY)	0.43	0.34	1.67	0.38
43(NY)	1.28	0.43	0.98	0.95
44(NY)	0.90	0.19	0.69	0.60
45(NY)	0.90	0.77	0.51	1.33
46(NY)	0.59	1.17	0.38	0.92
47(S)	0.70	1.89	0.24	0.52
48(S)	0.51	1.79	0.52	0.44
49(S)	0.62	1.59	0.36	0.47
50(S)	0.62	2.39	0.27	0.82
51(S)	0.85	2.12	0.29	0.64
52(S)	0.67	2.34	0.38	0.42
53(S)	0.58	0.56	0.20	0.99
54(WS)	0.47	0.32	0.40	0.38
55(WS)	0.30	0.31	0.11	0.36
56(WS)	0.18	0.09	0.17	0.37
57(WS)	0.07	0.30	0.05	0.12
58(WS)	0.16	0.13	0.19	0.05
59(WS)	0.26	0.15	0.39	0.18
60(NS)	0.34	0.00	0.51	0.41
61(NS)	0.19	0.44	0.32	0.35
62(NS)	0.39	0.59	0.46	0.60
63(ES)	0.69	1.65	0.22	0.35

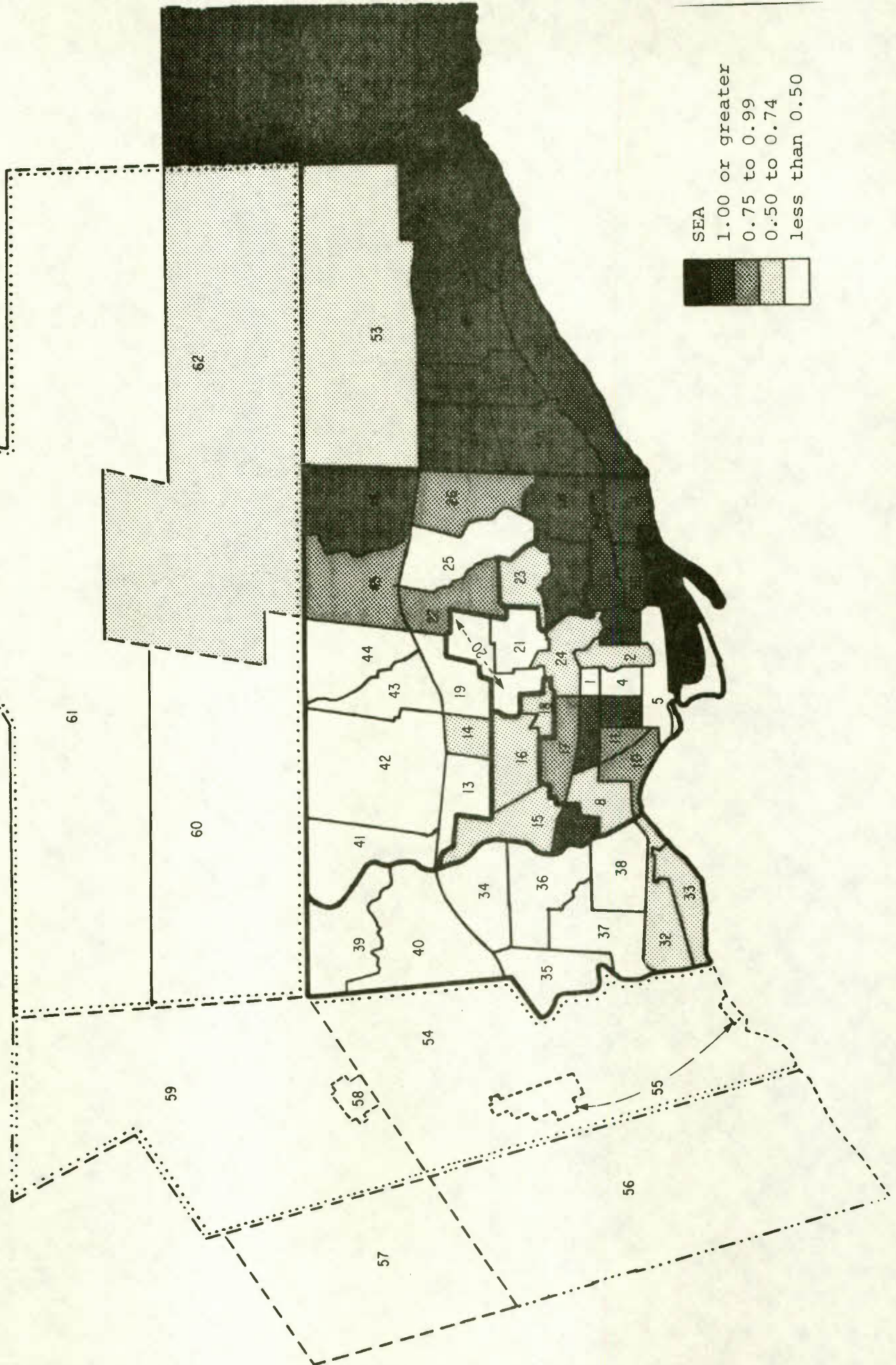
Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Map 1(a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 4
IN TORONTO CITY, 1971
(Based upon Index 3 calculations)

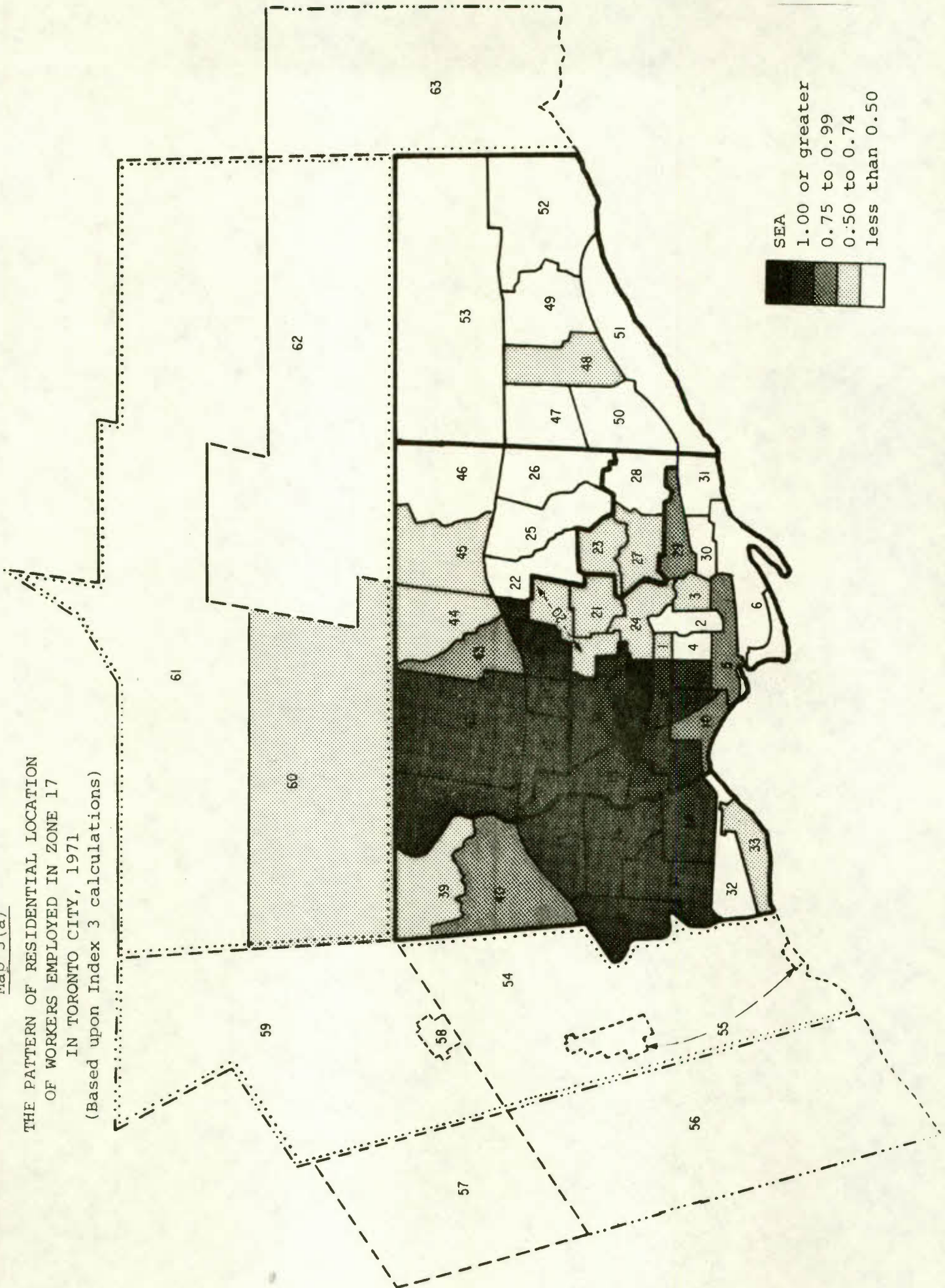


Map 2(a)
THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 6
IN TORONTO CITY, 1971
(Based upon Index 3 calculations)



Map 3 (a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 17
IN TORONTO CITY, 1971
(Based upon Index 3 calculations)



Map 4(a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 24
IN TORONTO CITY, 1971
(Based upon Index 3 calculations)

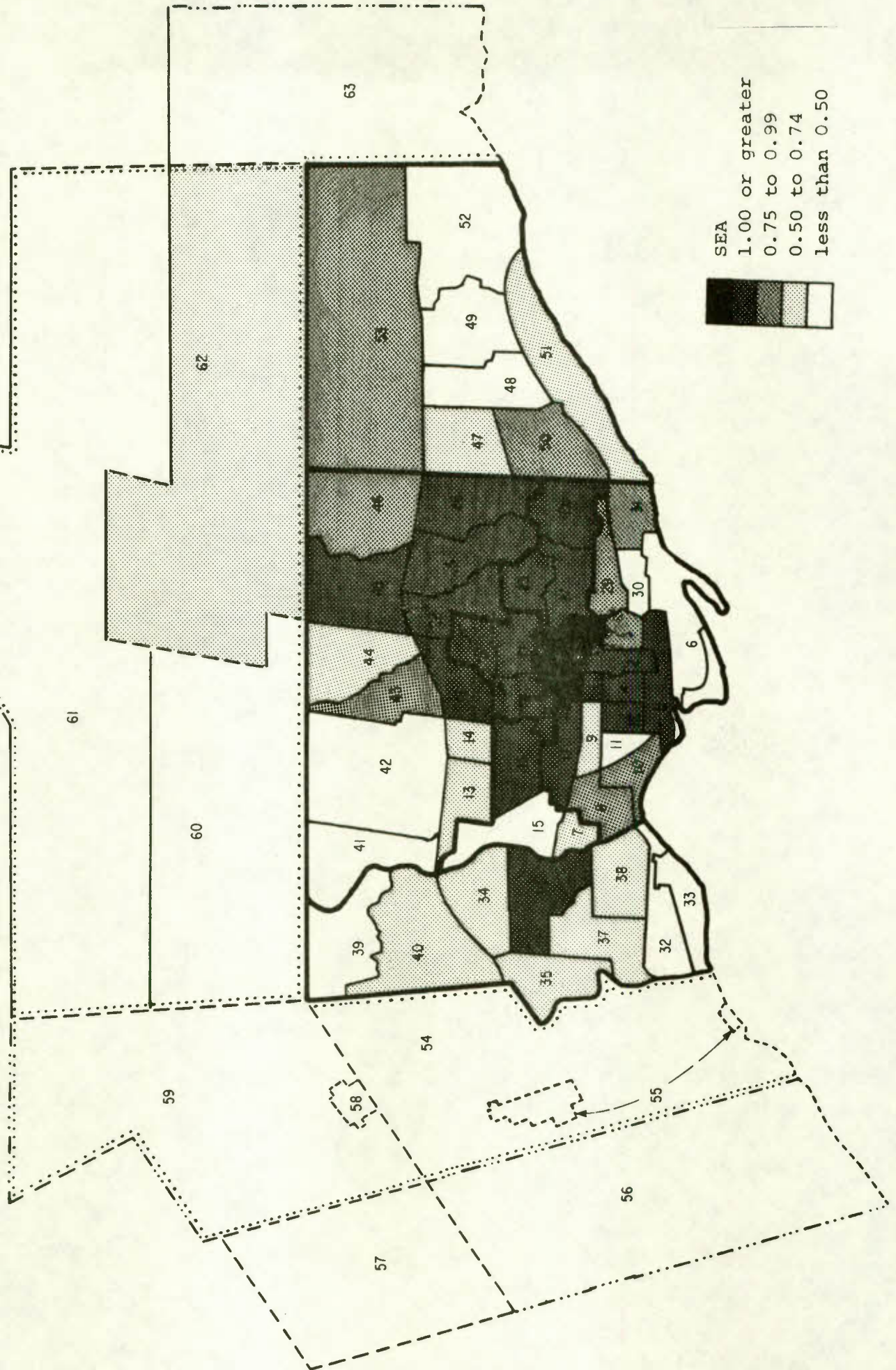


Table 7A

ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 3) TO SECONDARY EMPLOYMENT AREA IN
THE BOROUGH OF YORK, TORONTO CMA, 1971

Zone of residence	Work Location SEA Zone 16
1(TC)	0.55
2(CBD)	0.16
3(TC)	0.28
4(TC)	0.20
5(TC)	0.00
6(TC)	0.00
7(Y)	1.19
8(TC)	0.95
9(TC)	1.34
10(TC)	0.62
11(TC)	0.84
12(TC)	0.93
13(NY)	4.41
14(NY)	3.46
15(Y)	4.57
16(Y)	9.07
17(TC)	1.79
18(Y)	2.33
19(NY)	0.76
20(TC)	0.94
21(TC)	0.42
22(NY)	0.00
23(EY)	0.30
24(TC)	0.39
25(NY)	0.28
26(NY)	0.22
27(EY)	0.38
28(EY)	0.19
29(TC)	0.32
30(TC)	0.46
31(TC)	0.19
32(E)	0.12
33(E)	0.25
34(E)	1.85
35(E)	0.92
36(E)	1.49
37(E)	1.28
38(E)	0.83
39(E)	2.27
40(E)	2.05
41(NY)	1.95
42(NY)	2.28
43(NY)	1.00
44(NY)	0.63
45(NY)	0.53
46(NY)	0.37
47(S)	0.44
48(S)	0.29
49(S)	0.22
50(S)	0.17
51(S)	0.14
52(S)	0.28
53(S)	0.31
54(WS)	0.46
55(WS)	0.13
56(WS)	0.21
57(WS)	0.26
58(WS)	0.11
59(WS)	1.14
60(NS)	1.38
61(NS)	0.39
62(NS)	0.63
63(ES)	0.26

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 5(a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 16
IN YORK, 1971
(Based upon Index 3 calculations)

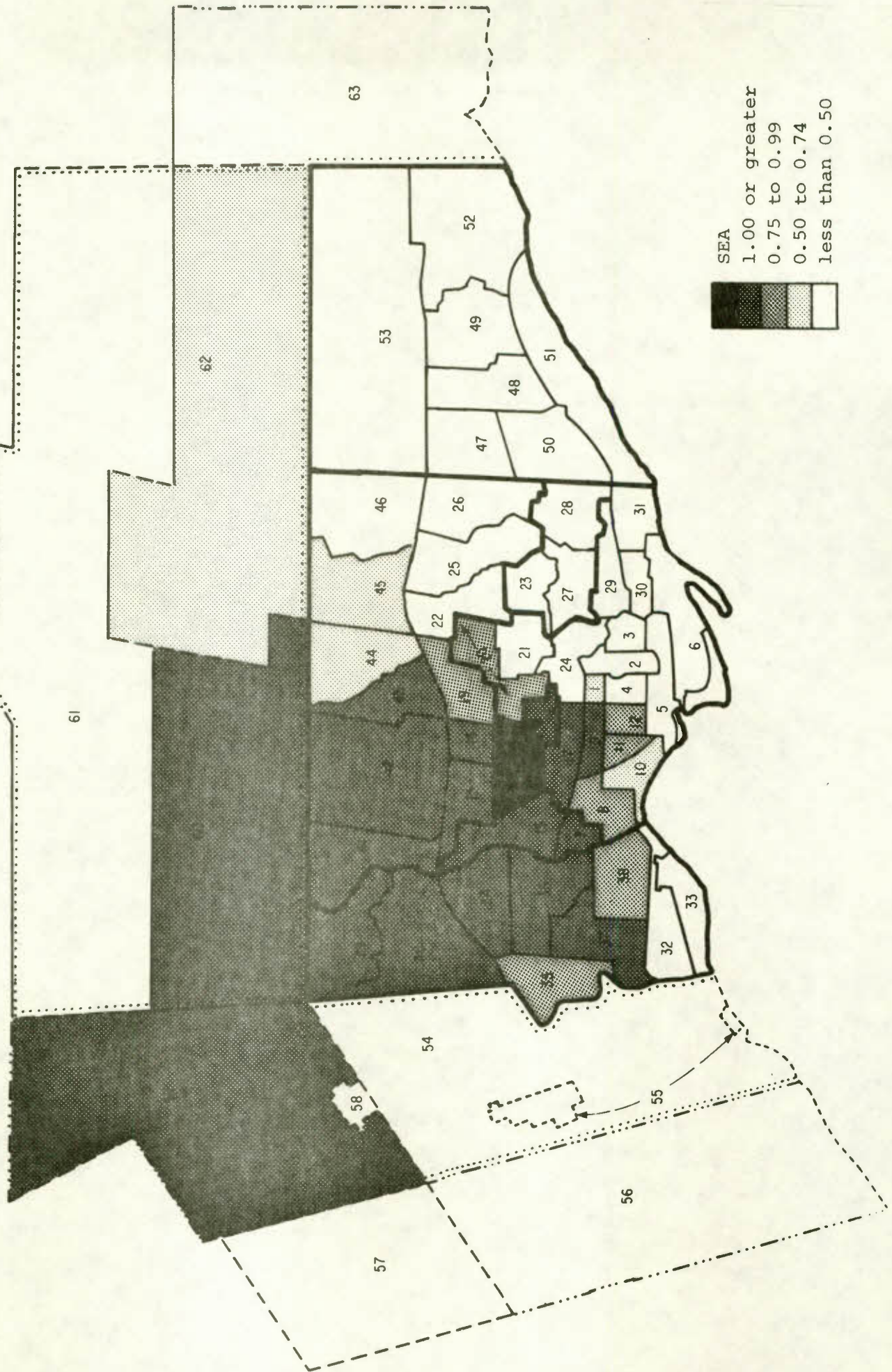


Table 8A

ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 3) TO SECONDARY EMPLOYMENT AREA IN
THE BOROUGH OF EAST YORK, TORONTO CMA, 1971

