

C A N S U L T



Engineers and Project Managers

CITY OF TORONTO

PARKING STANDARDS REVIEW -
PHASE TWO APARTMENT BUILDING/
MULTI-UNIT BLOCK DEVELOPMENTS COMPONENT,
NEW ZONING BY-LAW PROJECT



Project No. C0342-
February 2007



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1.0 INTRODUCTION

Cansult Limited was engaged by the City of Toronto in December 2005 to conduct a residential parking standards study for apartment building and condominium townhouse developments (multi-unit block developments), as part of the New Zoning By-Law Project.

1.1 Background and Purpose

The Zoning By-Law Project is to create a single zoning by-law for the amalgamated City of Toronto, in place of the existing 41 zoning by-laws. Phase 1 of the Parking and Loading Standards Review was completed by the IBI Group in January, 2005. Phase 2 of this project has been split into two studies. This study is to recommend appropriate parking standards for apartment buildings (greater than 5 dwelling units) and condominium townhouse residential developments with six or more units (with shared on-site parking spaces) across the City of Toronto. A separate study is addressing standards for selected commercial land uses.

According to the Terms of Reference, the recommended revisions to existing residential parking standards are to reflect:

- the parking needs of City residents (a function of car ownership and visitor parking demands) as determined by demand surveys/research and
- pro-transit City policies that are included in the new Official Plan and related planning policies, programs and practices.

The challenge was to determine how many spaces should be provided in different types/locations of residential buildings to satisfy the parking needs of residents and their visitors, while balancing the desire to reduce costs and minimize auto use, and the need to consider 'community concerns' related to parking.

The relevant policies/practices to be considered under the Terms of Reference include options such as:

- reduced parking standards for specific types of targeted housing (seniors housing, social housing, student housing, and alternative housing); and
- reduced parking for buildings that are close to frequent or higher order transit service, recognizing that many residents who rely on transit choose not to own a car.

Finally, this study is to address a number of issues including:

- paid visitor parking and the issues surrounding the use of this method to control the misuse of visitor parking;
- bike parking;
- live/work units; and
- accessible parking requirements.

The current parking standards, which are summarized in **Table 1.1**, reflect the by-laws and/or guidelines developed by the former Metro Toronto municipalities over the last 30 or more years, and the experience of City staff in the various offices. The experience in the private sector (by Builders, Planners and Building Managers) and by City staff in working with these by-laws were fully considered through workshops and meetings in making recommendations for changes to the existing standards.

Table 1.1: Existing Parking Standards for Toronto Apartment Buildings

Location/By-Law Category	Parking Spaces per Unit for Residents (unless otherwise indicated)	Visitor Parking Spaces	Total Parking Required
Former City of Toronto <25 units ¹	1.0	.25	1.25
Former City of Toronto >25 units	1.0 per 102 sq. m/ GFA	0.25	Varies with size
Apartments >6 units inside Downtown Parking Zone	0.3 for bachelor 0.5 for one- bedroom 0.75 for two bedroom 1.2 for 3 bedroom+	0.06	0.36 0.56 0.81 1.26
Condominium Apartments in Downtown ²			0.7 for one bedroom 1.2 for two bedroom
North York By-Law 7625 – apartment building	1.25	0.25	1.5
North York Centre Policy	.9 min within 500m of RT 1.1 max within 500 m of RT 1.3 beyond 500m of RT	0.10	1.0 min 1.2 max 1.4
Sheppard Corridor	1.0-1.15	0.25	1.25-1.4
Former City of Scarborough	1.0+.1 rental 1.0+.2 condo	0.20	1.3 1.4
Former City of York Apartments Rental	.85 bachelor/1 bedroom .95 two+ bedrooms		1.10 1.20
Apartments Rental within 500m of RT	.72 bachelor/1 bedroom .81 two bedrooms		0.97 1.06
Apartments Condo	1.0 bachelor/one bedroom 1.1 two+ bedrooms	0.25	1.25 1.45
Apartments Condo within 500 m of RT	.85 bachelor/1 bedroom 1.0 two+ bedrooms		1.10 1.25
Former City of Etobicoke	1.05 for one bedroom 1.20 for 2 bedroom 1.35 for 3 bedroom	0.20	1.25 1.40 1.55
Former Borough of East York	1.25	0	1.25

¹ outside Downtown Parking Zone;

² Former City of Toronto Works and Emergency Services Department guidelines

It should also be recognized that, in a related effort, the Toronto Waterfront Revitalization Corporation is currently developing a Central Waterfront Parking Strategy to be consistent with the pro-transit policies of the City's new Official Plan.

1.2 Study Scope

The major components of the study include the following:

1. Review of Phase 1 Study and other recent studies to ensure that the issues are understood and that any lessons learned in past efforts are applied to the design of the surveys.
2. Empirical Survey of Auto Ownership and Parking Demands. This includes the following sub-tasks:
 - sample design and selection using random sampling lists prepared by SM Research Inc.
 - design of survey form to address key issues (primarily auto ownership, parking and visitor parking issues) for tenants and owner occupants.
 - conduct of mail-back survey over 8 weeks including preparation of initial and follow-up mailings and ongoing monitoring of responses to minimize unnecessary mailings.
 - data entry, data summary and analysis of the survey results to develop preliminary parking standards by building type/location.
3. Building management surveys for selected rental and condominium buildings to confirm residential survey findings and address visitor parking and other issues.
4. Attitude surveys to examine parking preferences of tenants/unit owners, building owners and builders/developers.
5. Analysis and synthesis of the result of the surveys, and additional research and analysis to address issues not fully addressed in the parking demand survey.
6. Review of visitor parking needs to establish reasonable visitor parking requirements for different building and/or unit types.
7. Review of targetted housing (social and senior housing) standards.
8. Review of bicycle standards.
9. Review of the need for, and experience with, designated accessible parking spaces.

The approach, findings and recommendations of the study are presented herein.