Zone of Residence	Work Location SEA Zone 23
1(TC)	0.58
2(CBD)	0.42
3(TC)	1.19
4(TC)	0.05
5(TC)	1.45
6(TC)	0.00
7(Y)	0.53
8(TC)	0.70
9(TC)	0.55
10(TC)	0.44
11(TC)	0.18
12(TC)	0.80
13(NY)	0.62
14(NY)	0.33
15(Y)	0.28
16(Y)	1.00
17(TC)	0.49
18(Y)	1.25
19(NY)	0.49
20(TC)	0.72
21(TC)	1.47
22(NY)	0.73
23(EY)	8.93
24(TC)	0.82
25(NY)	2.24
26(NY)	2.31
27(EY)	3.21
28(EY)	2.10
29(TC)	1.78
30(TC)	1.59
31(TC)	1.67
32(E)	0.00
33(E)	0.11
34(E)	0.28
35(E)	0.16
36(E)	0.36
37(E)	0.11
38(E)	0.33
39(E)	0.57
40(E)	0.26
41(NY)	0.19
42(NY)	0.37
43(NY)	0.46
44(NY)	0.79
45(NY)	1.20
46(NY)	1.41
47(S)	1.93
48(S)	1.99
49(S)	1.18
50(S)	1.66
51(S)	1.42
52(S)	0.97
53(S)	1.22
54(WS)	0.33
55(WS)	0.00
56(WS)	0.09
57(WS)	0.07
58(WS)	0.06
59(WS)	0.07
60(NS)	0.32
61(NS)	0.20
62(NS)	0.89
63(ES)	1.03

Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Map 6(a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 23
IN EAST YORK, 1971
(Based upon Index 3 calculations)

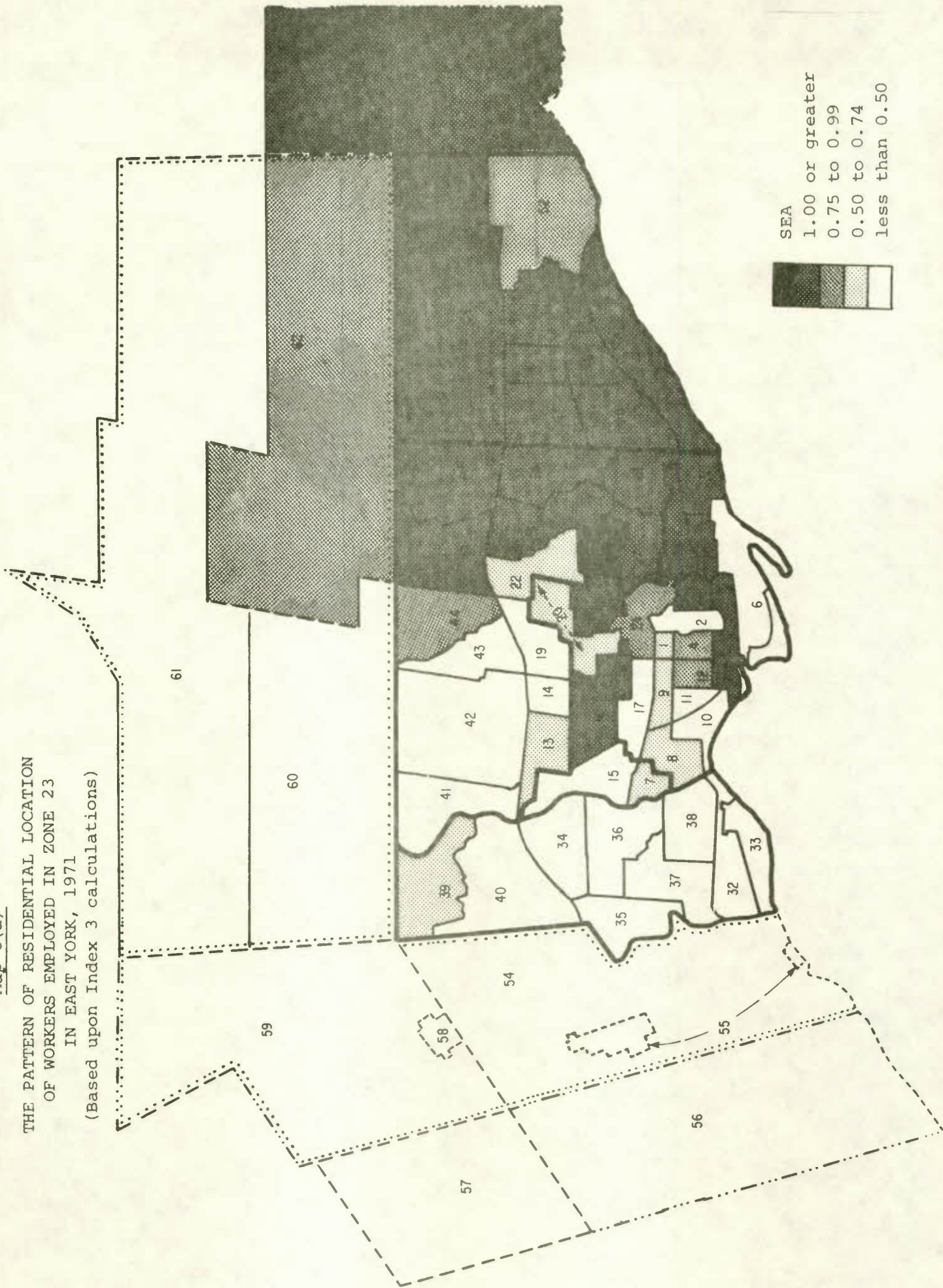


Table 9A

COMMUTATION RATES (CALCULATED ACCORDING
TO INDICES 1 AND 2) TO OTHER SECONDARY
EMPLOYMENT AREAS IN THE BOROUGH OF
ETOBICOKE, TORONTO CMA, 1971

Zone of Residence	Work Locations, SEAs					
	Zone 32		Zone 37		Zone 38	
	Index 1	Index 2	Index 1	Index 2	Index 1	Index 2
1(TC)	0.93	0.64	0.78	0.38	0.31	0.19
2(CBD)	0.27	0.21	0.14	0.08	0.27	0.19
3(TC)	0.38	0.43	0.86	0.68	0.58	0.56
4(TC)	0.17	0.11	1.03	0.46	0.52	0.28
5(TC)	0.78	0.11	0.00	0.00	0.78	0.09
6(TC)	0.00	0.00	0.00	0.00	0.00	0.00
7(Y)	2.59	0.97	2.59	0.68	2.87	0.94
8(TC)	1.88	3.01	2.01	2.28	2.55	3.56
9(TC)	1.28	1.40	1.28	0.99	1.28	1.22
10(TC)	1.90	2.90	2.47	2.66	1.41	1.87
11(TC)	1.14	0.86	1.99	1.07	1.42	0.94
12(TC)	1.29	1.50	1.57	1.29	1.75	1.78
13(NY)	0.60	0.64	1.29	0.99	1.69	1.59
14(NY)	0.53	0.21	0.80	0.23	0.53	0.19
15(Y)	1.26	1.50	2.16	1.83	1.39	1.40
16(Y)	0.65	0.86	1.29	1.22	1.29	1.50
17(TC)	1.03	1.40	1.35	1.29	1.11	1.31
18(Y)	0.55	0.64	0.64	0.53	1.19	1.22
19(NY)	0.20	0.21	0.60	0.46	0.40	0.37
20(TC)	0.22	0.32	0.51	0.53	0.51	0.66
21(TC)	0.28	0.43	0.41	0.53	0.30	0.47
22(NY)	0.70	0.32	0.00	0.00	0.47	0.19
23(EY)	0.00	0.00	0.51	0.30	0.26	0.19
24(TC)	0.44	0.64	0.37	0.38	0.52	0.66
25(NY)	0.48	0.54	0.38	0.30	0.66	0.66
26(NY)	0.22	0.32	0.59	0.61	0.29	0.37
27(EY)	0.28	0.32	0.28	0.23	0.56	0.56
28(EY)	0.39	0.54	0.39	0.38	0.24	0.28
29(TC)	0.42	0.75	0.90	1.14	0.66	1.03
30(TC)	0.56	0.54	1.01	0.68	0.90	0.75
31(TC)	0.40	0.54	0.79	0.76	0.40	0.47
32(E)	24.90*	13.32**	12.05	4.57	9.44	4.40
33(E)	12.52	15.79	7.58	6.77	9.37	10.30
34(E)	1.70	2.04	3.39	2.89	3.75	3.93
35(E)	3.39	2.79	12.39	7.23	6.26	4.49
36(E)	2.23	2.47	5.73	4.49	4.27	4.12
37(E)	3.79	2.26	21.11*	8.90**	4.69	2.43
38(E)	6.13	6.12	9.68	6.85	19.02*	6.57**
39(E)	1.69	1.18	3.07	1.52	2.46	1.50
40(E)	1.39	1.07	3.05	1.67	2.63	1.78
41(NY)	0.90	0.64	1.65	0.84	1.05	0.66
42(NY)	0.47	1.18	1.10	1.98	0.85	1.87
43(NY)	0.42	0.43	0.42	0.30	0.64	0.56
44(NY)	0.57	0.86	0.50	0.53	0.78	1.03
45(NY)	0.40	0.54	0.40	0.38	0.32	0.37
46(NY)	0.24	0.32	0.63	0.61	0.71	0.84
47(S)	0.25	0.32	0.49	0.46	0.16	0.19
48(S)	0.41	0.54	0.58	0.53	0.41	0.47
49(S)	0.22	0.32	0.22	0.23	0.15	0.19
50(S)	0.21	0.32	0.42	0.46	0.35	0.47
51(S)	0.42	0.75	0.42	0.53	0.42	0.66
52(S)	0.16	0.11	0.16	0.08	0.47	0.28
53(S)	0.21	0.21	0.62	0.46	0.10	0.09
54(WS)	3.59	14.50	5.45	15.60	2.55	8.99
55(WS)	2.27	1.07	2.72	0.91	1.59	0.66
56(WS)	1.40	2.15	1.82	1.94	1.12	1.50
57(WS)	0.33	0.32	0.88	0.61	0.22	0.19
58(WS)	0.29	0.32	0.95	0.76	1.05	1.03
59(WS)	1.02	0.97	2.28	1.52	1.37	1.12
60(WS)	0.00	0.00	1.30	0.38	0.78	0.28
61(WS)	0.25	0.32	0.57	0.53	0.09	0.09
62(WS)	0.50	0.86	0.38	0.46	0.36	0.56
63(2S)	0.33	0.32	0.22	0.15	0.11	0.09

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 10A

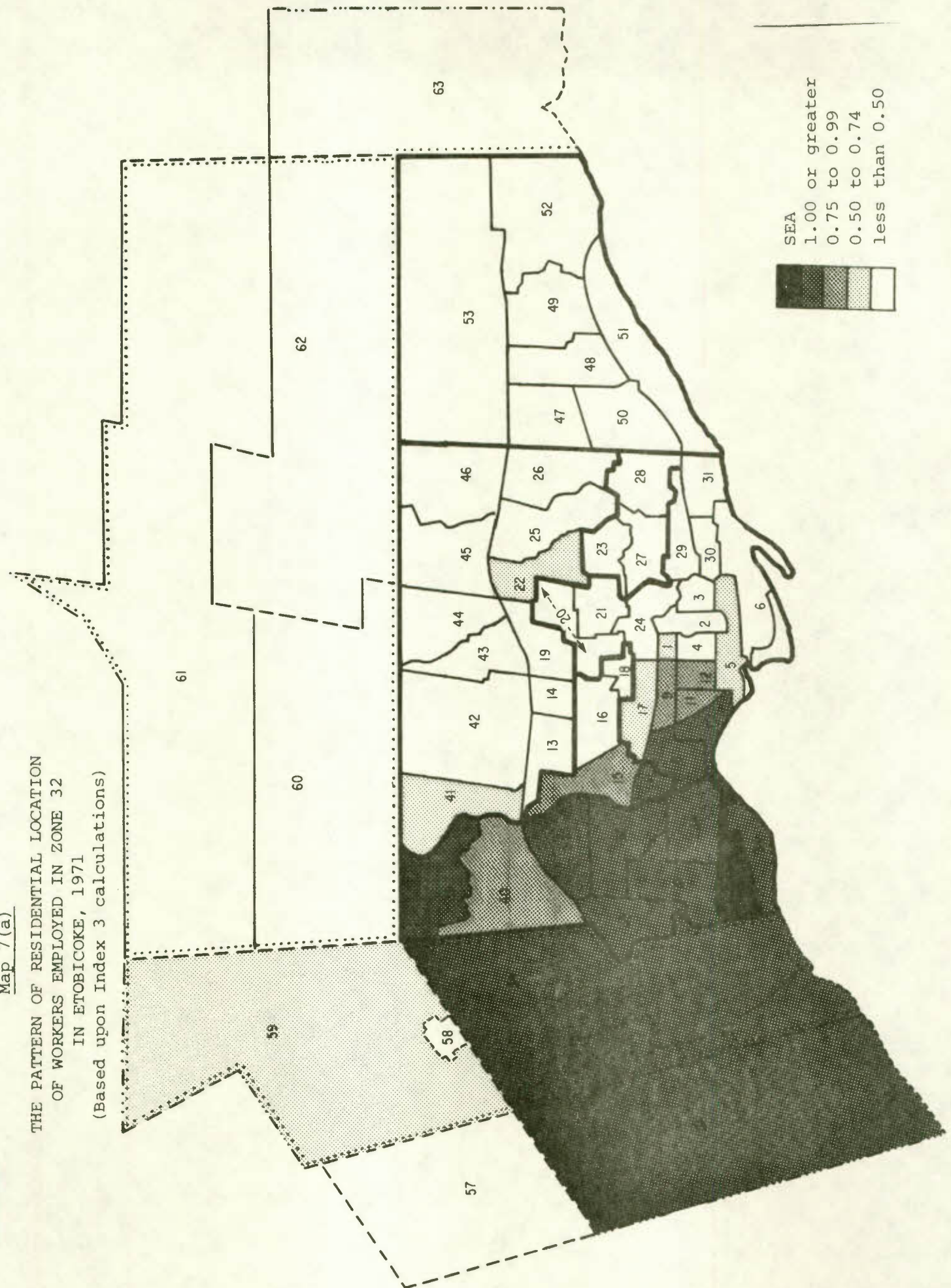
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING TO
INDEX 3) TO OTHER SECONDARY EMPLOYMENT AREAS
IN THE BOROUGH OF ETOBICOKE, TORONTO CMA, 1971

Zone of Residence	Work Locations, SEAs		
	Zone 32	Zone 37	Zone 38
1 (TC)	0.67	0.40	0.20
2 (CBD)	0.19	0.07	0.17
3 (TC)	0.28	0.44	0.36
4 (TC)	0.12	0.53	0.32
5 (TC)	0.56	0.00	0.49
6 (TC)	0.00	0.00	0.00
7 (Y)	1.86	1.32	1.80
8 (TC)	1.35	1.02	1.59
9 (TC)	0.92	0.65	0.80
10 (TC)	1.37	1.26	0.88
11 (TC)	0.82	1.02	0.89
12 (TC)	0.93	0.80	1.10
13 (NY)	0.43	0.66	1.06
14 (NY)	0.38	0.41	0.33
15 (Y)	0.90	1.10	0.84
16 (Y)	0.46	0.66	0.81
17 (TC)	0.74	0.69	0.70
18 (Y)	0.40	0.33	0.75
19 (NY)	0.14	0.30	0.25
20 (TC)	0.16	0.26	0.32
21 (TC)	0.17	0.21	0.19
22 (NY)	0.51	0.00	0.29
23 (EY)	0.00	0.26	0.16
24 (TC)	0.32	0.19	0.32
25 (NY)	0.34	0.19	0.42
26 (NY)	0.16	0.30	0.18
27 (EY)	0.20	0.14	0.35
28 (EY)	0.28	0.20	0.15
29 (TC)	0.30	0.46	0.41
30 (TC)	0.40	0.51	0.56
31 (TC)	0.28	0.40	0.25
32 (E)	17.89	6.13	5.91
33 (E)	8.99	3.86	5.87
34 (E)	1.22	1.73	2.35
35 (E)	2.44	6.30	3.92
36 (E)	1.60	2.92	2.68
37 (E)	2.72	10.75	2.94
38 (E)	4.40	4.93	11.92
39 (E)	1.21	1.56	1.54
40 (E)	0.99	1.55	1.65
41 (NY)	0.65	0.84	0.66
42 (NY)	0.33	0.56	0.53
43 (NY)	0.30	0.22	0.40
44 (NY)	0.41	0.25	0.49
45 (NY)	0.29	0.21	0.20
46 (NY)	0.17	0.32	0.44
47 (S)	0.18	0.25	0.10
48 (S)	0.30	0.29	0.26
49 (S)	0.16	0.11	0.09
50 (S)	0.15	0.22	0.22
51 (S)	0.30	0.21	0.26
52 (S)	0.11	0.08	0.30
53 (S)	0.15	0.32	0.07
54 (WS)	2.58	2.77	1.60
55 (WS)	1.63	1.38	0.99
56 (WS)	1.01	0.93	0.70
57 (WS)	0.24	0.45	0.14
58 (WS)	0.20	0.48	0.65
59 (WS)	0.74	1.16	0.85
60 (NS)	0.00	0.66	0.49
61 (NS)	0.18	0.29	0.05
62 (NS)	0.36	0.19	0.23
63 (ES)	0.24	0.11	0.07

Source: Based on 1971 Census place-of-work data, Statistics Canada.