1.3 Policy Context

To ensure that the City of Toronto evolves, improves and realizes its full potential in areas such as transit, land use development, and the environment, the new 2006 City Official Plan:

- identifies where significant new jobs and housing will be encouraged;
- promotes growth that is less reliant on the private automobile;
- calls for a transit-based growth strategy by directing development to areas with good transit while improving transit in major growth areas;
- protects the physical character of Toronto's low-rise neighbourhoods;
- emphasizes environmentally sustainable development;
- contains design policies to guide the physical form of development and public realm improvements;
- seeks to ensure that social and environmental infrastructure is in place to serve Toronto's present and future residents; and
- protects the city's important employment districts, protects heritage buildings and resources, and preserves our natural areas and ravines.

Zoning by-law standards should reflect both the parking needs of City residents and City policies that are defined in the new Official Plan and related policies and practices. Thus, the Urban Structure (Map 2) and Higher Order Transit Corridors (Map 4) in the Official Plan illustrated herein as **Figure 1.1** and **Figure 1.2** respectively formed the basis for establishing the residential parking standard location categories.

Some of the relevant policies/ practices include:

- Establishment of vibrant transit-supportive mixed use Centres, namely the Scarborough, North York, Etobicoke and Yonge-Eglinton Centres.
- Preparation of Secondary Plans for each Centre with corresponding zoning for implementation that will incorporate transit-supportive guidelines and within convenient walking distance of an existing or planned rapid transit station, establish minimum and maximum development densities as well as minimum and maximum parking standards. The new OP encourages creating concentrations of workers and residents at these Centres, resulting in areas of significant economic activity accessible by transit.

While the review of existing parking standards for apartments and residential condominium townhouse developments is to be based on statistically valid surveys of auto ownership and rigorous analyses of new data that will allow the City to explore the relationships between parking needs and a range of physical and locational factors, the analysis should also include a critical review of the current standards considering opinions of building managers, City staff, developers and others. The current standards reflect the bylaws and/or guidelines developed by the former Metro Toronto municipalities, and the experience of City staff in the various offices and the private sector (including builders, planners and building managers) in working with these by-laws. These should also be considered in determining what changes should be made to the current bylaws.

In developing new parking standards, City staff and decision makers will need to understand the likely parking demands that will be experienced with new residential apartment and residential condominium townhouse buildings including market rental and condominium units and various

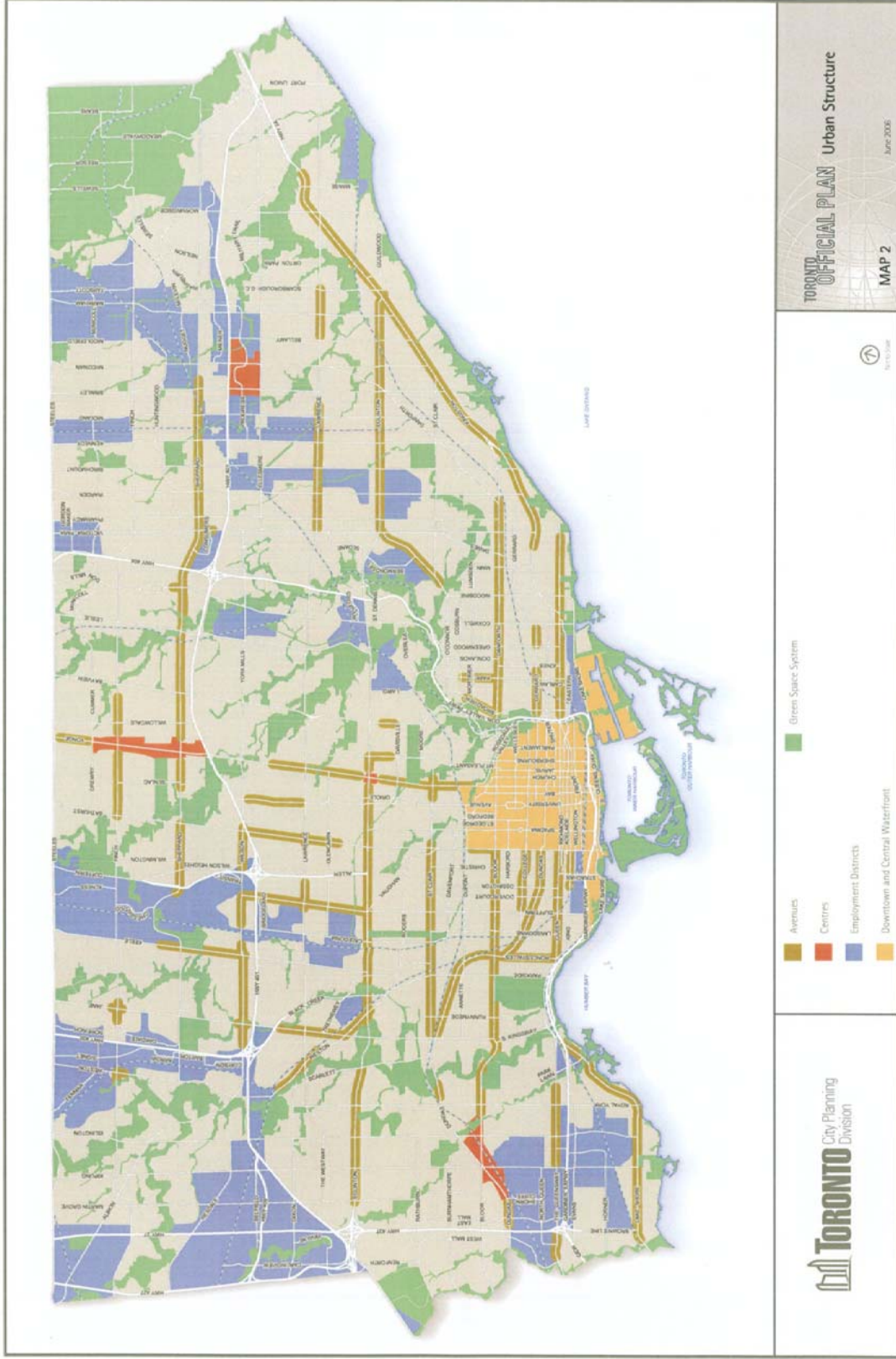


FIGURE No. 1.1

**TORONTO OFFICIAL PLAN URBAN STRUCTURE
(Map 2 in the City's Official Plan)**





TORONTO OFFICIAL PLAN Higher Order Transit Corridors
 MAP 4
 June 2006

TORONTO City Planning Division

Expansion Elements
 - - - Transit Corridors
 - - - GO/TTC Interchange
 - - - GO Rail Station

Existing
 - - - TTC Subway and LRT Lines
 - - - GO Rail Lines

FIGURE No. 1.2



HIGHER ORDER TRANSIT CORRIDORS (Map 4 in the City's Official Plan)

types of social housing. There is substantial evidence that auto ownership (and hence residential parking demand) varies with building type (high-rise versus low-rise), characteristics of residents (e.g., low income and seniors), size of unit (bachelor, one, two and three plus bedroom), tenure, and location relative to Downtown and rapid transit.

Furthermore, it would be reasonable to expect that auto ownership might also vary depending on the level of streetcar or bus service that is available within convenient walking distance of apartments or stacked town-houses, especially along the Avenues where there is a very high level of streetcar or bus service.

In summary, the recommended parking standards resulting from this study should relate to the transportation policies and related city-building objectives of the Official Plan.

1.4 Report Chapter Outline

This section presents a brief outline of the remaining chapters of the report.

Chapter 2 describes and documents the methods employed in conducting the various surveys undertaken during the course of the project.

Chapter 3 reviews the results of the survey analysis as it pertains to the generalized approach to developing updated parking standards for private and targeted apartment and condominium townhouse developments. The analysis focuses on exploring the relationship between auto ownership and a variety of factors including:

- tenure (rent versus own for condominium apartments),
- size of unit (bachelor, one, two and three plus bedroom and/or floor area to represent class of unit),
- characteristics of building types (e.g. market rental apartments vs. targeted housing),
- building size (number of units/height),
- location relative to
 - Downtown Core
 - Downtown Toronto and Central Waterfront
 - Designated Centres
 - Avenues on the subway
 - Avenues well served by surface transit
 - Rest of the City

Chapter 4 presents proposed parking standards for condominium apartment units, market rental units, and condominium townhouse developments, along with the supporting analysis and rationale used in developing the recommended standards.

Chapter 5 presents proposed parking standards related to bicycle parking for apartment buildings and the provision of designated accessible parking spaces.

Finally, Chapter 6 discusses next steps both with respect to the finalization of this report and the conduct of more detailed studies related to specific residential policy issues.

2.0 DOCUMENTATION OF SURVEYS

2.1 Sample Design – Survey of Auto Ownership and Parking Needs

The research and analysis phase was based on a number of data sources including the empirical survey of approximately 5000 apartment units (only post 1975 buildings) stratified by building type (rental apartment or condominium), location with respect to downtown and transit access, and various supplementary surveys of building managers and other representatives of the building management and development industries. To be more representative of current conditions the survey was restricted to apartments built since 1975, which was when the last major comprehensive parking survey was conducted to support the 1977 Central Area Parking and Loading Study. Additional residential surveys were undertaken for condominium townhouse development complexes in suburban locations and for condominium projects on or near the Waterfront to obtain more data to document auto ownership and related parking issues for these specific types of residential buildings.

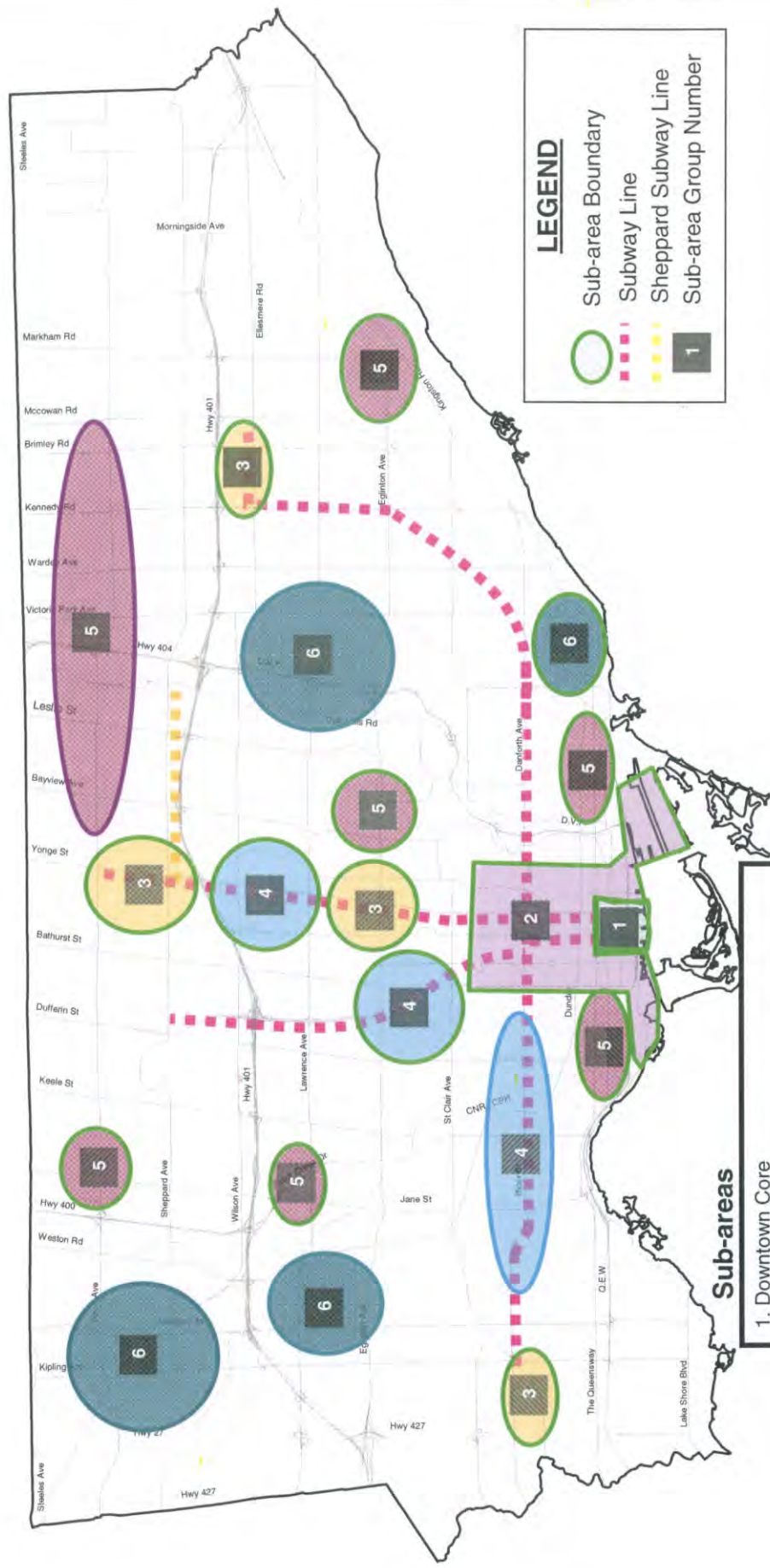
The primary survey of rental and condominium apartment residents was designed to establish which factors need to be explicitly considered in developing parking standards and to support the development of preliminary standards (for review with staff, building management and other focus group participants). This survey employed the Total Design Method to ensure that sufficient data will be available to document current parking needs and the characteristics of parking demands within different types of buildings and units in different locations. This involved stratifying the approximately 105,000 units in about 1000 buildings that were constructed since 1975 into locational classes (6 initially) shown in **Figure 2.1** and systematically selecting approximately 10,000 households from among the six classes with the intention of having a balance between rental and owned units in the final sample.