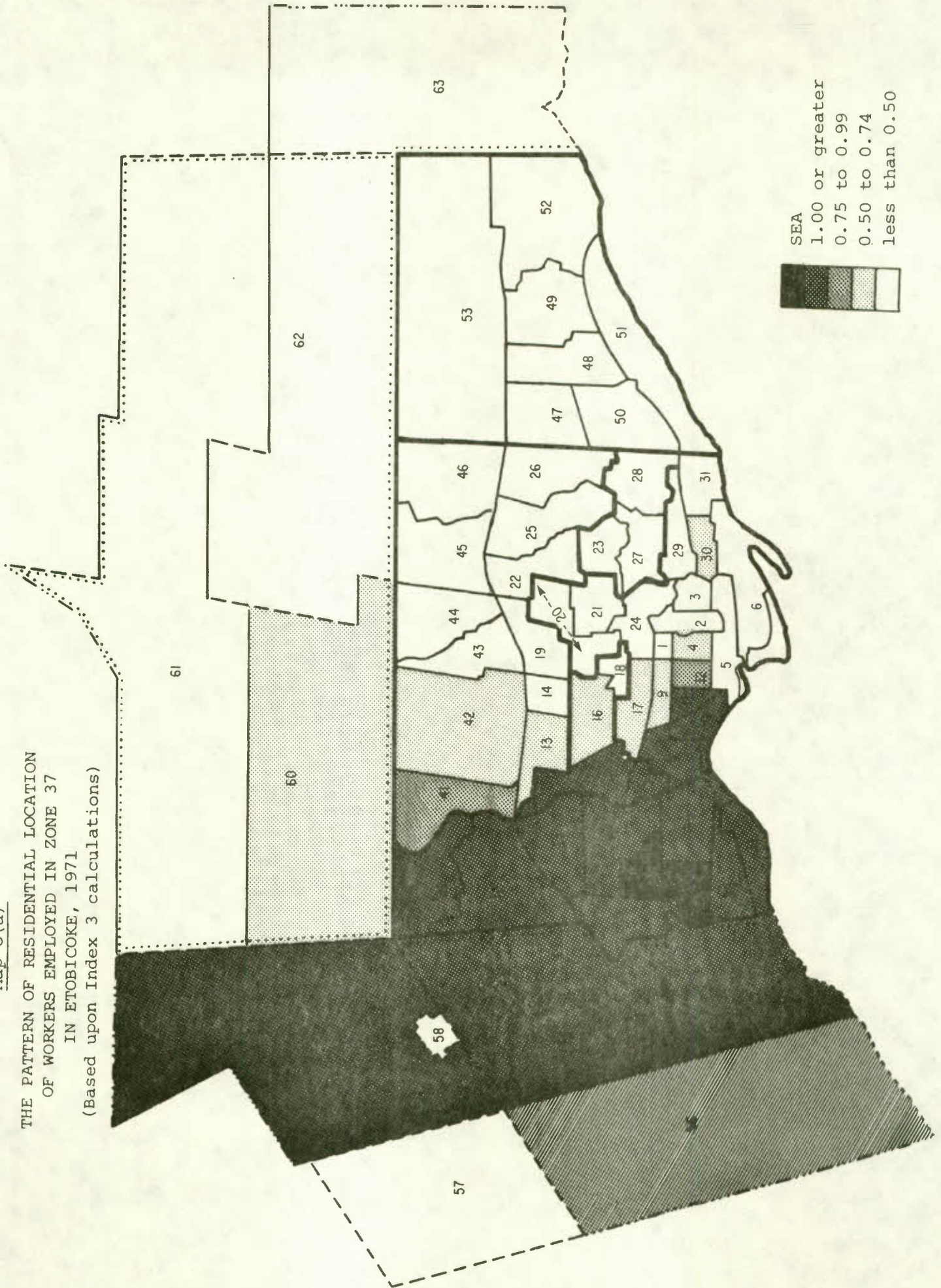
Map 7 (a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 32
IN ETOBICOKE, 1971
(Based upon Index 3 calculations)



Map 8 (a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 37
IN ETOBICOKE, 1971
(Based upon Index 3 calculations)



Map 9(a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 38
IN ETOBICOKE, 1971
(Based upon Index 3 calculations)

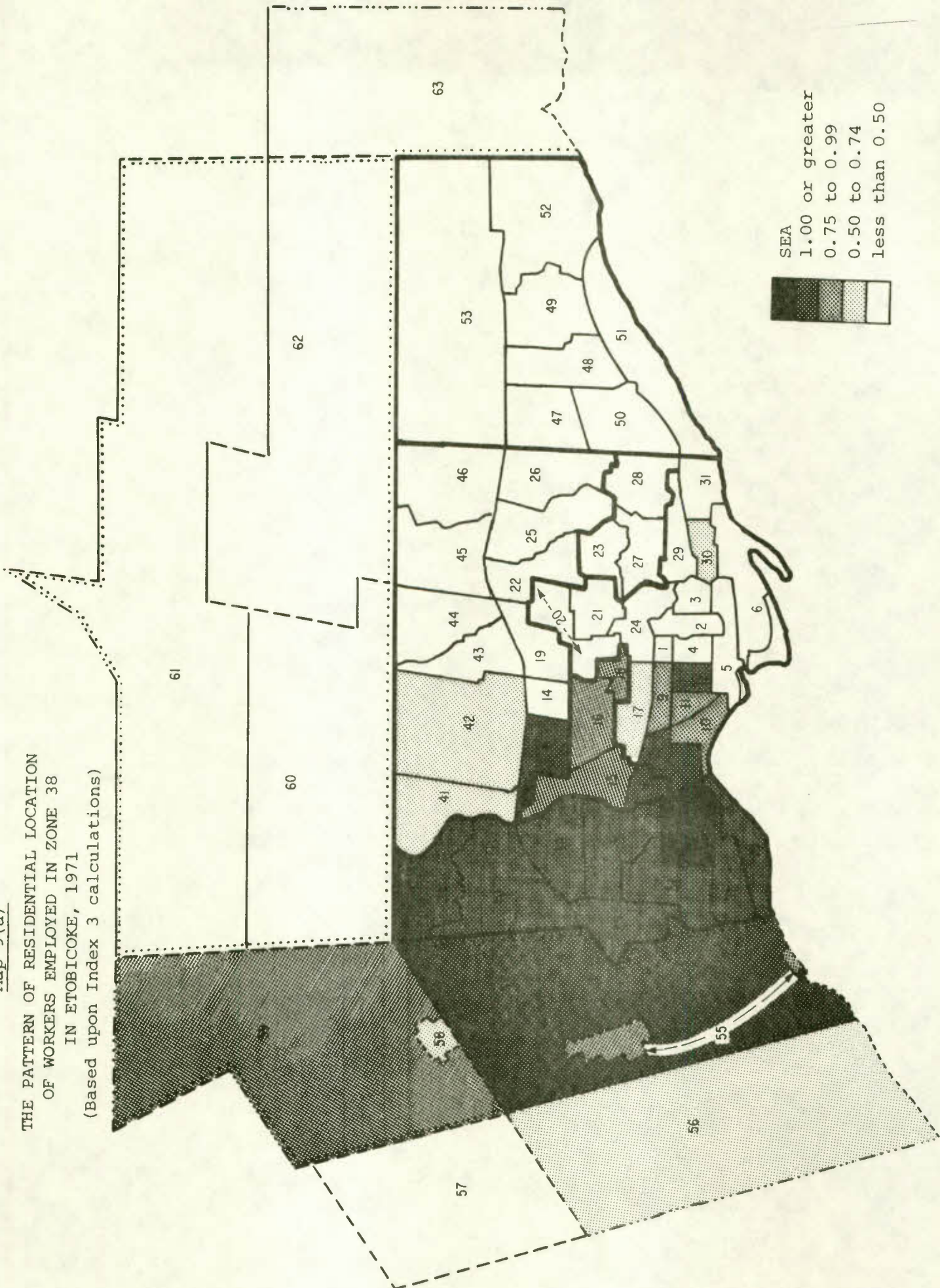


Table 11A

COMMUTATION RATES (CALCULATED ACCORDING TO
INDICES 1 AND 2) TO SECONDARY EMPLOYMENT
AREA REPRESENTED BY ZONE 50 IN THE BOROUGH
OF SCARBOROUGH, TORONTO CMA, 1971

Zone of Residence	Work Locations, SEA Zone 50	
	Index 1	Index 2
1(TC)	0.62	0.31
2(CBD)	0.68	0.39
3(TC)	1.34	1.09
4(TC)	0.52	0.23
5(TC)	0.78	0.08
6(TC)	0.00	0.00
7(Y)	0.29	0.08
8(TC)	0.54	0.63
9(TC)	0.88	0.70
10(TC)	0.49	0.55
11(TC)	0.43	0.23
12(TC)	0.74	0.63
13(NY)	0.70	0.55
14(NY)	0.53	0.16
15(Y)	0.18	0.16
16(Y)	0.48	0.47
17(TC)	0.64	0.63
18(Y)	0.37	0.31
19(NY)	0.60	0.47
20(TC)	0.94	1.02
21(TC)	0.83	1.09
22(NY)	0.23	0.08
23(EY)	1.15	0.70
24(TC)	0.44	0.47
25(NY)	1.81	1.48
26(NY)	4.10	4.38
27(EY)	1.86	1.56
28(EY)	4.74	4.69
29(TC)	3.31	4.30
30(TC)	2.02	1.41
31(TC)	2.78	2.73
32(E)	0.20	0.08
33(E)	0.09	0.08
34(E)	0.27	0.23
35(E)	0.13	0.08
36(E)	0.68	0.55
37(E)	0.00	0.00
38(E)	0.22	0.16
39(E)	0.31	0.16
40(E)	0.00	0.00
41(NY)	0.15	0.08
42(NY)	0.34	0.63
43(NY)	0.53	0.39
44(NY)	0.64	0.70
45(NY)	0.97	0.94
46(NY)	1.34	1.33
47(S)	6.97	6.64
48(S)	8.83	8.36
49(S)	6.75	7.19
50(S)	16.56*	18.36**
51(S)	7.90	10.23
52(S)	5.66	2.81
53(S)	4.16	3.13
54(WS)	0.08	0.23
55(WS)	0.00	0.00
56(WS)	0.07	0.08
57(WS)	0.00	0.00
58(WS)	0.19	0.16
59(WS)	0.23	0.16
60(NS)	0.26	0.08
61(NS)	0.66	0.63
62(NS)	0.94	1.17
63(ES)	2.88	2.03

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 12A

ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 3) TO SECONDARY EMPLOYMENT AREA
REPRESENTED BY ZONE 50 IN THE BOROUGH OF
SCARBOROUGH, TORONTO CMA, 1971

Zone of Residence	Work Locations, SEA Zone 50
1(TC)	0.33
2(CBD)	0.35
3(TC)	0.70
4(TC)	0.27
5(TC)	0.41
6(TC)	0.00
7(Y)	0.15
8(TC)	0.28
9(TC)	0.46
10(TC)	0.26
11(TC)	0.22
12(TC)	0.39
13(NY)	0.36
14(NY)	0.28
15(Y)	0.09
16(Y)	0.25
17(TC)	0.33
18(Y)	0.19
19(NY)	0.31
20(TC)	0.49
21(TC)	0.43
22(NY)	0.12
23(EY)	0.60
24(TC)	0.23
25(NY)	0.95
26(NY)	2.14
27(EY)	0.97
28(EY)	2.47
29(TC)	1.73
30(TC)	1.05
31(TC)	1.45
32(E)	0.10
33(E)	0.04
34(E)	0.14
35(E)	0.07
36(E)	0.36
37(E)	0.00
38(E)	0.11
39(E)	0.16
40(E)	0.00
41(NY)	0.08
42(NY)	0.18
43(NY)	0.28
44(NY)	0.33
45(NY)	0.51
46(NY)	0.70
47(S)	3.64
48(S)	4.61
49(S)	3.53
50(S)	8.65
51(S)	4.13
52(S)	2.96
53(S)	2.17
54(WS)	0.04
55(WS)	0.00
56(WS)	0.04
57(WS)	0.00
58(WS)	0.10
59(WS)	0.12
60(NS)	0.14
61(NS)	0.34
62(NS)	0.49
63(ES)	1.51

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 10(a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 50
IN SCARBOROUGH, 1971
(Based upon Index 3 calculations)

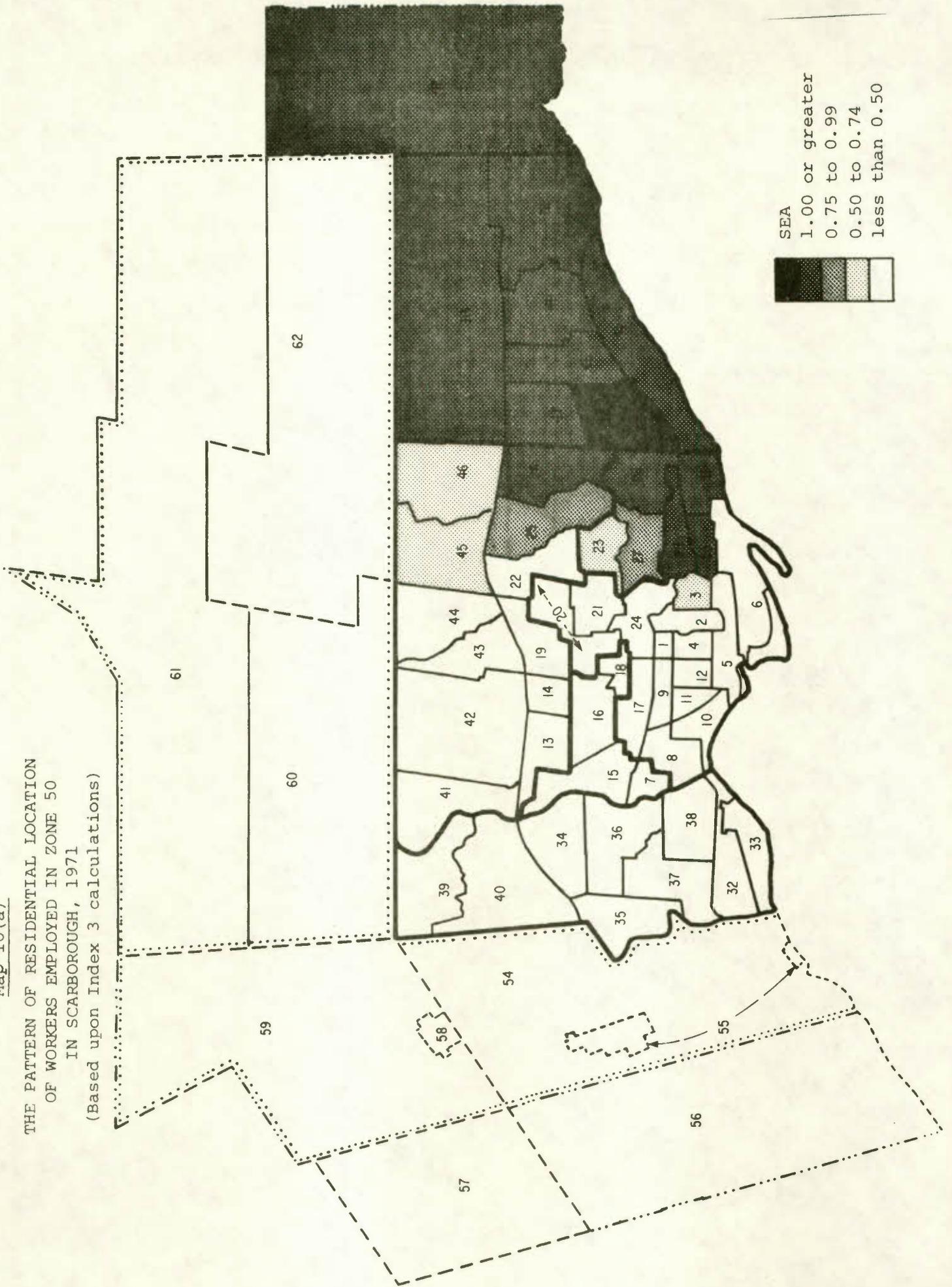
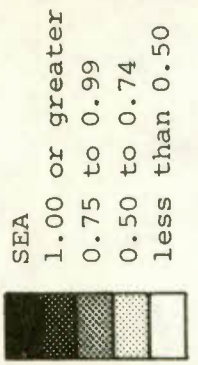


Table 13A

COMMUTATION RATES (CALCULATED ACCORDING TO
INDICES 1 AND 2) TO OTHER SECONDARY EMPLOYMENT
AREAS IN THE BOROUGH OF NORTH YORK,
TORONTO CMA, 1971

Zone of Residence	Work Locations, SEAs					
	Zone 14		Zone 25		Zone 41	
	Index 1	Index 2	Index 1	Index 2	Index 1	Index 2
1(TC)	0.62	0.31	1.87	0.57	0.31	0.20
2(CBD)	0.54	0.31	2.31	0.80	0.54	0.40
3(TC)	0.86	0.69	1.73	0.85	0.19	0.20
4(TC)	0.52	0.23	2.07	0.57	0.52	0.30
5(TC)	1.56	0.15	2.34	0.14	0.78	0.10
6(TC)	0.00	0.00	0.00	0.00	0.00	0.00
7(Y)	2.59	0.69	0.57	0.09	1.44	0.50
8(TC)	1.07	1.22	1.27	0.90	0.60	0.89
9(TC)	2.26	1.76	1.38	0.66	1.77	1.79
10(TC)	1.13	1.22	1.20	0.80	0.35	0.50
11(TC)	1.71	0.92	1.00	0.33	1.00	0.70
12(TC)	1.75	1.45	1.20	0.61	1.57	1.69
13(NY)	7.66	5.89	0.90	0.43	3.18	3.18
14(NY)	25.00*	7.19**	2.13	0.38	2.39	0.89
15(Y)	3.42	2.91	0.54	0.28	2.97	3.28
16(Y)	4.68	4.44	0.97	0.57	3.23	3.98
17(TC)	3.82	3.67	0.80	0.47	2.07	2.58
18(Y)	4.12	3.44	1.92	0.99	1.65	1.79
19(NY)	5.57	4.28	2.19	1.04	0.99	0.99
20(TC)	2.03	2.14	2.47	1.61	0.73	0.99
21(TC)	0.83	1.07	4.10	3.26	0.41	0.70
22(NY)	1.41	0.46	4.69	0.95	0.70	0.30
23(EY)	0.90	0.54	6.78	2.51	0.38	0.30
24(TC)	0.96	0.99	2.37	1.51	0.22	0.30
25(NY)	1.24	0.99	23.93*	11.87**	0.48	0.50
26(NY)	1.02	1.07	12.08	7.80	0.44	0.60
27(EY)	1.11	0.92	3.90	1.99	0.19	0.20
28(EY)	0.79	0.77	4.74	2.84	0.55	0.70
29(TC)	0.84	1.07	2.76	2.17	0.60	0.99
30(TC)	0.67	0.46	2.47	1.04	0.56	0.50
31(TC)	0.40	0.38	2.46	1.47	0.40	0.50
32(E)	0.20	0.08	0.20	0.05	0.40	0.20
33(E)	0.43	0.38	0.26	0.14	0.51	0.60
34(E)	2.50	2.14	1.07	0.57	2.41	2.68
35(E)	0.91	0.54	0.78	0.28	0.65	0.50
36(E)	1.65	1.30	1.55	0.76	1.46	1.49
37(E)	1.99	0.84	1.26	0.33	0.36	0.20
38(E)	0.97	0.69	0.65	0.28	0.54	0.50
39(E)	2.30	1.15	1.38	0.43	5.99	3.88
40(E)	3.46	1.91	1.11	0.38	3.19	2.29
41(NY)	4.21	2.14	0.90	0.28	23.16*	15.31**
42(NY)	6.27	11.32	1.19	1.32	7.16	16.80
43(NY)	6.46	4.67	1.59	0.71	1.59	1.49
44(NY)	3.69	3.98	2.13	1.42	2.27	3.18
45(NY)	2.67	2.52	3.64	2.13	1.05	1.29
46(NY)	1.65	1.61	11.73	7.04	0.94	1.19
47(S)	0.90	0.84	7.38	4.26	0.41	0.50
48(S)	0.58	0.54	6.44	3.69	0.25	0.30
49(S)	0.95	0.99	5.65	3.64	0.22	0.30
50(S)	0.78	0.84	5.36	3.59	0.49	0.70
51(S)	0.48	0.61	4.40	3.45	0.24	0.40
52(S)	0.47	0.23	4.87	1.47	0.16	0.10
53(S)	0.62	0.46	7.28	3.31	0.94	0.89
54(WS)	0.77	2.22	0.88	1.56	1.04	3.88
55(WS)	0.23	0.08	0.68	0.14	0.45	0.20
56(WS)	0.35	0.38	0.49	0.33	0.28	0.40
57(WS)	0.33	0.23	0.33	0.14	0.22	0.20
58(WS)	0.48	0.38	0.19	0.09	0.67	0.70
59(WS)	0.68	0.46	0.68	0.28	2.05	1.79
60(NS)	1.56	0.46	1.56	0.28	3.65	1.39
61(NS)	0.98	0.92	1.80	1.04	1.07	1.29
62(NS)	1.19	1.45	4.13	3.12	1.13	1.79
63(ES)	0.55	0.38	3.77	1.61	0.33	0.30