This sampling process selected approximately 1000 condominium units to participate in the survey and 670 rental apartment units within each of the six initial locational classes. The plan was to have at least 5000 households in the final database, with approximately 800 in each locational class including renters and owners.

The six initial locational classes were defined in terms of location relative to the Downtown Core and access to rapid transit as follows:

- 1) Downtown Core
- 2) Downtown Toronto and Central Waterfront
- 3) Designated Centres
- 4) Avenues on the subway
- 5) Avenues well served by surface transit
- 6) Rest of the City

The “total design method” for mail surveys focuses on simple design, clarity and systematic follow-up with non-respondents employing reminder post cards and replacement copies of the survey. The initial survey package was mailed to 9323 households on Thursday February 23. One week later, on Thursday March 2, reminder/thank you postcards were mailed to each household in the original sample. On Thursday March 16, a second complete survey package



LEGEND

- Sub-area Boundary
- Subway Line
- Sheppard Subway Line
- Sub-area Group Number

Sub-areas

1. Downtown Core
2. Downtown & Central Waterfront
3. Centres
4. Avenues on the subway
5. Avenues near Frequent bus/street car service
6. Rest of the City

TORONTO APARTMENTS PARKING STANDARDS STUDY
6 Sub-Areas in Survey Database

was sent to the 7089 households who had not responded to the survey as of the end of day on Monday March 13th.

Appendix A includes copies of the survey form, the initial covering letter signed by the Chief Planner and a separate letter from Mayor Miller, the reminder/thank you post card and the second letter.

2.2 Summary of Returns

Table 2.1 documents the final tally of returned valid survey forms (after discounting for duplicates and incomplete returns).

Table 2.1 Toronto Residential Parking Survey Returns

Description		Completed Surveys	Original Sample	Response % of total
Rental Apartment Sample				
A1	Downtown Core	261	675	38.7%
A2	Downtown Toronto and Central Waterfront	172	550	31.3%
A3	Designated Centres	237	643	36.9%
A4	Avenues on the subway	101	282	35.8%
A5	Avenues well served by surface transit	200	673	29.7%
A6	Rest of the City	225	671	33.5%
Condominium Sample				
C1	Downtown Core	559	986	56.7%
C2	Downtown Toronto and Central Waterfront	587	1000	58.7%
C3	Designated Centres	601	1000	60.1%
C4	Avenues on the subway	554	847	65.4%
C5	Avenues well served by surface transit	597	997	59.9%
C6	Rest of the City	604	999	60.5%
Total Survey Response				
	Condominium sample	3502	5829	60.1%
	Rental apartment sample	1196	3494	34.2%
	Total sample	4698	9323	50.4%

Figure 2.2 shows the total survey returns by day, while Figure 2.3 shows the cumulative returns (including duplicates and incomplete survey forms) during the course of the survey

Figure 2.2 Toronto Parking Survey Responses By Day

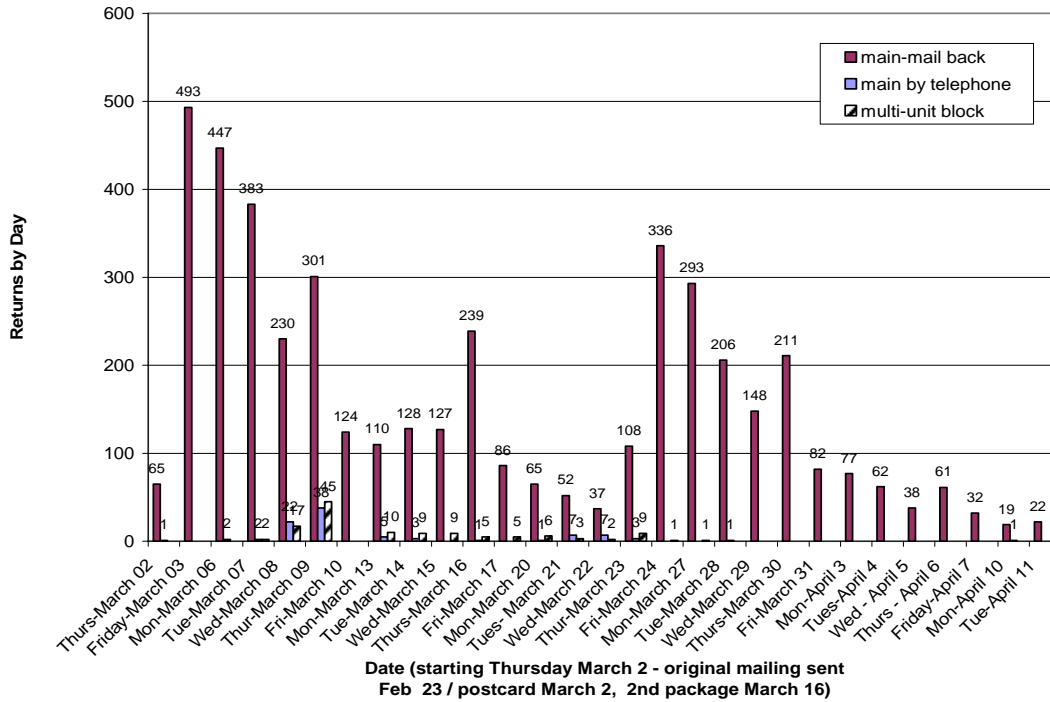
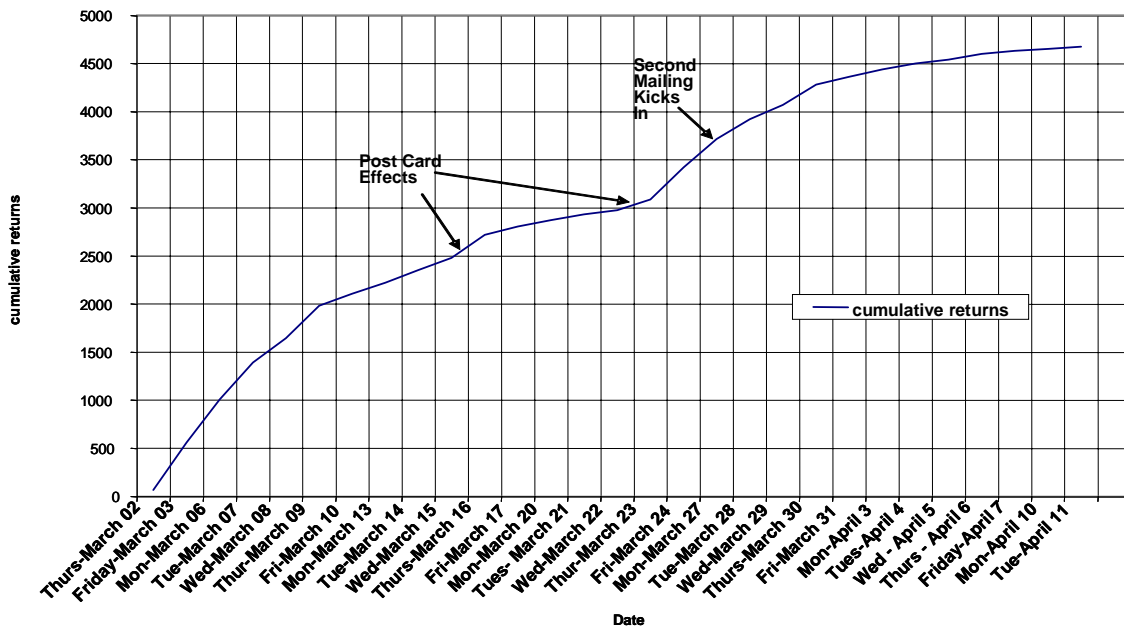


Figure 2.3 Cumulative Survey Returns



2.3 Condominium Townhouse (Multi-Unit Block) Developments – Survey of Auto Ownership and Parking Needs

The primary survey does not address the needs of condominium townhouse developments. Condominium townhouse developments are multi-unit block developments that are self contained with respect to satisfying the parking needs of residents and visitors. Therefore, they have private internal street systems and parking spaces are provided at individual units and/or in common parking lots or garages.

To ensure that the study will have sufficient data to document the parking needs of these types of units, supplementary surveys were conducted using the same questionnaire as was used for the primary survey, but using different sample design and distribution methods.

The survey results were reviewed and assessed in the context of interviews and focus group sessions with building management to ensure that the fact-based conclusions are practical and that implementation problems are understood.

Table 2.2 shows the returns for surveyed condominium townhouse developments.

Table 2.2 Returns and Response Rate for Condominium Townhouse Developments

Location	Total Units	Responses	Response Rate
North York - Parkway Forest Drive (Don Mills Road/Sheppard Avenue)	161	41	25%
North York – Village Greenway (Hwy 401/Don Mills Road)	98	29	30%
Etobicoke – East Mall near Burnamthorpe Rd.	67	27	40%
Scarborough – Bridletowne Circle (Finch Avenue/Warden Avenue)	89	16	18%
Scarborough – 270 Timberbank Blvd (Birchmount Road/Finch Avenue)	148	28	19%
Toronto – 28-38 Stadium Road (Bathurst Street/Lake Shore Blvd W)	221	41	19%
Totals	784	182	23%

2.4 Analysis Framework

The review of existing parking standards for apartments and condominium townhouse residential developments included surveys of residential units (to determine auto ownership and address residential parking issues), as well as interviews with people who deal with residential parking issues including building managers and representatives of the development industry. The parking surveys were directed at condominium, market rental and targeted rental apartment units, and condominium townhouse developments.

A total of 4698 survey forms were returned from apartment units including 3502 from condominium units. The main sample of apartment units had a response rate slightly higher than 50%, while the condominium apartment sample had a response rate of more than 60%. The response rate for rental units in the sample was just under 35%. In addition, and by way of a separate survey sample, 182 surveys were returned by residents living in the six (6) condominium townhouse developments.