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 14A

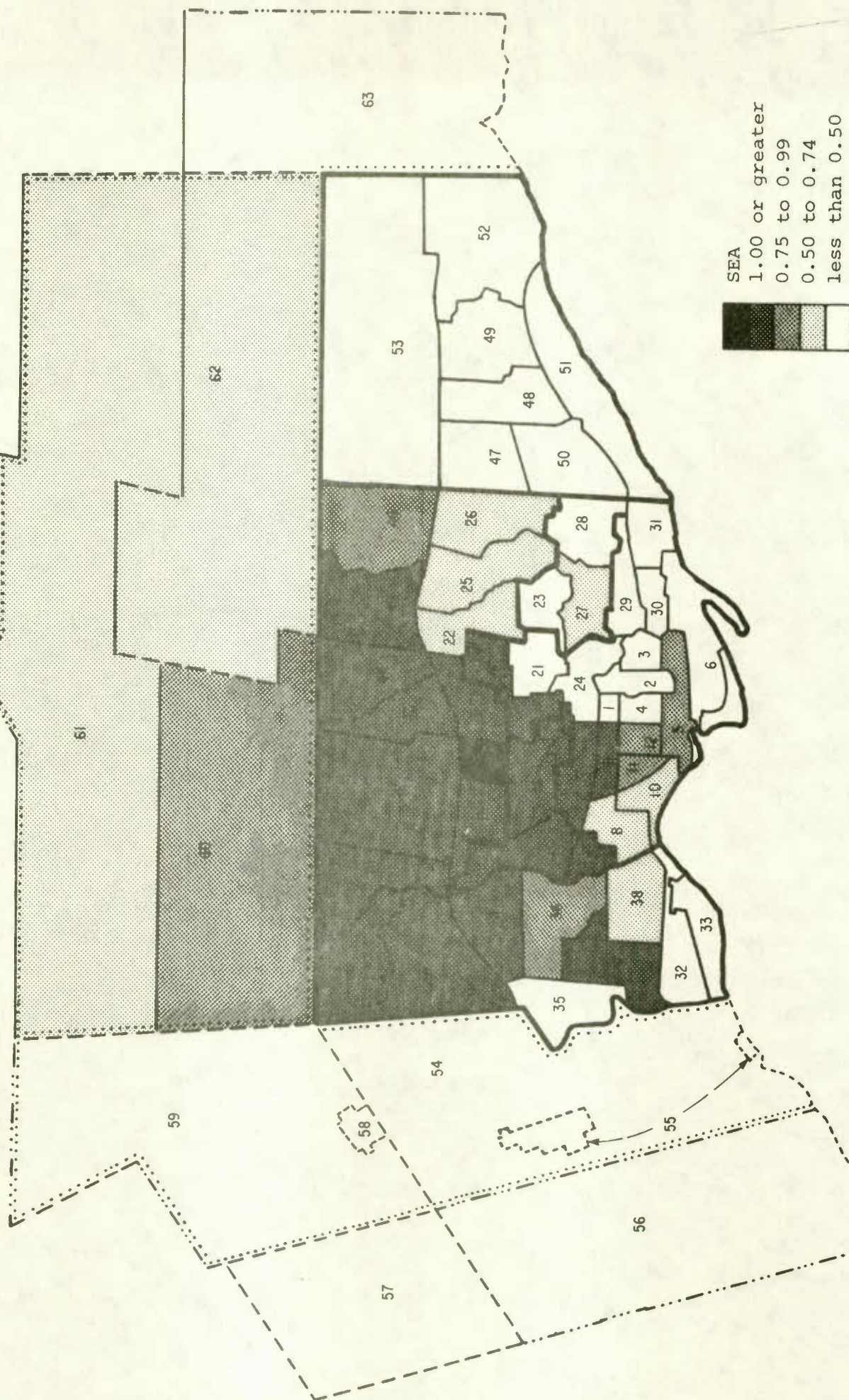
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 3) TO OTHER SECONDARY EMPLOYMENT AREAS
IN THE BOROUGH OF NORTH YORK, TORONTO CMA, 1971

Zone of Residence	Work Locations, SEAs		
	Zone 14	Zone 25	Zone 41
1(TC)	0.32	0.59	0.21
2(CBD)	0.28	0.73	0.36
3(TC)	0.44	0.55	0.13
4(TC)	0.26	0.65	0.34
5(TC)	0.80	0.74	0.52
6(TC)	0.00	0.00	0.00
7(Y)	1.32	0.18	0.96
8(TC)	0.55	0.40	0.40
9(TC)	1.16	0.44	1.18
10(TC)	0.58	0.38	0.23
11(TC)	0.87	0.32	0.66
12(TC)	0.90	0.38	1.04
13(NY)	3.92	0.28	2.12
14(NY)	12.79	0.67	1.59
15(Y)	1.75	0.17	1.97
16(Y)	2.40	0.31	2.15
17(TC)	1.95	0.25	1.38
18(Y)	2.11	0.61	1.10
19(NY)	2.85	0.69	0.66
20(TC)	1.04	0.78	0.48
21(TC)	0.42	1.29	0.28
22(NY)	0.72	1.48	0.47
23(EY)	0.46	2.14	0.26
24(TC)	0.49	0.75	0.15
25(NY)	0.63	7.57	0.32
26(NY)	0.52	3.82	0.29
27(EY)	0.57	1.23	0.12
28(EY)	0.40	1.50	0.37
29(TC)	0.43	0.87	0.40
30(TC)	0.34	0.78	0.37
31(TC)	0.20	0.78	0.26
32(E)	0.10	0.06	0.27
33(E)	0.22	0.08	0.34
34(E)	1.28	0.34	1.60
35(E)	0.47	0.25	0.43
36(E)	0.84	0.49	0.97
37(E)	1.02	0.40	0.24
38(E)	0.50	0.20	0.36
39(E)	1.18	0.44	3.98
40(E)	1.77	0.35	2.12
41(NY)	2.15	0.29	15.40
42(NY)	3.21	0.38	4.76
43(NY)	3.31	0.50	1.06
44(NY)	1.89	0.67	1.51
45(NY)	1.37	1.15	0.70
46(NY)	0.85	3.71	0.63
47(S)	0.46	2.33	0.27
48(S)	0.30	2.04	0.16
49(S)	0.49	1.79	0.15
50(S)	0.40	1.69	0.33
51(S)	0.25	1.39	0.16
52(S)	0.24	1.54	0.10
53(S)	0.32	2.30	0.62
54(WS)	0.39	0.28	0.69
55(WS)	0.12	0.22	0.30
56(WS)	0.18	0.16	0.19
57(WS)	0.17	0.10	0.15
58(WS)	0.24	0.06	0.44
59(WS)	0.35	0.22	1.36
60(NS)	0.80	0.49	2.42
61(NS)	0.50	0.57	0.71
62(NS)	0.61	1.30	0.75
63(ES)	0.28	1.19	0.22

Source: Based on 1971 Census place-of-work data, Statistics Canada.

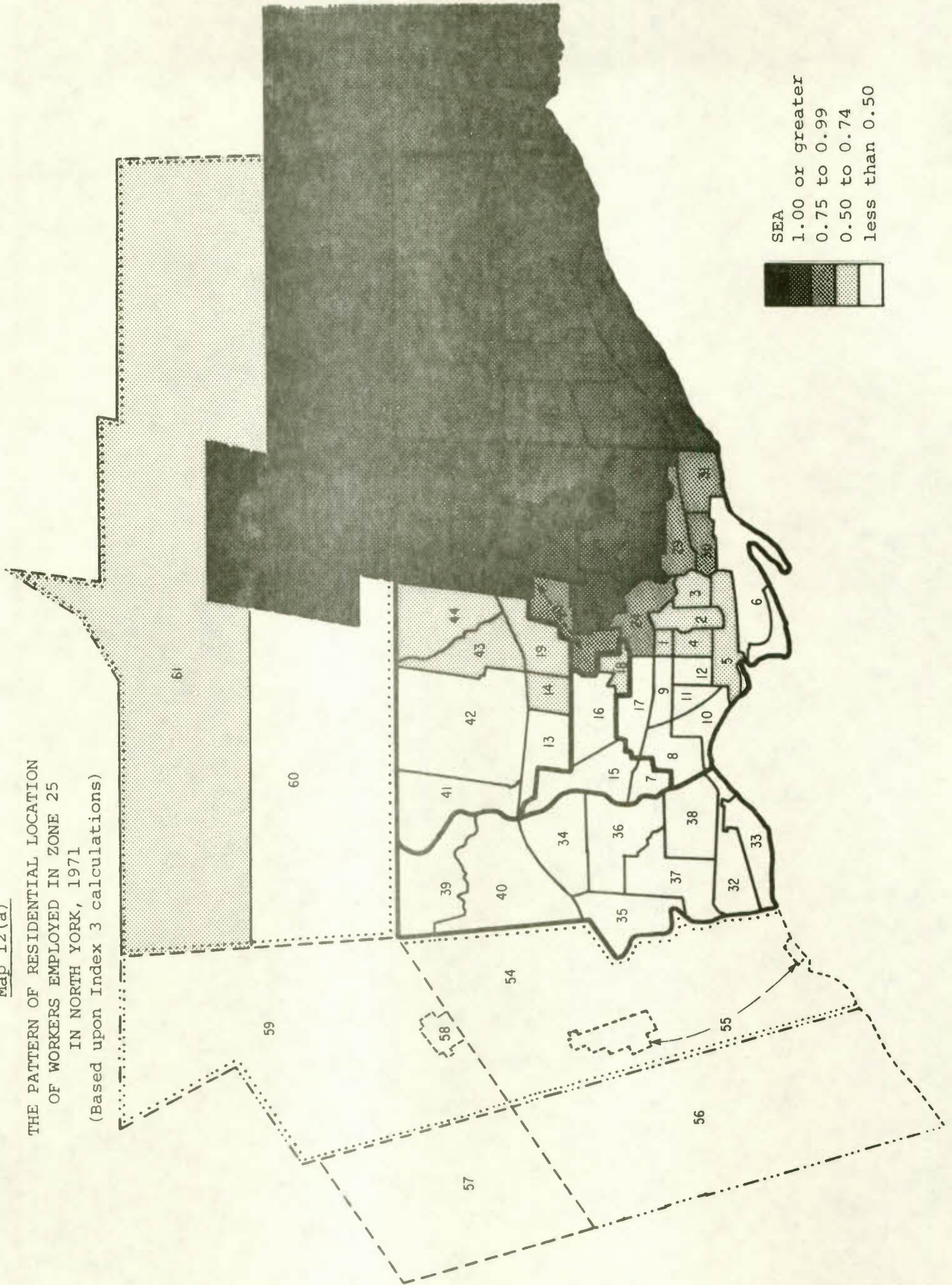
Map 11(a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 14
IN NORTH YORK, 1971
(Based upon Index 3 calculations)



Map 12(a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 25
IN NORTH YORK, 1971
(Based upon Index 3 calculations)



Map 13(a)

THE PATTERN OF RESIDENTIAL LOCATION
OF WORKERS EMPLOYED IN ZONE 41
IN NORTH YORK, 1971
(Based upon Index 3 calculations)

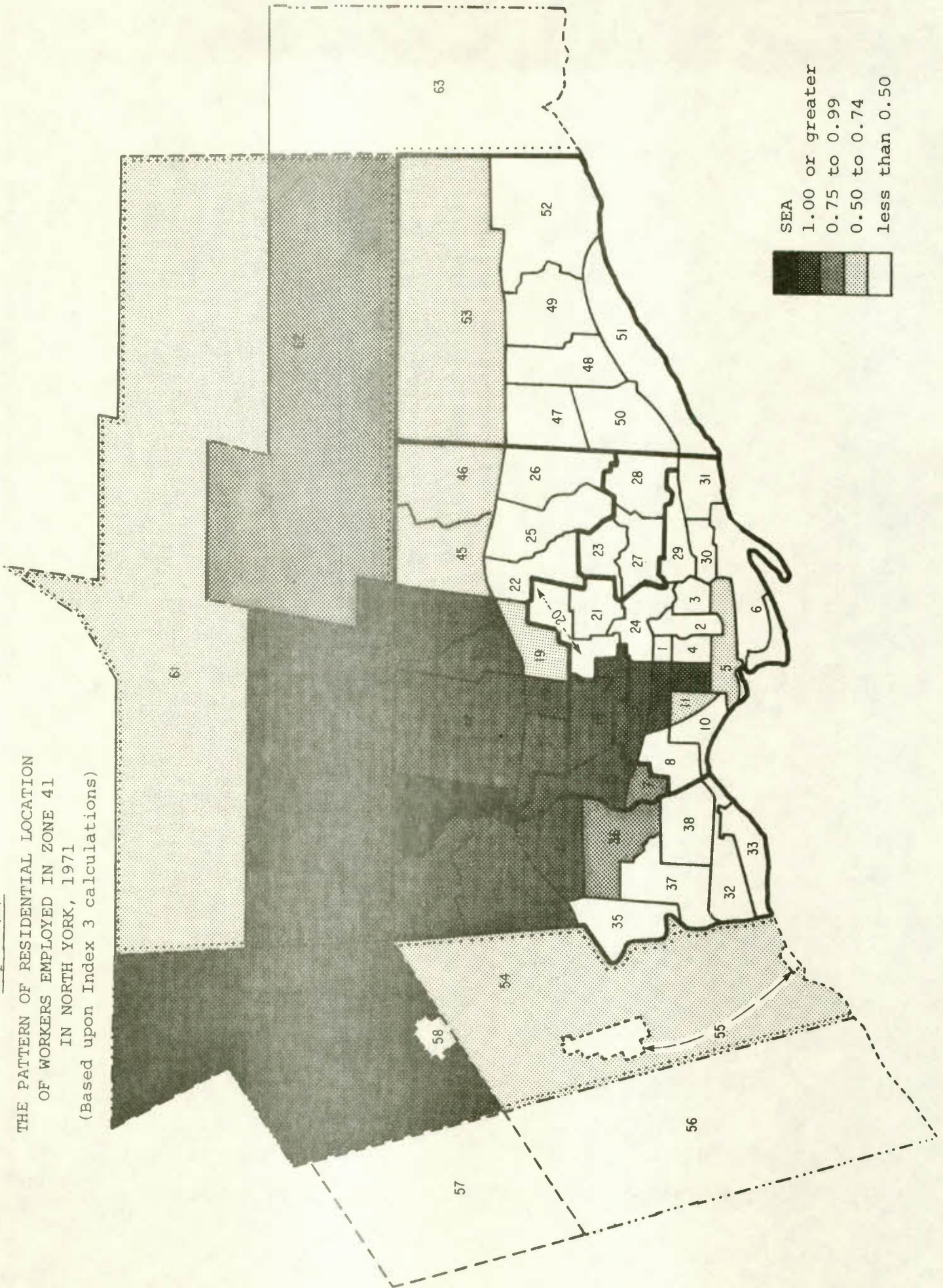


Table 15A

COMMUTATION RATES (CALCULATED ACCORDING TO
INDICES 1 AND 2) TO SECONDARY EMPLOYMENT
AREA REPRESENTED BY ZONE 60 IN THE
EXTERNAL NORTH SECTOR, TORONTO CMA, 1971

Zone of Residence	Work locations, SEA	
	Zone 60	
	Index 1	Index 2
1(TC)	0.16	0.11
2(CBD)	0.14	0.11
3(TC)	0.19	0.23
4(TC)	0.34	0.23
5(TC)	0.00	0.00
6(TC)	0.00	0.00
7(Y)	1.15	0.45
8(TC)	0.27	0.45
9(TC)	0.69	0.79
10(TC)	0.42	0.68
11(TC)	0.57	0.45
12(TC)	0.83	1.02
13(NY)	1.10	2.27
14(NY)	2.13	0.91
15(Y)	1.62	2.04
16(Y)	1.45	2.04
17(TC)	1.11	1.59
18(Y)	0.64	0.79
19(NY)	0.70	0.79
20(TC)	0.44	0.68
21(TC)	0.30	0.57
22(NY)	0.94	0.45
23(EY)	0.00	0.00
24(TC)	0.15	0.23
25(NY)	0.10	0.11
26(NY)	0.44	0.68
27(EY)	0.19	0.23
28(EY)	0.32	0.45
29(TC)	0.45	0.57
30(TC)	0.45	0.45
31(TC)	0.32	0.45
32(E)	0.80	0.45
33(E)	0.68	0.91
34(E)	0.71	0.91
35(E)	0.78	0.68
36(E)	0.58	0.68
37(E)	0.54	0.34
38(E)	0.54	0.45
39(E)	3.38	2.49
40(E)	1.80	1.47
41(NY)	3.31	2.49
42(NY)	4.28	11.44
43(NY)	1.17	1.25
44(NY)	1.92	3.06
45(NY)	1.86	2.60
46(NY)	1.18	1.70
47(S)	0.57	0.79
48(S)	0.83	1.13
49(S)	0.44	0.68
50(S)	0.70	1.13
51(S)	0.54	1.02
52(S)	0.79	0.57
53(S)	0.62	0.68
54(WS)	0.56	2.38
55(WS)	0.68	0.34
56(WS)	0.07	0.11
57(WS)	0.11	0.11
58(WS)	0.76	0.91
59(WS)	1.93	1.93
60(NS)	34.90*	15.18**
61(NS)	4.35	6.00
62(NS)	6.50	11.78
63(ES)	0.22	0.23

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada

Table 16A

ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 3) TO SECONDARY EMPLOYMENT AREA
REPRESENTED BY ZONE 60 IN THE EXTERNAL
NORTH SECTOR, TORONTO CMA, 1971

Zone of Residence	Work locations, SEA
	Zone 60
1 (TC)	0.12
2 (CBD)	0.10
3 (TC)	0.15
4 (TC)	0.26
5 (TC)	0.00
6 (TC)	0.00
7 (Y)	0.87
8 (TC)	0.20
9 (TC)	0.52
10 (TC)	0.32
11 (TC)	0.43
12 (TC)	0.63
13 (NY)	1.51
14 (NY)	1.61
15 (Y)	1.23
16 (Y)	1.10
17 (TC)	0.84
18 (Y)	0.49
19 (NY)	0.53
20 (TC)	0.33
21 (TC)	0.22
22 (NY)	0.71
23 (EY)	0.00
24 (TC)	0.11
25 (NY)	0.07
26 (NY)	0.33
27 (EY)	0.14
28 (EY)	0.24
29 (TC)	0.23
30 (TC)	0.34
31 (TC)	0.24
32 (E)	0.61
33 (E)	0.52
34 (E)	0.54
35 (E)	0.59
36 (E)	0.44
37 (E)	0.41
38 (E)	0.33
39 (E)	2.56
40 (E)	1.36
41 (NY)	2.51
42 (NY)	3.24
43 (NY)	0.88
44 (NY)	1.45
45 (NY)	1.41
46 (NY)	0.89
47 (S)	0.43
48 (S)	0.62
49 (S)	0.33
50 (S)	0.53
51 (S)	0.41
52 (S)	0.60
53 (S)	0.47
54 (WS)	0.42
55 (WS)	0.52
56 (WS)	0.05
57 (WS)	0.08
58 (WS)	0.58
59 (WS)	1.46
60 (NS)	26.43
61 (NS)	3.29
62 (NS)	4.92
63 (ES)	0.17