The main sample was stratified to capture variations in location and transit access with reference to the following locational classes:

- 1) Downtown Core
- 2) Downtown Toronto and Central Waterfront
- 3) Designated Centres
- 4) Avenues on the subway
- 5) Avenues well served by surface transit
- 6) Rest of the City

The 6 locational classes and two apartment types (condo and rental) defined 12 cells for sampling purposes. Each of the six locational classes returned at least 650 survey forms but the disappointing return among rental apartment residents resulted in some low sampling rates. This was exacerbated by the fact that rental apartments had to be further broken down into market rental and targeted rental groups (when it was determined that those buildings with low auto ownership tended to be public housing, senior's buildings or other "rent-geared-to-income" units).

The new data related to apartment parking demands was analyzed to determine average auto ownership for different types of residential buildings in different locations and to explore the relationships between parking needs and a range of physical and locational factors including the following:

- type of unit (bachelor, one, two and three plus bedrooms)
- size of unit (square feet),
- type of building (condominium, market rental and targeted rental),
- tenure (rent versus own, independent of building type),
- building size (number of units), and
- locational class

Once the data analysis was completed, the study team undertook supplementary surveys and/or consultations with residential building managers, residential builders/developers, and city staff who had experience in dealing with parking matters. These were designed to obtain additional information for specific buildings (which had returned 20 or more surveys) and to gain insight into reported problems with visitor parking.

3.0 SURVEY ANALYSIS AND APPROACH TO SETTING STANDARDS

Chapter 3 reviews the results of Phase 1 Parking and Loading Zoning Standards Review of the New Zoning By-Law project (as it relates to apartment residential development), and then proceeds to present the results of the survey analysis as it pertains to the development of updated parking standards for private and targeted apartment and condominium townhouse units. The preliminary analysis focused on the testing of the various hypotheses about the relationship between parking need (a function of auto ownership) and various factors discussed in subsequent sections.

3.1 Review of Phase 1 Report

“The Parking and Loading Standards Review – Phase 1 New Zoning By-Law Project” (IBI Group, Jan 2005) recommends that the new zoning by-law “...adopt a single parking standard for apartment buildings, allowing for differentiation by tenure, distance from transit, etc...” (page 85). This call for the use of a basic standard and appropriate “modifiers” (adjustment factors) to modify/adjust the basic standards to reflect the effects of the relevant parking demand/need factors is consistent with the strategy being pursued in the Central Waterfront Parking Strategy for the Toronto Waterfront Revitalization Corporation.

The Phase 1 report also addresses other possible “modifiers” including:

- **building size**, (recognizing that parking ratios are generally lower for higher density buildings). However, the report suggests that once other factors are considered there may be less need to consider building size;
- **bedroom count** (“The unit bedroom count approach would be appropriate for the new zoning by-law.” (p. 86);
- **location and/or distance to transit** (“A desirable objective for residential uses would be to provide opportunities for reduced parking standards where there is a high propensity to use transit” (p. 86). The report goes on to suggest two basic methods of recognizing location/transit access: “define areas such as Downtown, Central Waterfront, Avenues and Centres as defined in the OP”, or “in relation to proximity to transit”. The... “basic preferred direction is to provide for reductions in parking ratios in areas where transit use is high (or targeted to be high as in the Centres and some of the “Avenues” and other defined planning areas) and where city-wide standards could result in an over-supply of parking.” (p.86). Again the use of ranges is proposed to provide greater flexibility for all parties.

Standard references, such as the Transportation and Traffic Engineering Handbook (Table 15.19 : Auto Ownership Related to Residential Characteristics, Washington D.C) note that high-rise apartments tend to have lower car ownership than low-rise apartments and that car ownership within a given type of building varies depending on the characteristics of the occupants. Low income populations and seniors generally have lower car ownership than the general population.

Cansult’s earlier review of available City parking surveys, carried out as part of the “Study of Tenant Parking Demand in Conventional Rental Apartment Buildings” (October 2003) demonstrated that auto ownership does vary with unit type and tenure, with apartments having lower car ownership than houses/townhouses and larger apartment units often having more vehicles than the smaller units. Also, rental apartment units, on average, have lower car ownership than condominium apartment units. However, in surveys of condominium

apartments which are occupied by owners and renters, there was no consistent difference between the average vehicles per unit for owner occupied and tenant occupied apartments in most of the available surveys.

The “Study of Tenant Parking Demand in Conventional Rental Apartment Buildings” also explored the influence of locational factors on auto ownership. The analysis demonstrated that there is a very strong relationship between distance to the Downtown and auto ownership, with rental apartments in the downtown having much lower car ownership, and there appeared to be a strong relationship between auto ownership and distance to a subway line. Those rental apartments that are close to subway stations tended to have lower auto ownership than apartments that are not accessible to rapid transit. These relationships were explored for condominium and rental units in the new survey data base.

Parking Maximums: These are discussed in the Phase 1 report (page 87) with the suggestion that parking supply maximums are “self-enforcing” where the cost of surplus parking is paid for directly by the developer/builder or condo owners.

Residential Visitor Parking: The Phase 1 report (page 88) describes the advantages and disadvantages of 3 visitor parking options:

- a single visitor parking standard for all multi-residential uses;
- separate visitor parking ratios for Downtown (recognizing the lower standard and use of on-street parking and lots), and
- a single visitor parking standard for all multi-residential uses with reduced standards for sites meeting specific criteria (proximity to transit or existing local parking (on street or in public lots)).

The issue of parking standards for condominium townhouse residential developments (with shared parking) required a special approach including additional surveys of residents of new developments of this type (6 projects), which were followed up by interviews with property managers and city staff who are familiar with this type of development.

3.2 Survey Analysis Highlights - Testing of Hypothesis

The first stage of the data analysis was to test and explore the relationship between auto ownership (and hence residential parking demand) and the following factors:

- tenure (rent versus own, independent of building type),
- size of unit (bachelor, one, two and three plus bedroom and/or area to represent class of building),
- characteristics of residents (e.g., conventional vs. targeted housing),
- building type (size of building),
- locational class
 - 1) Downtown Core
 - 2) Downtown Toronto and Central Waterfront
 - 3) Designated Centres
 - 4) Avenues on the subway
 - 5) Avenues well served by surface transit
 - 6) Rest of the City

From the rental apartment survey returns there were no buildings with more than 15 responses received for the Avenues on the subway category. Based on the preliminary analysis of the auto

ownership and the characteristics of the six locational categories it was evident that locational classes 3) and 4), Designated Centres and Avenues on the subway could be collapsed into one class (Centres and Avenues on the subway) resulting in five final locational classes. There was no merit in maintaining 3) and 4) as separate classes since all Designated Centres (Scarborough, North York, Etobicoke and Eglinton Centres) are on/close to rapid transit stations just as the Avenues in class 4). Moreover, the average auto ownerships within the two classes were very similar especially for the predominant 2 – bedroom units.