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 14(a)

THE PATTERN OF RESIDENTIAL LOCATION OF WORKERS
EMPLOYED IN ZONE 60 IN THE NORTH SECTOR, 1971
(Based upon Index 3 calculations)

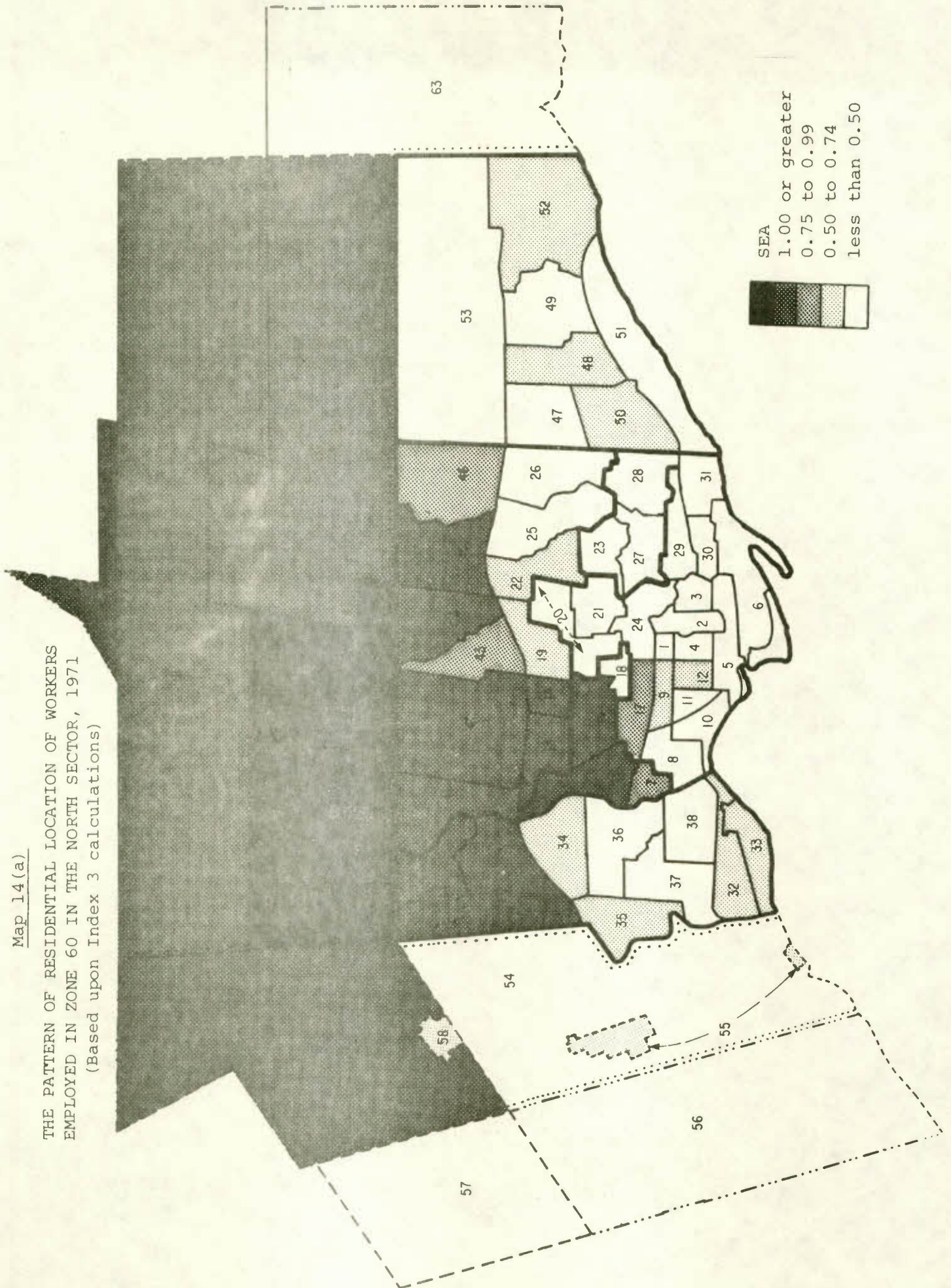


Table 17A

COMMUTATION RATES (CALCULATED ACCORDING TO
INDICES 1 AND 2) TO OTHER SECONDARY
EMPLOYMENT AREAS IN THE EXTERNAL
WEST SECTOR, TORONTO CMA, 1971

Zone of Residence	Work locations, SEAs					
	Zone 55		Zone 56		Zone 58	
	Index 1	Index 2	Index 1	Index 2	Index 1	Index 2
1(TC)	0.00	0.00	0.00	0.00	0.16	0.10
2(CBD)	0.14	0.16	0.00	0.00	0.00	0.00
3(TC)	0.10	0.16	0.38	0.27	0.10	0.10
4(TC)	0.52	0.47	0.17	0.07	0.34	0.20
5(TC)	0.00	0.00	0.00	0.00	0.00	0.00
6(TC)	0.00	0.00	0.00	0.00	0.00	0.00
7(Y)	0.29	0.16	0.86	0.20	0.00	0.00
8(TC)	0.47	1.09	0.60	0.61	0.13	0.20
9(TC)	0.39	0.62	0.49	0.34	0.00	0.00
10(TC)	0.70	1.56	0.85	0.81	0.21	0.30
11(TC)	0.57	0.62	0.71	0.34	0.28	0.20
12(TC)	0.55	0.94	0.65	0.47	0.55	0.60
13(NY)	1.00	0.16	1.00	0.07	0.40	0.40
14(NY)	0.27	0.16	0.00	0.00	0.00	0.00
15(Y)	0.09	0.16	0.45	0.34	0.18	0.00
16(Y)	0.00	0.00	0.48	0.41	0.32	0.40
17(TC)	0.56	1.09	0.48	0.41	0.32	0.40
18(Y)	0.18	0.31	0.18	0.14	0.18	0.20
19(NY)	0.00	0.00	0.10	0.07	0.10	0.10
20(TC)	0.15	0.31	0.22	0.20	0.00	0.00
21(TC)	0.06	0.16	0.00	0.00	0.06	0.10
22(NY)	0.47	0.31	0.00	0.00	0.00	0.00
23(EY)	0.13	0.16	0.13	0.07	0.00	0.00
24(TC)	0.07	0.16	0.07	0.07	0.07	0.10
25(NY)	0.10	0.16	0.19	0.14	0.19	0.20
26(NY)	0.15	0.31	0.15	0.14	0.00	0.00
27(EY)	0.19	0.31	0.00	0.00	0.09	0.10
28(EY)	0.00	0.00	0.08	0.07	0.08	0.10
29(TC)	0.06	0.16	0.24	0.27	0.06	0.10
30(TC)	0.22	0.31	0.11	0.07	0.11	0.10
31(TC)	0.16	0.31	0.16	0.14	0.00	0.00
32(E)	1.20	0.94	1.20	0.41	0.40	0.20
33(E)	2.39	4.37	0.77	0.61	0.34	0.40
34(E)	0.54	0.94	0.45	0.34	0.63	0.70
35(E)	1.17	1.40	0.52	0.27	0.13	0.10
36(E)	0.29	0.47	0.49	0.34	0.39	0.40
37(E)	0.90	0.78	0.54	0.20	0.54	0.30
38(E)	0.90	1.40	0.54	0.14	0.11	0.10
39(E)	0.15	0.16	0.31	0.14	0.92	0.60
40(E)	0.28	0.31	0.28	0.14	0.14	0.10
41(NY)	0.45	0.47	0.15	0.07	0.30	0.20
42(NY)	0.34	1.25	0.21	0.34	0.34	0.79
43(NY)	0.32	0.47	0.21	0.14	0.53	0.50
44(NY)	0.07	0.16	0.14	0.14	0.14	0.20
45(NY)	0.16	0.31	0.08	0.07	0.24	0.30
46(NY)	0.31	0.62	0.79	0.07	0.08	0.10
47(S)	0.08	0.16	0.16	0.14	0.08	0.10
48(S)	0.08	0.16	0.08	0.07	0.08	0.10
49(S)	0.07	0.16	0.00	0.00	0.07	0.10
50(S)	0.07	0.16	0.07	0.07	0.07	0.10
51(S)	0.06	0.16	0.00	0.00	0.12	0.20
52(S)	0.31	0.31	0.16	0.07	0.16	0.10
53(S)	0.10	0.16	0.10	0.07	0.00	0.00
54(WS)	6.19	36.35	2.26	5.76	1.38	5.16
55(WS)	35.37**	24.34**	4.08	1.22	2.95	1.29
56(WS)	2.38	5.30	59.03*	57.11**	0.42	0.60
57(WS)	0.99	1.40	3.20	1.96	9.26	8.34
58(WS)	0.86	1.40	0.67	0.47	55.23*	57.70**
59(WS)	1.14	1.56	0.80	0.47	11.83	10.33
60(NS)	0.00	0.00	0.00	0.00	0.52	0.20
61(NS)	0.08	0.16	0.08	0.07	0.41	0.50
62(NS)	0.06	0.16	0.06	0.07	0.19	0.30
63(ES)	0.11	0.16	0.11	0.07	0.11	0.00

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 18A

ADJUSTED COMMUTATION RATES (CALCULATED
ACCORDING TO INDEX 3) TO OTHER SECONDARY
EMPLOYMENT AREAS IN THE EXTERNAL
WEST SECTOR, TORONTO CMA, 1971

Zone of Residence	Work locations, SEAs		
	Zone 55	Zone 56	Zone 58
1(TC)	0.00	0.00	0.10
2(CBD)	0.14	0.00	0.00
3(TC)	0.10	0.17	0.06
4(TC)	0.54	0.08	0.23
5(TC)	0.00	0.00	0.00
6(TC)	0.00	0.00	0.00
7(Y)	0.30	0.39	0.00
8(TC)	0.49	0.27	0.09
9(TC)	0.41	0.22	0.00
10(TC)	0.74	0.38	0.14
11(TC)	0.59	0.32	0.19
12(TC)	0.58	0.29	0.37
13(NY)	0.10	0.05	0.26
14(NY)	0.28	0.00	0.00
15(Y)	0.09	0.20	0.12
16(Y)	0.00	0.22	0.21
17(TC)	0.58	0.22	0.21
18(Y)	0.19	0.08	0.12
19(NY)	0.00	0.05	0.07
20(TC)	0.15	0.10	0.00
21(TC)	0.06	0.00	0.04
22(NY)	0.49	0.00	0.00
23(EY)	0.13	0.06	0.00
24(TC)	0.08	0.03	0.05
25(NY)	0.10	0.09	0.13
26(NY)	0.15	0.07	0.00
27(EY)	0.19	0.00	0.06
28(EY)	0.00	0.04	0.05
29(TC)	0.06	0.11	0.04
30(TC)	0.23	0.05	0.07
31(TC)	0.17	0.07	0.00
32(E)	1.26	0.55	0.27
33(E)	2.49	0.35	0.23
34(E)	0.56	0.20	0.42
35(E)	1.22	0.24	0.09
36(E)	0.30	0.22	0.26
37(E)	0.94	0.25	0.36
38(E)	1.01	0.10	0.07
39(E)	0.16	0.14	0.61
40(E)	0.29	0.13	0.09
41(NY)	0.47	0.07	0.20
42(NY)	0.35	0.10	0.23
43(NY)	0.33	0.10	0.35
44(NY)	0.07	0.06	0.09
45(NY)	0.17	0.04	0.16
46(NY)	0.33	0.04	0.05
47(S)	0.09	0.07	0.05
48(S)	0.09	0.04	0.05
49(S)	0.08	0.00	0.05
50(S)	0.07	0.03	0.05
51(S)	0.06	0.00	0.08
52(S)	0.33	0.07	0.10
53(S)	0.11	0.05	0.00
54(WS)	6.46	1.02	0.92
55(WS)	36.91	1.85	1.96
56(WS)	2.48	26.75	0.28
57(WS)	1.04	1.45	6.15
58(WS)	0.89	0.30	36.68
59(WS)	1.19	0.36	7.86
60(NS)	0.00	0.00	0.35
61(NS)	0.09	0.04	0.27
62(NS)	0.07	0.03	0.12
63(ES)	0.12	0.05	0.00

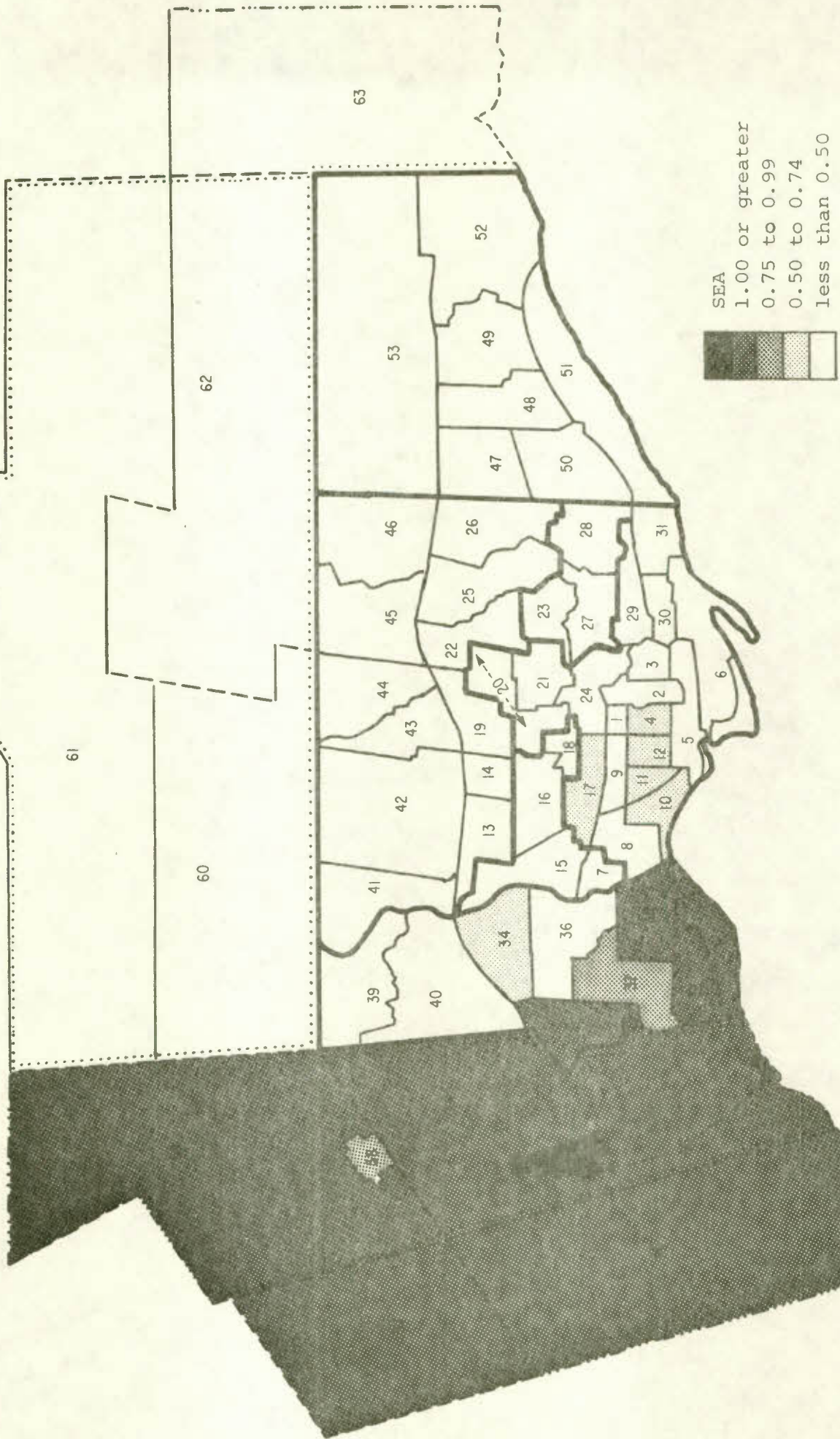
Source: Based on 1971 Census place-of-work data, Statistics Canada.

APPENDIX III

(SUPPLEMENTARY TABLES AND MAPS TO SECTION 6)

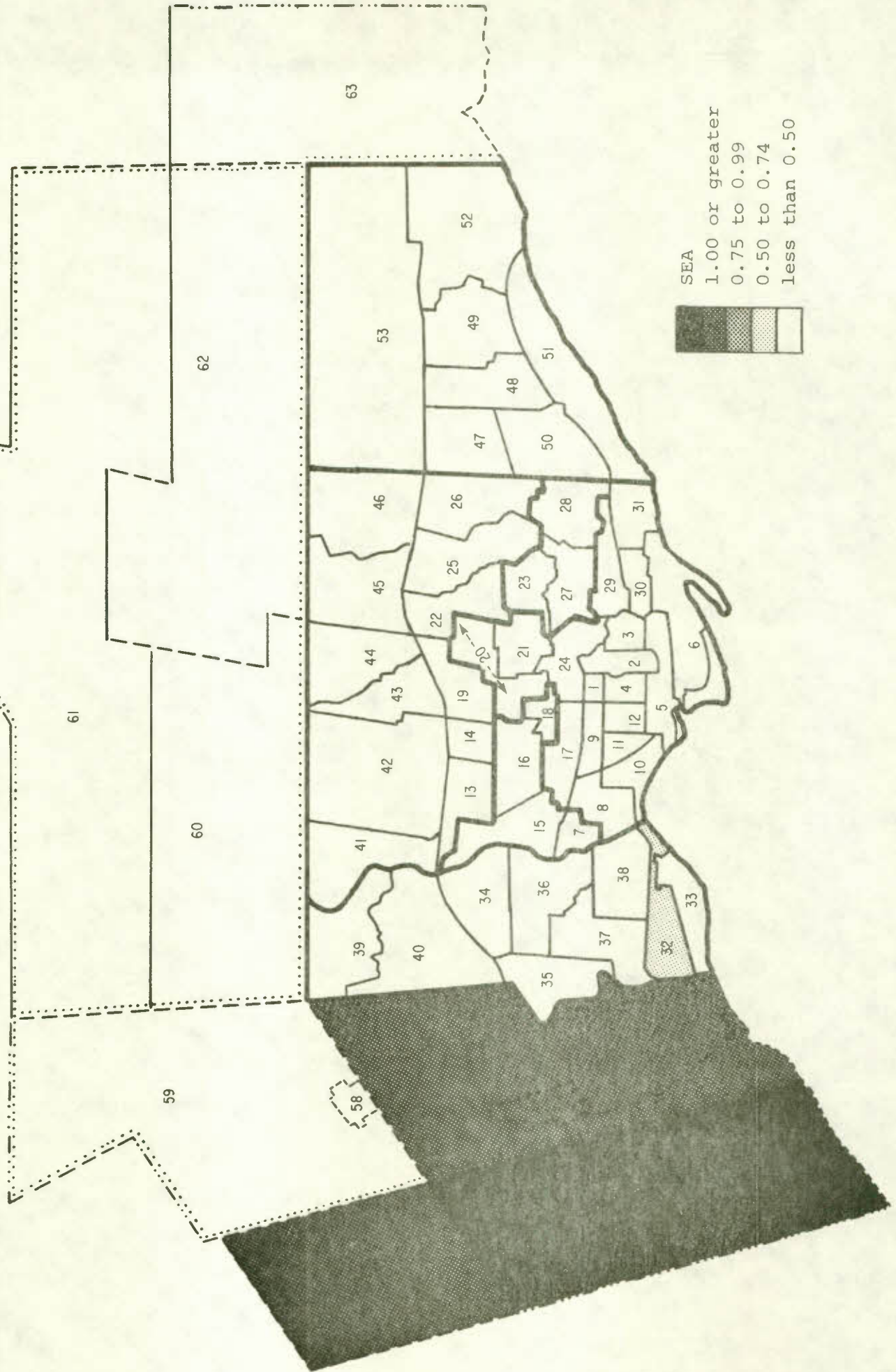
Map 15(a)

THE PATTERN OF RESIDENTIAL LOCATION OF WORKERS
EMPLOYED IN ZONE 55 IN THE WEST SECTOR, 1971
(Based upon Index 3 calculations)



Map 16(a)

THE PATTERN OF RESIDENTIAL LOCATION OF WORKERS
EMPLOYED IN ZONE 56 IN THE WEST SECTOR, 1971
(Based upon Index 3 calculations)



Map 17(a)

THE PATTERN OF RESIDENTIAL LOCATION OF WORKERS
EMPLOYED IN ZONE 58 IN THE WEST SECTOR, 1971
(Based upon Index 3 calculations)

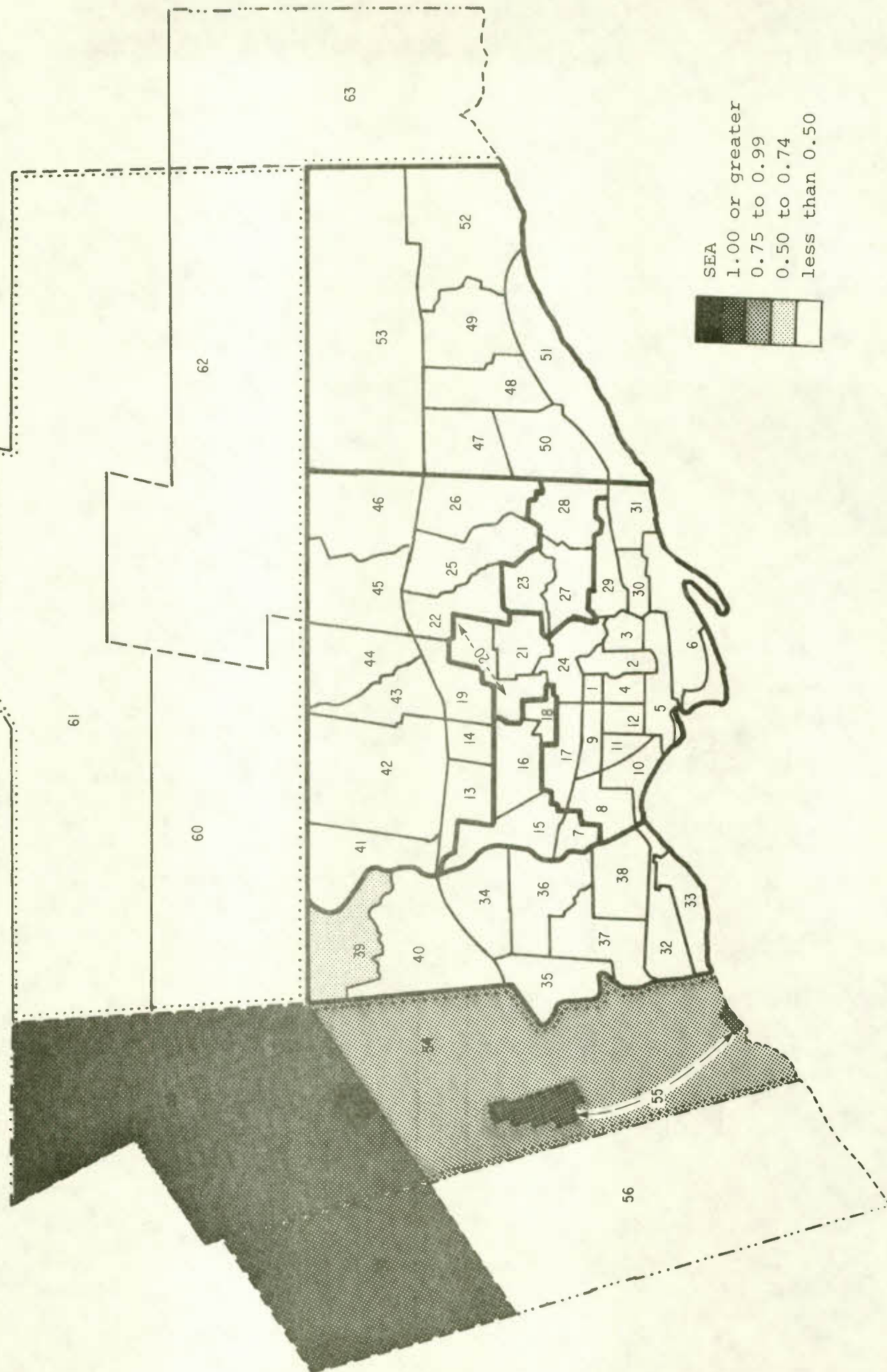


Table 19A

COMMUTATION RATES (CALCULATED ACCORDING TO INDICES 1 AND 2) FROM OTHER MAJOR RESIDENTIAL AREAS IN TORONTO CITY, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRAs)					
	Zone 8		Zone 10		Zone 20	
	Index 1	Index 2	Index 1	Index 2	Index 1	Index 2
1(TC)	0.87	2.57	0.92	2.57	1.31	3.56
2(CPD)	23.19	3.13	20.23	2.60	27.91	3.47
3(TC)	1.07	2.09	0.99	1.83	1.23	2.22
4(TC)	4.56	3.32	4.23	2.93	4.94	3.32
5(TC)	7.37	2.92	12.76	4.81	6.47	2.37
6(TC)	0.54	1.62	0.70	2.02	0.29	0.81
7(Y)	1.01	13.76	0.14	1.83	0.07	0.92
8(TC)	12.40*	28.20**	1.69	3.66	0.22	0.46
9(TC)	2.35	4.89	1.97	3.91	0.73	1.40
10(TC)	3.82	5.94	21.92*	32.40**	1.02	1.46
11(TC)	1.88	5.24	2.96	7.87	0.44	1.12
12(TC)	1.54	4.29	1.13	2.99	0.94	2.43
13(NY)	0.74	1.44	0.49	0.91	0.87	1.57
14(NY)	1.07	1.22	1.13	1.22	2.03	2.14
15(Y)	2.14	3.88	1.13	1.94	0.73	1.21
16(Y)	1.61	2.12	1.06	1.33	1.60	1.94
17(TC)	4.42	4.81	1.90	1.97	1.38	1.38
18(Y)	0.07	0.61	0.00	0.00	0.73	6.06
19(NY)	0.13	0.37	0.28	0.74	1.60	4.10
20(TC)	0.34	1.04	0.00	0.00	15.33*	43.87**
21(TC)	1.27	1.23	0.92	0.84	5.09	4.54
22(NY)	0.20	0.87	0.14	0.58	0.90	3.19
23(EY)	1.14	1.57	0.70	0.92	1.16	1.48
24(TC)	1.74	2.06	1.48	1.66	3.63	3.96
25(NY)	1.27	0.90	1.20	0.80	2.47	1.61
26(NY)	0.34	0.66	0.21	0.39	0.58	1.05
27(EY)	0.13	0.82	0.07	0.41	0.15	0.82
28(EY)	0.20	0.41	0.21	0.41	0.36	0.69
29(TC)	0.34	0.70	0.63	1.26	0.80	1.53
30(TC)	0.80	1.89	0.35	0.79	0.73	1.57
31(TC)	0.00	0.00	0.00	0.00	0.22	0.96
32(E)	1.88	3.01	1.90	3.01	0.22	0.32
33(E)	1.41	2.18	1.48	2.18	0.22	0.31
34(E)	0.27	1.44	0.14	0.72	0.29	1.44
35(E)	0.27	1.29	0.07	0.32	0.15	0.65
36(E)	0.74	3.89	0.14	0.71	0.22	1.06
37(E)	2.01	2.28	2.47	2.66	0.51	0.53
38(E)	2.55	3.56	1.41	1.87	0.51	0.66
39(E)	0.20	1.30	0.07	0.43	0.07	0.43
40(E)	2.68	1.93	1.83	1.25	1.02	0.67
41(NY)	0.60	0.89	0.35	0.50	0.73	0.99
42(NY)	1.27	0.78	1.27	0.74	2.11	1.19
43(NY)	0.27	1.31	0.00	0.00	0.58	2.61
44(NY)	0.20	0.44	0.14	0.29	0.94	1.91
45(NY)	0.13	0.26	0.21	0.39	1.02	1.80
46(NY)	0.33	0.72	0.21	0.43	1.02	2.03
47(S)	0.47	0.41	0.78	0.65	0.65	0.53
48(S)	0.13	0.27	0.07	0.14	0.44	0.82
49(S)	0.07	0.16	0.14	0.32	0.73	0.16
50(S)	0.54	0.63	0.49	0.55	0.94	1.02
51(S)	0.13	0.44	0.14	0.44	0.15	0.44
52(S)	0.06	0.35	0.07	0.35	0.15	0.70
53(S)	0.20	0.55	0.14	0.36	0.15	0.36
54(WS)	3.08	1.37	2.47	1.04	0.65	0.27
55(WS)	0.47	1.09	0.70	1.56	0.15	0.31
56(WS)	0.60	0.61	0.85	0.81	0.22	0.20
57(WS)	0.13	0.25	0.07	0.13	0.07	0.13
58(WS)	0.13	0.20	0.21	0.30	0.00	0.00
59(WS)	0.07	0.12	0.21	0.37	0.15	0.25
60(NS)	0.27	0.45	0.42	0.68	0.44	0.68
61(NS)	0.00	0.00	0.00	0.00	0.07	0.11
62(NS)	0.34	0.46	0.21	0.28	0.29	0.37
63(ES)	0.13	0.27	0.07	0.13	0.22	0.40

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 20A

COMMUTATION RATES (CALCULATED ACCORDING TO
INDICES 1 AND 2) FROM MAJOR RESIDENTIAL AREA
IN THE BOROUGH OF YORK, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRAs)	
	Index 1	Index 2
1 (TC)	0.72	1.58
2 (CBD)	8.45	0.85
3 (TC)	0.63	0.91
4 (TC)	1.35	0.73
5 (TC)	3.42	1.01
6 (TC)	0.45	1.01
7 (Y)	0.72	7.34
8 (TC)	2.52	4.27
9 (TC)	2.07	3.21
10 (TC)	1.80	2.08
11 (TC)	1.08	2.25
12 (TC)	0.45	0.93
13 (NY)	4.05	5.87
14 (NY)	3.42	2.91
15 (Y)	16.09*	21.70**
16 (Y)	7.73	7.60
17 (TC)	5.85	4.73
18 (Y)	0.18	1.21
19 (NY)	0.36	0.74
20 (TC)	0.09	0.21
21 (TC)	1.08	0.78
22 (NY)	0.90	0.29
23 (EY)	0.45	0.46
24 (TC)	0.90	0.79
25 (NY)	0.54	0.28
26 (NY)	0.09	0.13
27 (EY)	0.00	0.00
28 (EY)	0.27	0.41
29 (TC)	0.09	0.14
30 (TC)	0.36	0.63
31 (TC)	0.00	0.00
32 (E)	1.26	1.50
33 (E)	0.81	0.93
34 (E)	0.81	3.24
35 (E)	0.27	0.97
36 (E)	0.90	3.53
37 (E)	2.16	1.83
38 (E)	1.35	1.40
39 (E)	0.45	2.17
40 (E)	6.29	3.37
41 (NY)	2.97	3.28
42 (NY)	6.21	2.84
43 (NY)	0.27	0.98
44 (NY)	0.18	0.29
45 (NY)	0.09	0.13
46 (NY)	0.18	0.29
47 (S)	0.63	0.41
48 (S)	0.09	0.14
49 (S)	0.00	0.00
50 (S)	0.18	0.16
51 (S)	0.00	0.00
52 (S)	0.00	0.00
53 (S)	0.45	0.91
54 (WS)	5.04	1.67
55 (WS)	0.09	0.16
56 (WS)	0.45	0.34
57 (WS)	0.18	0.25
58 (WS)	0.18	0.20
59 (WS)	0.90	1.23
60 (NS)	1.62	2.04
61 (NS)	0.09	0.11
62 (NS)	0.27	0.28
63 (ES)	0.00	0.00

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 21A

COMMUTATION RATES (CALCULATED ACCORDING TO
INDICES 1 AND 2) FROM MAJOR RESIDENTIAL AREA
IN THE BOROUGH OF EAST YORK, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRAs)	
	Index 1	Index 2
1 (TC)	0.87	2.18
2 (CBD)	23.36	2.68
3 (TC)	1.89	3.13
4 (TC)	2.68	1.66
5 (TC)	6.95	2.34
6 (TC)	2.05	5.26
7 (Y)	0.00	0.00
8 (TC)	0.32	0.61
9 (TC)	0.55	0.98
10 (TC)	0.63	0.83
11 (TC)	0.55	1.31
12 (TC)	0.39	0.93
13 (NY)	0.24	0.39
14 (NY)	0.79	0.77
15 (Y)	0.47	0.73
16 (Y)	0.32	0.35
17 (TC)	0.87	0.80
18 (Y)	0.00	0.00
19 (NY)	0.32	0.74
20 (TC)	0.16	0.42
21 (TC)	2.29	1.88
22 (NY)	0.08	0.29
23 (EY)	3.39	3.97
24 (TC)	1.89	1.90
25 (NY)	4.74	2.84
26 (NY)	3.24	5.39
27 (EY)	1.82	9.43
28 (EY)	11.04*	19.28**
29 (TC)	3.55	6.28
30 (TC)	2.13	4.28
31 (TC)	1.10	4.47
32 (E)	0.39	0.54
33 (E)	0.24	0.31
34 (E)	0.08	0.36
35 (E)	0.16	0.65
36 (E)	0.16	0.71
37 (E)	0.39	0.38
38 (E)	0.24	0.28
39 (E)	0.08	0.43
40 (E)	0.39	0.24
41 (NY)	0.55	0.70
42 (NY)	1.58	0.82
43 (NY)	0.08	0.33
44 (NY)	0.16	0.29
45 (NY)	0.24	0.39
46 (NY)	1.18	2.17
47 (S)	4.26	3.19
48 (S)	0.79	1.36
49 (S)	0.79	1.59
50 (S)	4.74	4.69
51 (S)	0.87	2.42
52 (S)	0.63	2.82
53 (S)	0.55	1.28
54 (WS)	0.87	0.33
55 (WS)	0.00	0.00
56 (WS)	0.08	0.07
57 (WS)	0.08	0.13
58 (WS)	0.08	0.10
59 (WS)	0.00	0.00
60 (NS)	0.32	0.45
61 (NS)	0.24	0.32
62 (NS)	0.47	0.56
63 (ES)	0.16	0.27

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 22A

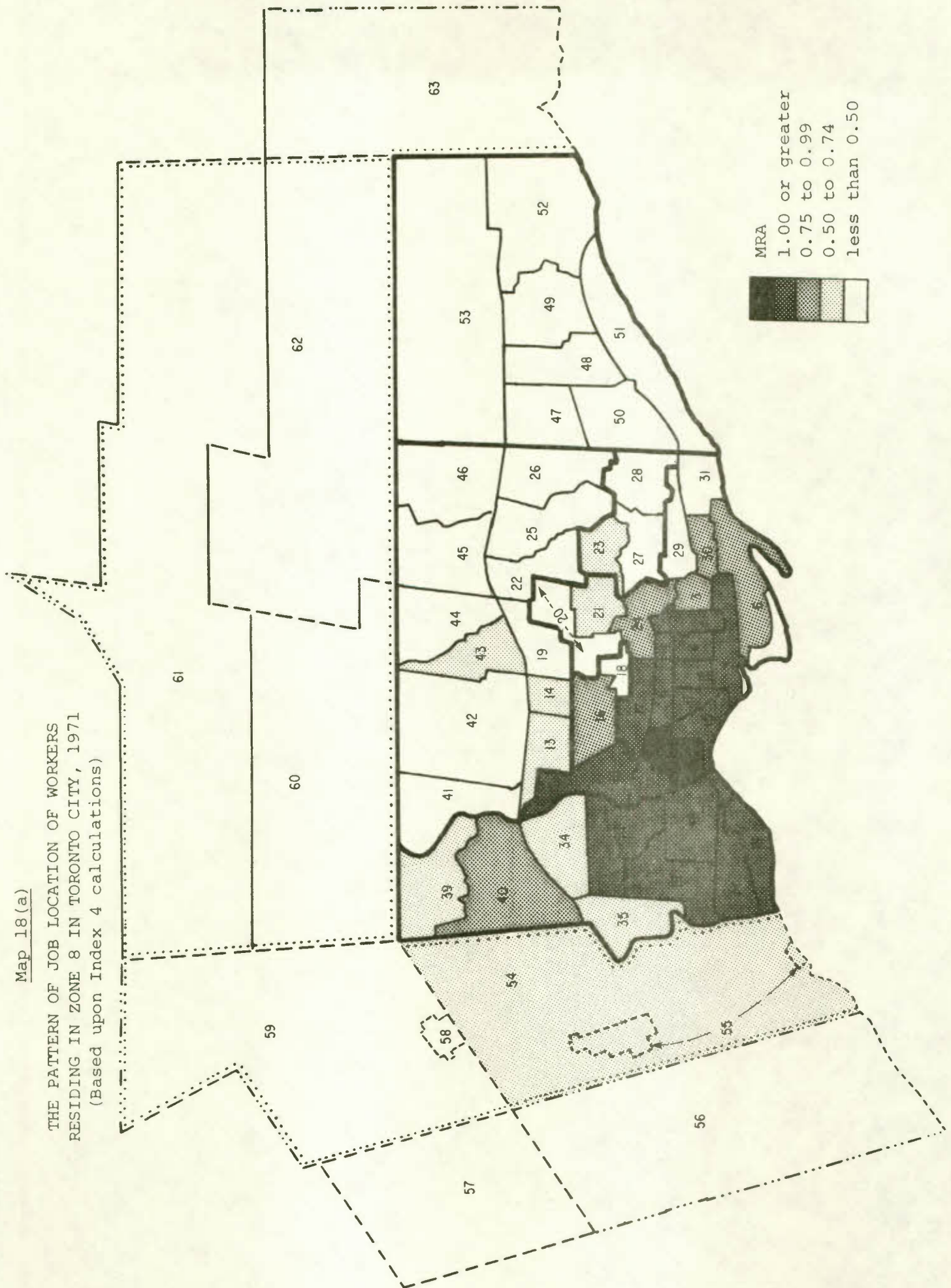
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 4) FROM OTHER MAJOR RESIDENTIAL AREAS
IN TORONTO CITY, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRAS)		
	Zone 8	Zone 10	Zone 20
1(TC)	1.19	1.25	1.79
2(CBD)	1.45	1.27	1.75
3(TC)	0.97	0.89	1.12
4(TC)	1.54	1.43	1.67
5(TC)	1.36	2.34	1.19
6(TC)	0.75	0.99	0.41
7(Y)	6.38	0.89	0.46
8(TC)	13.07	1.78	0.23
9(TC)	2.27	1.91	0.70
10(TC)	2.75	15.79	0.73
11(TC)	2.43	3.83	0.56
12(TC)	1.99	1.46	1.22
13(NY)	0.67	0.45	0.79
14(NY)	0.57	0.60	1.08
15(Y)	1.80	0.95	0.61
16(Y)	0.98	0.65	0.98
17(TC)	2.23	0.96	0.70
18(Y)	0.28	0.00	3.05
19(NY)	0.17	0.36	2.06
20(TC)	0.48	0.00	22.05
21(TC)	0.57	0.41	2.28
22(NY)	0.40	0.28	1.60
23(EY)	0.73	0.45	0.74
24(TC)	0.95	0.81	1.99
25(NY)	0.42	0.39	0.81
26(NY)	0.30	0.19	0.53
27(EY)	0.38	0.20	0.41
28(EY)	0.19	0.20	0.35
29(TC)	0.32	0.61	0.77
30(TC)	0.87	0.38	0.79
31(TC)	0.00	0.00	0.48
32(E)	1.39	1.41	0.16
33(E)	1.01	1.06	0.16
34(E)	0.67	0.35	0.72
35(E)	0.60	0.16	0.32
36(E)	1.80	0.34	0.53
37(E)	1.06	1.30	0.27
38(E)	1.65	0.91	0.33
39(E)	0.60	0.21	0.22
40(E)	0.89	0.61	0.34
41(NY)	0.41	0.24	0.50
42(NY)	0.36	0.36	0.60
43(NY)	0.61	0.00	1.31
44(NY)	0.20	0.14	0.96
45(NY)	0.12	0.19	0.90
46(NY)	0.34	0.21	1.02
47(S)	0.19	0.32	0.27
48(S)	0.13	0.07	0.41
49(S)	0.07	0.15	0.08
50(S)	0.29	0.27	1.51
51(S)	0.20	0.21	0.22
52(S)	0.16	0.17	0.35
53(S)	0.25	0.18	0.18
54(WS)	0.63	0.51	0.13
55(WS)	0.51	0.76	0.16
56(WS)	0.28	0.40	0.10
57(WS)	0.12	0.06	0.06
58(WS)	0.09	0.15	0.00
59(WS)	0.06	0.18	0.12
60(NS)	0.21	0.33	0.34
61(NS)	0.00	0.00	0.05
62(NS)	0.21	0.14	0.19
63(ES)	0.12	0.07	0.20

Source: Based on 1971 Census place-of-work data, Statistics Canada.