3.2.1 Auto ownership varies with apartment type

As shown in **Table 3.1**, auto ownership (vehicles/households) varies with apartment type (number of bedrooms) for both condominium and market rental apartments as clearly shown by the average values for each building type. The number of cars per unit increases with the number of bedrooms for condominium apartments and market rental units, and the same trend is evident for targeted rental units.

Figure 3.1 illustrates the relationship between unit type and auto ownership (vehicles/unit) for condominium, market rental and targeted rental units.

The data on average car ownership by unit type and building type suggests that parking standards should reflect unit type. This is currently the case for apartments with more than 6 units in the Downtown Parking District within the former City of Toronto, and for apartments within the former cities of York and Etobicoke.

Figure 3.1 2006 Average Auto Ownership by Housing Type and No. of Bedrooms

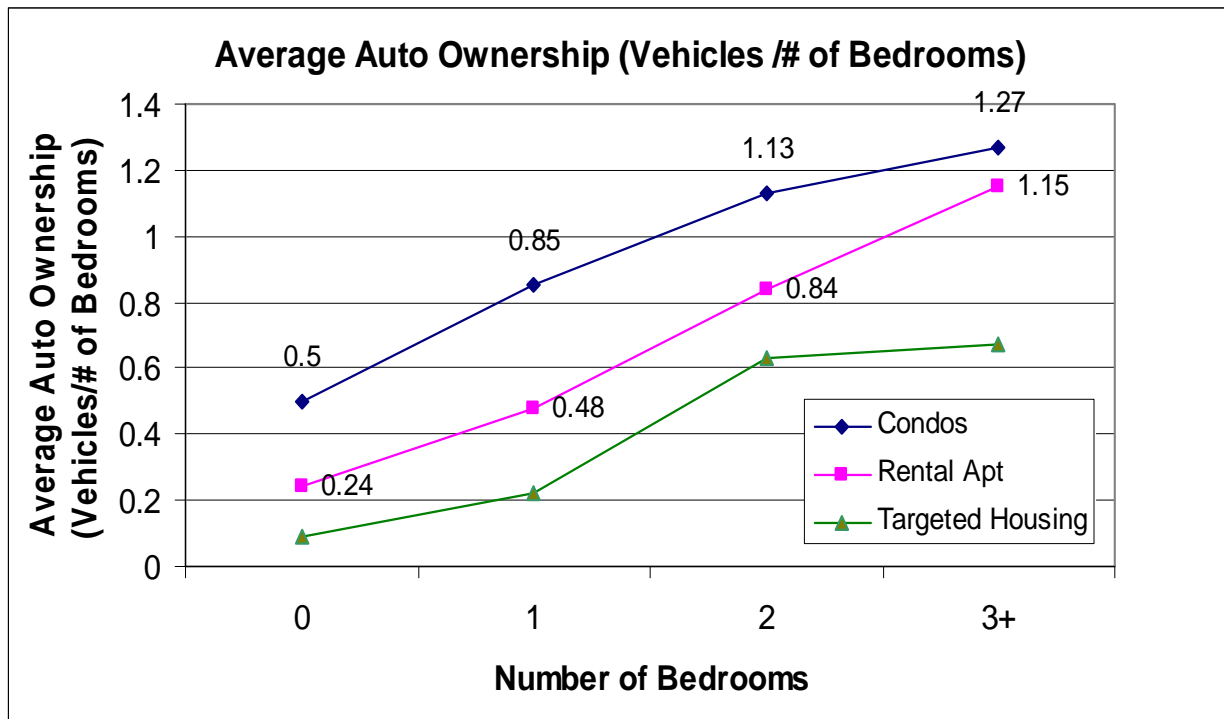


Table 3.1 2006 Toronto Residential Parking Survey Results: Average Vehicles/Unit by Location and Type/Size
(Based on sample buildings with survey response rate of 15+ per Building)

Type/Unit Size (# of Bedrooms) Location		Average Vehicles/Unit							
		Condominium Apartments (post 1975)				Market Rental Apartments (post 1975)			
		Bachelor	1 Bedroom	2 Bedrooms	3+ Bedrooms	Bachelor	1 Bedroom	2 Bedrooms	3+ Bedrooms
1. Downtown Core	<i>0.20</i>	0.79	1.05	1.75	<i>0.57</i>	0.30	<i>0.80</i>		
2. Downtown and Central Waterfront	<i>0.75</i>	0.73	1.11	1.32	0.13	<i>0.43</i>			
3. Centres & Avenues near rapid transit stations		0.90	1.17	1.35	<i>0.25</i>	0.51	0.79	<i>0.93</i>	
4. Avenues well served by surface transit	<i>0.50</i>	0.92	1.14	1.10		<i>0.57</i>	<i>1.06</i>	1.00	
5. Rest of the City		1.17	1.05	1.12		<i>1.25</i>	0.85	1.30	

Notes: 1. Italicized and shaded cell values are based on fewer than 20 responses in the cell.
2. For blank cells less than 15 responses per building were received

3.2.2 Auto Ownership differs by building type and tenure

Market rental units generally have lower car ownership than condominium units. Whereas the city-wide average autos/unit for surveyed condominium units was approximately 1.08, the average for the market rental units in the sample was 0.73. These differences between building types are explained in part by differences in unit composition between market rental and condominium buildings. While 30% of market rental units in the sample had one bedroom, 35% two bedrooms and 23% three or more bedrooms, the comparable percentages for condominium units were 20% one bedroom, 69% two bedroom and 10% three or more bedrooms.