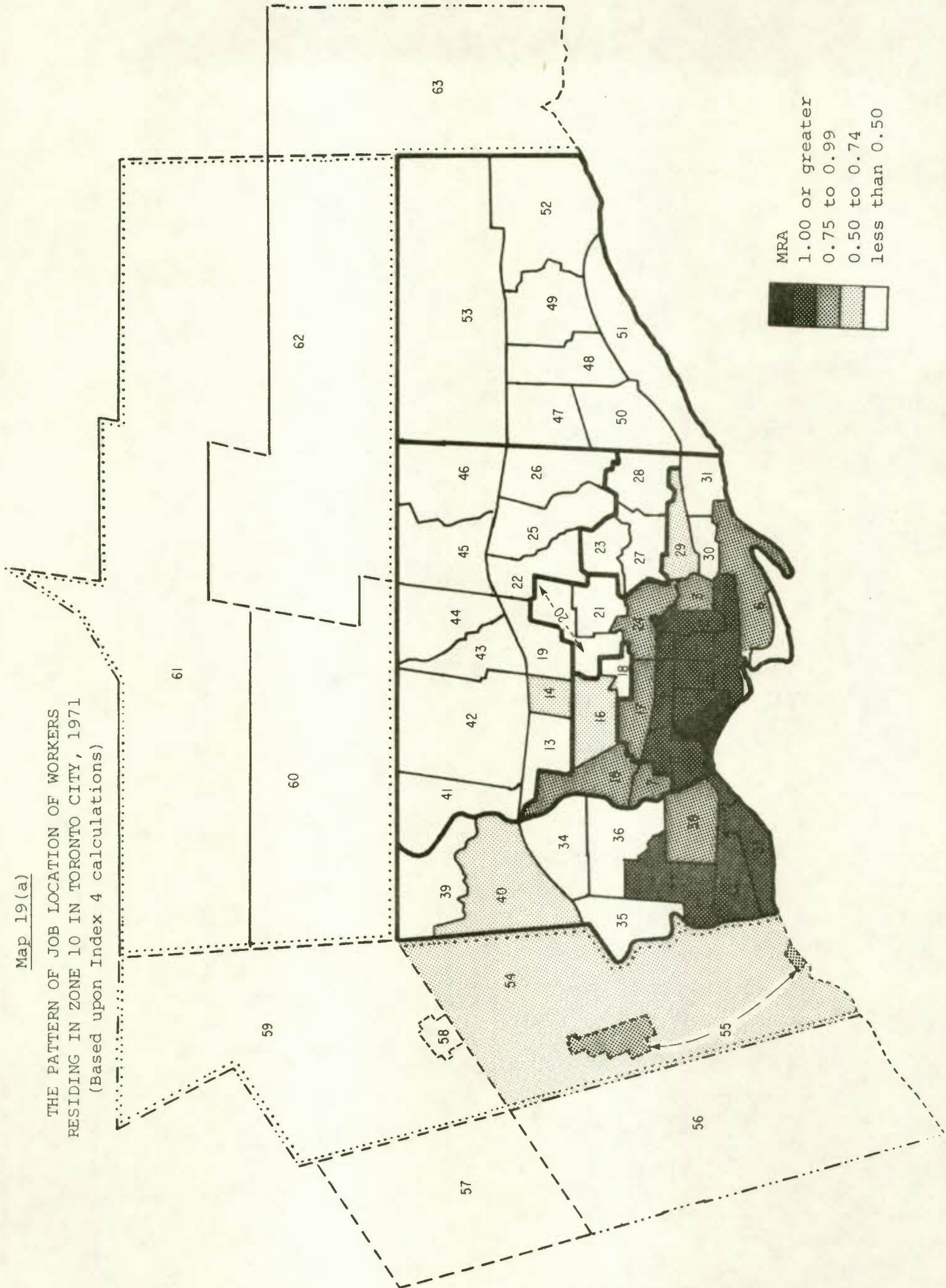
Map 18(a)

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 8 IN TORONTO CITY, 1971
(Based upon Index 4 calculations)



Map 19(a)

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 10 IN TORONTO CITY, 1971
(Based upon Index 4 calculations)



Map 20(a)

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 15 IN YORK, 1971
(Based upon Index 4 calculations)

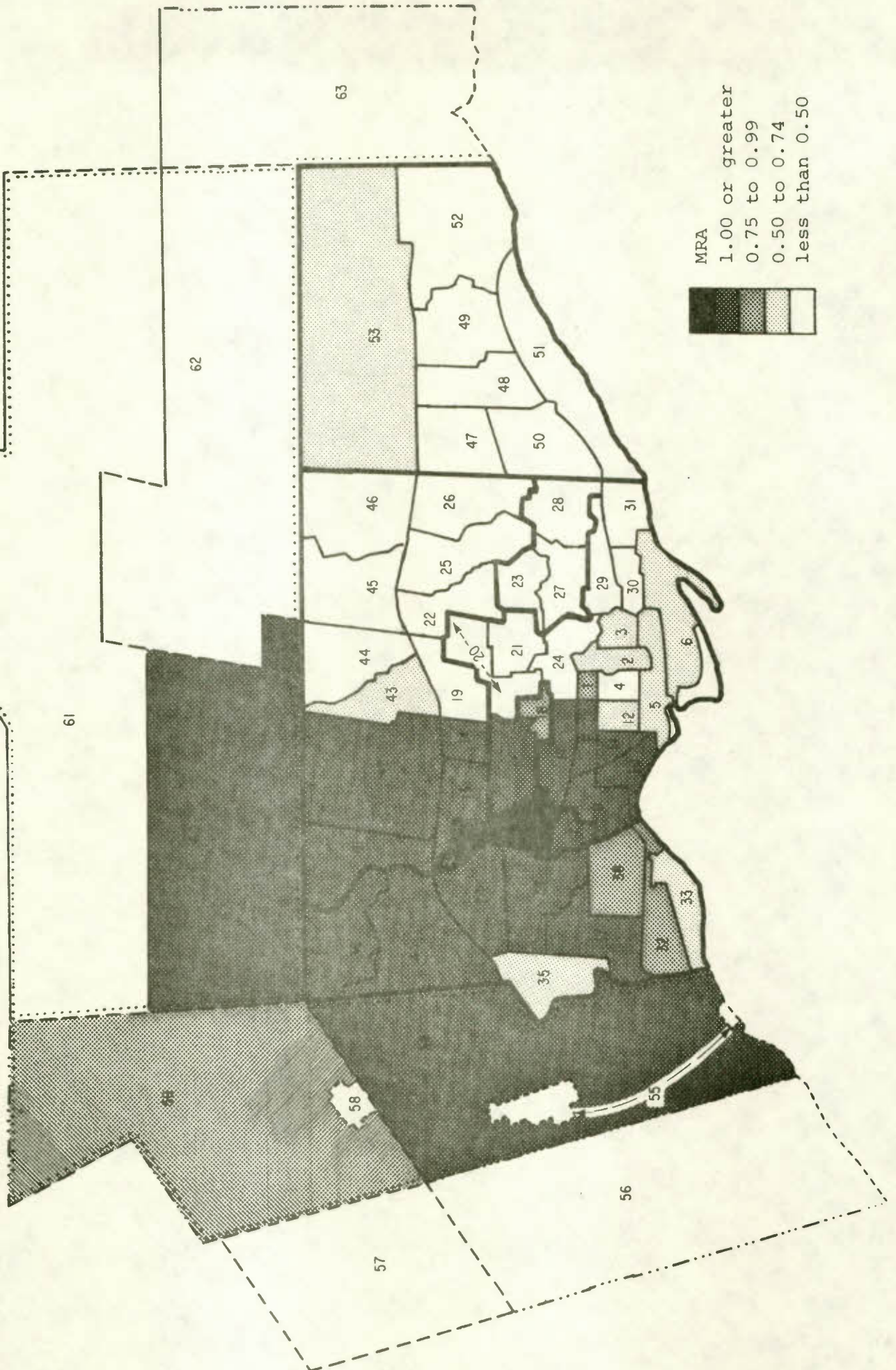


Table 23A

ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 4) FROM MAJOR RESIDENTIAL AREAS
IN THE BOROUGH OF YORK, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRAs) Zone 15
1 (TC)	0.99
2 (CBD)	0.53
3 (TC)	0.57
4 (TC)	0.46
5 (TC)	0.63
6 (TC)	0.63
7 (Y)	4.57
8 (TC)	2.66
9 (TC)	2.00
10 (TC)	1.30
11 (TC)	1.40
12 (TC)	0.58
13 (NY)	3.65
14 (NY)	1.81
15 (Y)	13.50
16 (Y)	4.73
17 (TC)	2.94
18 (Y)	0.75
19 (NY)	0.46
20 (TC)	0.13
21 (TC)	0.48
22 (NY)	0.18
23 (EY)	0.29
24 (TC)	0.49
25 (NY)	0.18
26 (NY)	0.08
27 (EY)	0.00
28 (EY)	0.26
29 (TC)	0.09
30 (TC)	0.39
31 (TC)	0.00
32 (E)	0.94
33 (E)	0.58
34 (E)	2.01
35 (E)	0.60
36 (E)	2.20
37 (E)	1.14
38 (E)	0.87
39 (E)	1.35
40 (E)	2.10
41 (NY)	2.04
42 (NY)	1.77
43 (NY)	0.61
44 (NY)	0.18
45 (NY)	0.08
46 (NY)	0.18
47 (S)	0.26
48 (S)	0.08
49 (S)	0.00
50 (S)	0.10
51 (S)	0.00
52 (S)	0.00
53 (S)	0.57
54 (WS)	1.04
55 (WS)	0.10
56 (WS)	0.21
57 (WS)	0.16
58 (WS)	0.12
59 (WS)	0.77
60 (NS)	1.27
61 (NS)	0.07
62 (NS)	0.17
63 (ES)	0.00

Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Map 21(a)

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 20 IN TORONTO CITY, 1971
(Based upon Index 4 calculations)

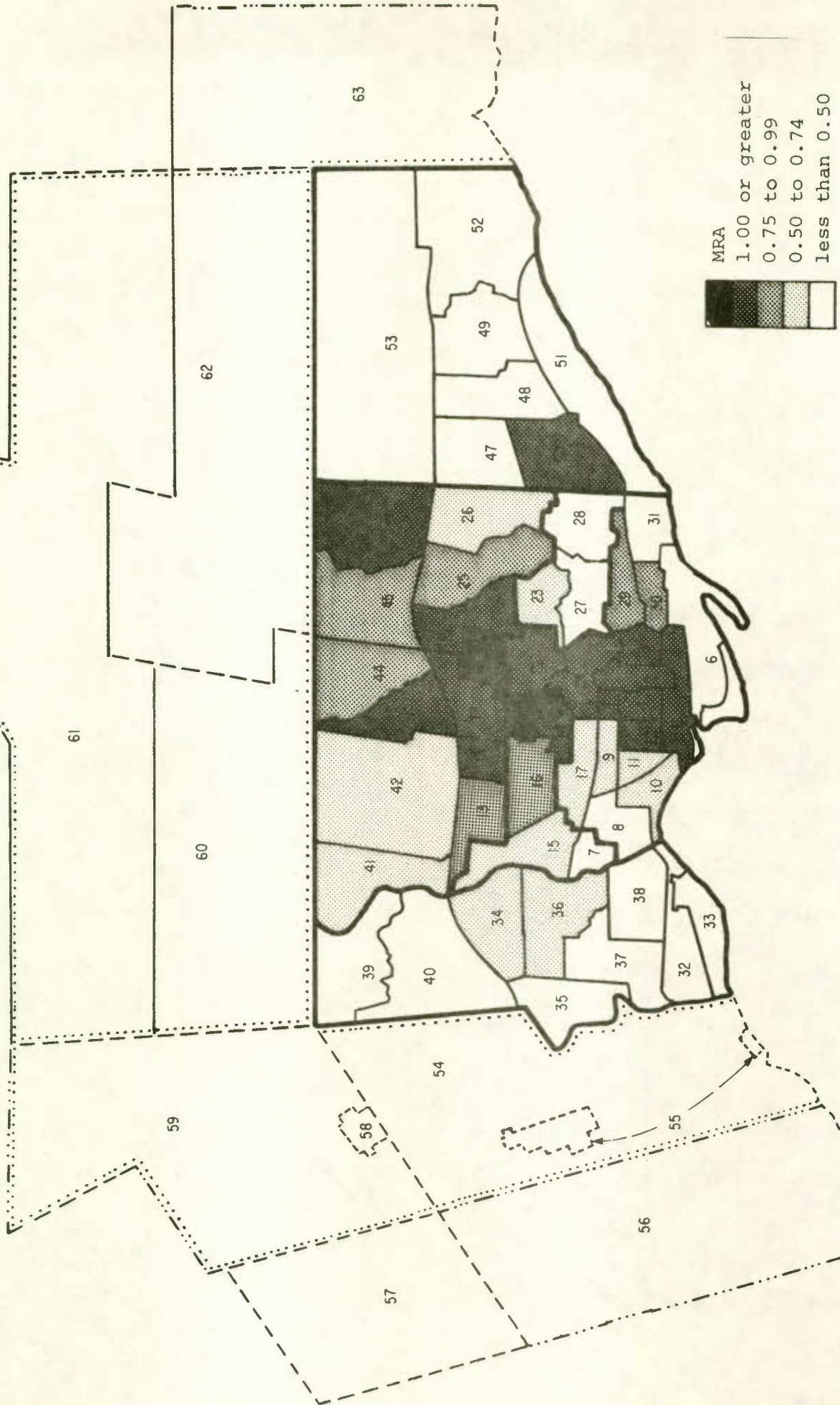


Table 24A

ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 4) FROM MAJOR RESIDENTIAL AREA IN THE
BOROUGH OF EAST YORK, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRAs) Zone 28
1 (TC)	1.19
2 (CBD)	1.46
3 (TC)	1.71
4 (TC)	0.91
5 (TC)	1.28
6 (TC)	2.87
7 (Y)	0.00
8 (TC)	0.33
9 (TC)	0.53
10 (TC)	0.45
11 (TC)	0.72
12 (TC)	0.51
13 (NY)	0.21
14 (NY)	0.42
15 (Y)	0.40
16 (Y)	0.19
17 (TC)	0.44
18 (Y)	0.00
19 (NY)	0.41
20 (TC)	0.23
21 (TC)	1.03
22 (NY)	0.16
23 (EY)	2.17
24 (TC)	1.04
25 (NY)	1.55
26 (NY)	2.94
27 (EY)	5.15
28 (EY)	10.53
29 (TC)	3.43
30 (TC)	2.23
31 (TC)	2.44
32 (E)	0.29
33 (E)	0.17
34 (E)	0.20
35 (E)	0.35
36 (E)	0.39
37 (E)	0.21
38 (E)	0.15
39 (E)	0.24
40 (E)	0.13
41 (NY)	0.38
42 (NY)	0.45
43 (NY)	0.18
44 (NY)	0.16
45 (NY)	0.21
46 (NY)	1.19
47 (S)	1.74
48 (S)	0.74
49 (S)	0.87
50 (S)	2.56
51 (S)	1.32
52 (S)	1.54
53 (S)	0.70
54 (WS)	0.18
55 (WS)	0.00
56 (WS)	0.04
57 (WS)	0.07
58 (WS)	0.05
59 (WS)	0.00
60 (NS)	0.25
61 (NS)	0.17
62 (NS)	0.30
63 (ES)	0.15

Source: Based on 1971 Census place-of-work data,
Statistics Canada.

Map 22(a)

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 28 IN EAST YORK, 1971
(Based upon Index 4 calculations)

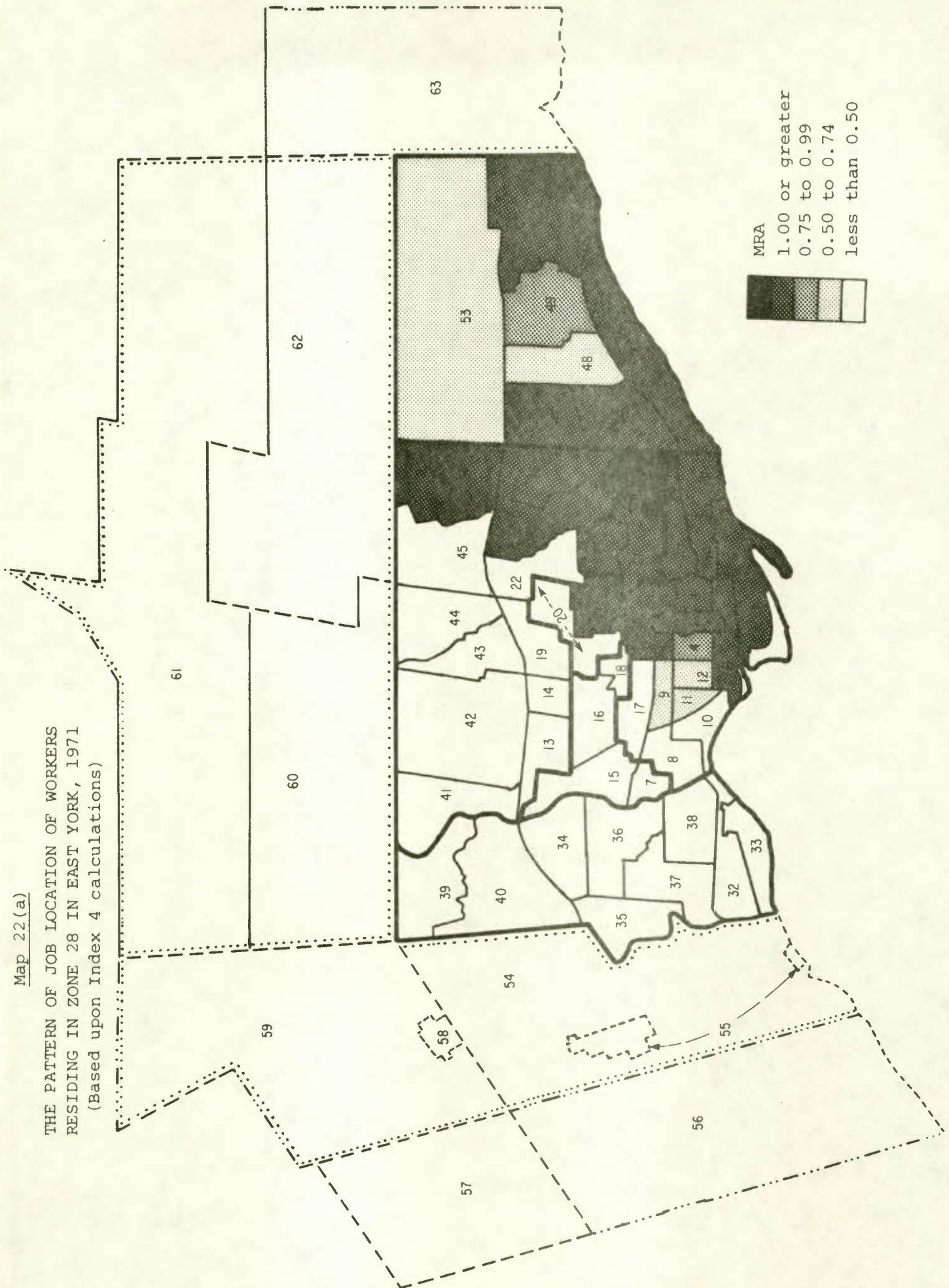


Table 25A

COMMUTATION RATES (CALCULATED ACCORDING TO
INDICES 1 AND 2) FROM OTHER MAJOR RESIDENTIAL AREA
IN THE BOROUGH OF SCARBOROUGH, TORONTO CMA, 1971

Work Locations	Zone of Residence (CMA)	
	Index 1	Index 2
1(TC)	0.22	0.59
2(CBD)	11.89	1.47
3(TC)	0.59	1.04
4(TC)	1.91	1.27
5(TC)	3.45	1.25
6(TC)	1.17	3.24
7(Y)	0.00	0.00
8(TC)	0.29	0.61
9(TC)	0.22	0.42
10(TC)	0.37	0.52
11(TC)	0.44	1.12
12(TC)	0.22	0.56
13(NY)	0.15	0.26
14(NY)	0.95	0.99
15(Y)	0.15	0.24
16(Y)	0.37	0.44
17(TC)	0.73	0.73
18(Y)	0.00	0.00
19(NY)	0.37	0.93
20(TC)	0.51	1.46
21(TC)	2.05	1.81
22(NY)	0.22	0.87
23(EY)	1.91	2.40
24(TC)	0.88	0.95
25(NY)	5.65	3.64
26(NY)	2.28	4.07
27(EY)	0.59	3.28
28(EY)	1.76	3.31
29(TC)	1.32	2.51
30(TC)	1.10	2.36
31(TC)	0.59	2.56
32(E)	0.22	0.32
33(E)	0.00	0.00
34(E)	0.15	0.72
35(E)	0.22	0.97
36(E)	0.07	0.35
37(E)	0.22	0.23
38(E)	0.15	0.19
39(E)	0.00	0.00
40(E)	0.95	0.63
41(NY)	0.22	0.30
42(NY)	1.25	0.70
43(NY)	0.07	0.33
44(NY)	0.22	0.44
45(NY)	0.59	1.03
46(NY)	1.47	2.90
47(S)	11.01	8.85
48(S)	6.75	12.55
49(S)	16.81*	36.35**
50(S)	6.75	7.19
51(S)	1.25	3.74
52(S)	1.91	9.15
53(S)	3.08	7.65
54(WS)	0.95	0.39
55(WS)	0.07	0.16
56(WS)	0.00	0.00
57(WS)	0.00	0.00
58(WS)	0.07	0.10
59(WS)	0.15	0.25
60(NS)	0.44	0.68
61(NS)	0.22	0.32
62(NS)	0.88	1.11
63(ES)	1.47	2.69

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 26A

ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 4) FROM OTHER MAJOR RESIDENTIAL AREA IN
THE BOROUGH OF SCARBOROUGH, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 49
1(TC)	0.30
2(CRD)	0.74
3(TC)	0.53
4(TC)	0.64
5(TC)	0.63
6(TC)	1.64
7(Y)	0.00
8(TC)	0.31
9(TC)	0.21
10(TC)	0.26
11(TC)	0.57
12(TC)	0.28
13(NY)	0.13
14(NY)	0.51
15(Y)	0.12
16(Y)	0.22
17(TC)	0.37
18(Y)	0.00
19(NY)	0.47
20(TC)	0.74
21(TC)	0.92
22(NY)	0.44
23(EY)	1.22
24(TC)	0.48
25(NY)	1.85
26(NY)	2.07
27(EY)	1.67
28(EY)	1.68
29(TC)	1.28
30(TC)	1.20
31(TC)	1.30
32(E)	0.16
33(E)	0.00
34(E)	0.37
35(E)	0.49
36(E)	0.18
37(E)	0.12
38(E)	0.10
39(E)	0.00
40(E)	0.32
41(NY)	0.15
42(NY)	0.36
43(NY)	0.17
44(NY)	0.22
45(NY)	0.52
46(NY)	1.47
47(S)	4.49
48(S)	6.37
49(S)	18.46
50(S)	3.65
51(S)	1.90
52(S)	4.65
53(S)	3.89
54(WS)	0.20
55(WS)	0.08
56(WS)	0.00
57(WS)	0.00
58(WS)	0.05
59(WS)	0.18
60(NS)	0.35
61(NS)	0.16
62(NS)	0.56
63(ES)	1.37

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Map 23(a)

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 49 IN SCARBOROUGH, 1971
(Based upon Index 4 calculations)

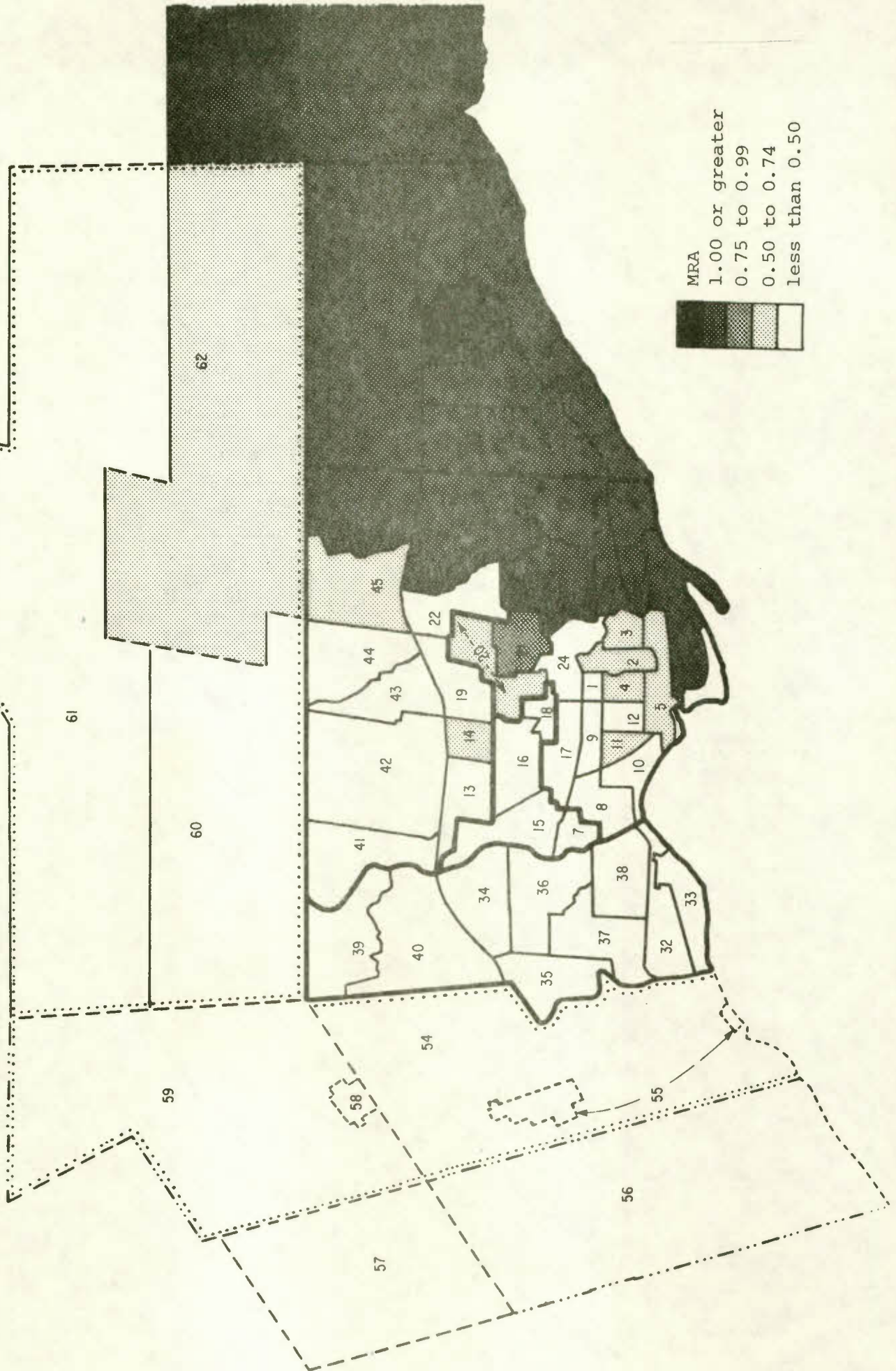


Table 27A

COMMUTATION RATES (CALCULATED ACCORDING TO
INDICES 1 AND 2) FROM OTHER MAJOR RESIDENTIAL AREA
IN THE BOROUGH OF NORTH YORK, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA)	
	Index 1	Index 2
1(TC)	0.73	1.98
2(CBD)	17.56	2.17
3(TC)	1.24	2.22
4(TC)	2.41	1.61
5(TC)	3.37	1.22
6(TC)	0.73	2.02
7(Y)	0.00	0.00
8(TC)	0.29	0.61
9(TC)	0.22	0.42
10(TC)	0.22	0.31
11(TC)	0.15	0.37
12(TC)	0.29	0.75
13(NY)	0.44	0.78
14(NY)	1.02	1.07
15(Y)	0.29	0.48
16(Y)	0.37	0.44
17(TC)	0.59	0.58
18(Y)	0.00	0.00
19(NY)	0.29	0.74
20(TC)	0.29	0.83
21(TC)	4.02	3.56
22(NY)	0.73	2.90
23(EY)	3.73	4.71
24(TC)	2.34	2.53
25(NY)	12.07	7.80
26(NY)	9.58*	17.21**
27(EY)	0.51	2.87
28(EY)	2.56	4.82
29(TC)	1.24	2.37
30(TC)	0.66	1.42
31(TC)	0.37	1.60
32(E)	0.22	0.32
33(E)	0.29	0.41
34(E)	0.07	0.36
35(E)	0.07	0.32
36(E)	0.07	0.35
37(E)	0.59	0.61
38(E)	0.29	0.37
39(E)	0.00	0.00
40(E)	1.17	0.77
41(NY)	0.44	0.60
42(NY)	2.19	1.23
43(NY)	0.22	0.98
44(NY)	0.44	0.88
45(NY)	1.98	3.47
46(NY)	2.85	5.65
47(S)	6.80	5.49
48(S)	2.27	4.23
49(S)	1.54	3.33
50(S)	4.10	4.38
51(S)	0.44	1.32
52(S)	0.37	1.76
53(S)	1.76	4.37
54(WS)	1.24	0.51
55(WS)	0.15	0.31
56(WS)	0.15	0.14
57(WS)	0.00	0.00
58(WS)	0.00	0.00
59(WS)	0.15	0.25
60(NS)	0.44	0.68
61(NS)	0.07	0.11
62(NS)	0.95	1.20
63(ES)	0.37	0.67

*Indicates the percentage of the resident labour force living and working in the same zone.

**Indicates the percentage of the working labour force living and working in the same zone.

Source: Based on 1971 Census place-of-work data, Statistics Canada.

Table 28A

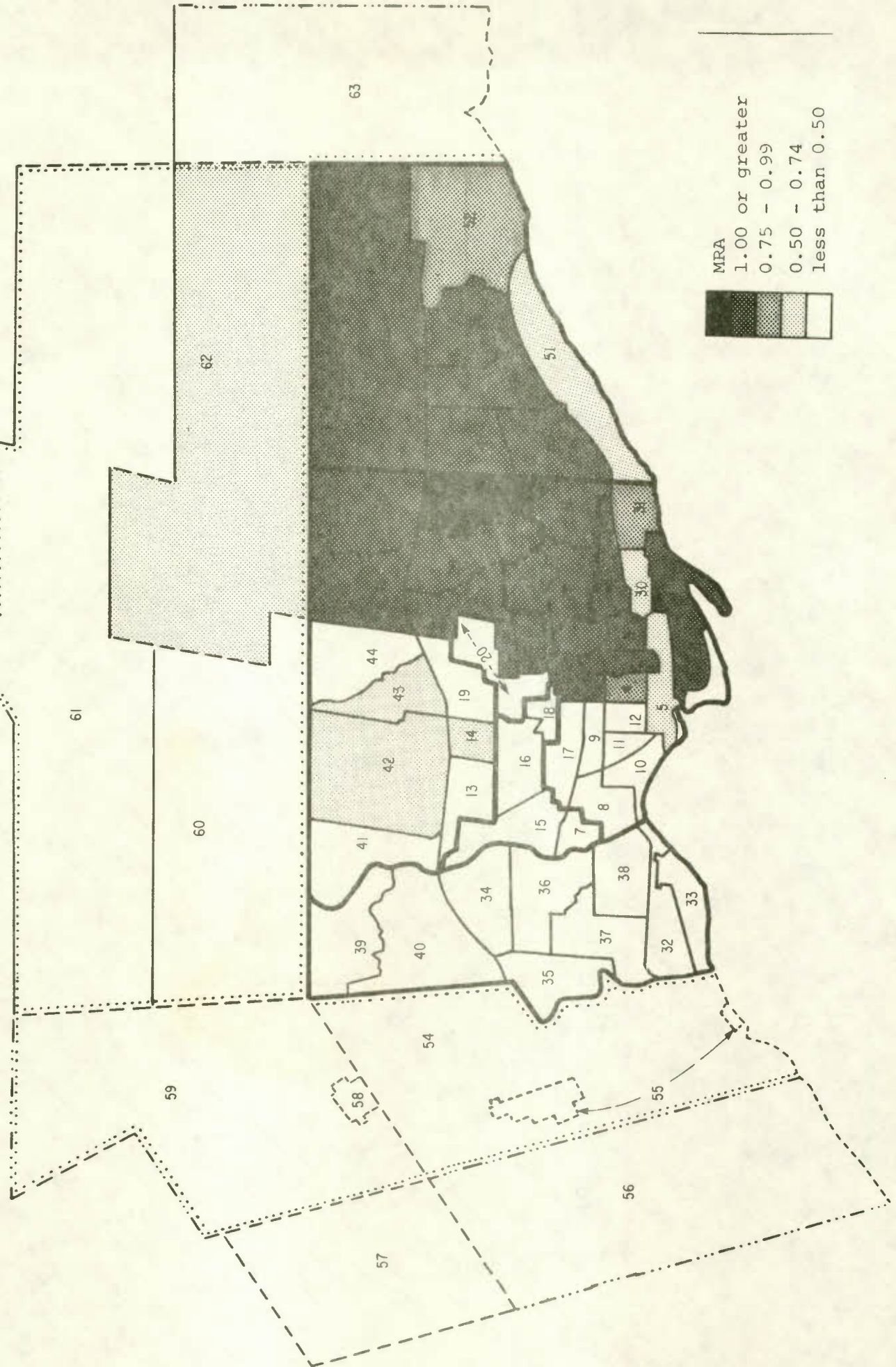
ADJUSTED COMMUTATION RATES (CALCULATED ACCORDING
TO INDEX 6) FROM OTHER MAJOR RESIDENTIAL AREA IN
THE BOROUGH OF NORTH YORK, TORONTO CMA, 1971

Work Locations	Zone of Residence (MRA) Zone 26
1(TC)	1.00
2(CBD)	1.10
3(TC)	1.12
4(TC)	0.82
5(TC)	0.62
6(TC)	1.02
7(Y)	0.00
8(TC)	0.31
9(TC)	0.21
10(TC)	0.16
11(TC)	0.19
12(TC)	0.38
13(NY)	0.40
14(NY)	0.54
15(Y)	0.25
16(Y)	0.22
17(TC)	0.29
18(Y)	0.00
19(NY)	0.38
20(TC)	0.42
21(TC)	1.80
22(NY)	1.47
23(EY)	2.39
24(TC)	1.28
25(NY)	3.95
26(NY)	8.71
27(EY)	1.45
28(EY)	2.44
29(TC)	1.20
30(TC)	0.72
31(TC)	0.81
32(E)	0.16
33(E)	0.21
34(E)	0.18
35(E)	0.16
36(E)	0.18
37(E)	0.31
38(E)	0.19
39(E)	0.00
40(E)	0.39
41(NY)	0.30
42(NY)	0.62
43(NY)	0.50
44(NY)	0.45
45(NY)	1.76
46(NY)	2.86
47(S)	2.78
48(S)	2.14
49(S)	1.69
50(S)	2.21
51(S)	0.67
52(S)	0.89
53(S)	2.21
54(WS)	0.26
55(WS)	0.16
56(WS)	0.07
57(WS)	0.00
58(WS)	0.00
59(WS)	0.12
60(NS)	0.34
61(NS)	0.05
62(NS)	0.61
63(ES)	0.34

Source: Based on 1971 Census place-of-work data, Statistics
Canada.

Map 24(a)

THE PATTERN OF JOB LOCATION OF WORKERS
RESIDING IN ZONE 26 IN NORTH YORK, 1971
(Based upon Index 4 calculations)



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Betcherman, Gordon

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