Market rental apartments in more suburban locations (areas 4 and 5) tended to have higher car ownership levels that are close to the values reported for condominium units in the same areas. In fact, as shown in Table 3.1, the average auto ownership values within area 5 (Rest of the City) were identical for both market rental and condo units (at 1.08 vehicles/unit).

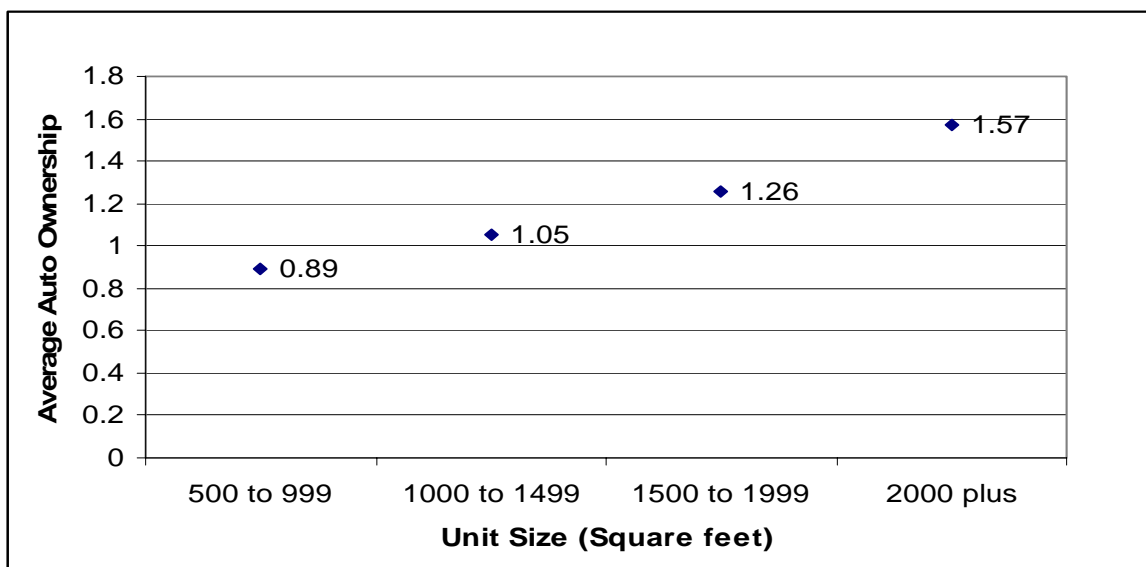
Renters and owners are different in ways that might be expected to affect auto ownership. For example, renters generally have lower incomes than owners. Therefore, it is reasonable to expect that they might have lower auto ownership. However, when one looked at tenure within condominium buildings, the differences between owners and renters were very small. Whereas owner-occupied 2 bedroom condos had an average of 1.135 cars per unit, the average for tenant-occupied 2 bedroom units was 1.098 as shown in **Table 3.2**. Since renters generally have lower income and thus lower auto ownership, the results in Table 3.2 suggest that it is more likely to find higher income renters in condo buildings than in market rental buildings.

Table 3.2 Average Auto Ownership (vehs/unit) for 2-Bedroom Condominiums (based on sample buildings with 20+ responses)

	Own	Rent	Grand Total
Number of 2-Bedroom Units	2104	143	2247
Average of Car Ownership	1.135	1.098	1.132

Other factors, such as the mix of unit types, unit size and the amenities offered in the building, appear to be important factors in explaining variations in auto ownership. For example, auto ownership tends to vary with unit size, measured in square feet, controlling for unit type as shown in **Figure 3.2**. It must be noted that Figure 3.2 does not distinguish the locational classes. This overall trend for 2-bedroom condo units indicates that higher income earners who tend to own large size units have a higher auto ownership.

Figure 3.2 Average Auto Ownership by Unit Size for 2-Bedroom Condominiums



3.2.3 Targetted rental buildings have lower car ownership

Targetted rental buildings, including Toronto Community Housing, seniors buildings, co-op apartments and private sector buildings that include rent-geared-to-income units, all had fewer cars per unit than market rental buildings, according to the survey results. The average reported car ownership for targetted units is approximately 0.31 cars per unit, as shown in **Table 3.3**. The values for some of the individual cells in this table are based on small samples as noted and this data should be interpreted cautiously, recognizing the limitations of the data.

Table 3.3 2006 Survey – Targetted Rental Units: Average Vehicles/Unit by Location and Type/Size (based on sample buildings with survey response rate of 15+ per building).

Type/Unit Size -# of Bedrooms		Average Vehicles/Unit				
		Targetted Housing Apartments (post 1975)				
Location		Bachelor	1 Bedroom	2 Bedrooms	3+ Bedrooms	Average
1. Downtown Core		<i>0.18</i>	0.23	0.48		0.29
2. Downtown and Central Waterfront		<i>0.06</i>	0.10	<i>0.62</i>		0.20
3. Centres & Avenues on the subway		0.08	0.15	<i>0.79</i>	<i>1.00</i>	0.23
4. Avenues well served by surface transit			0.27	<i>0.61</i>	<i>0.40</i>	0.40
5. Rest of City			0.48	<i>0.73</i>	<i>1.00</i>	0.62
Average Values		0.09	0.22	0.63	<i>0.67</i>	0.31

Notes: 1. Italicized and shaded cell values are based on fewer than 20 responses in the cell.
 2. No significant responses (15+ per Building) received for blank cells.

3.2.4 Auto ownership varies by location – not consistent for condos/rentals

There are some variations in auto ownership between the five locational classes for both Condo and Rental units. Generally, the Downtown Core and the Downtown and Central Waterfront areas have lower auto ownership than other locations as shown in Table 3.1. This finding is substantiated by the 2001 Transportation Tomorrow Survey (TTS) data for percent zero auto households and average auto ownership for apartments (no distinction between condos and market rentals in the 2001 TTS database) summarized in **Appendix B**. From the 2001 TTS data, Downtown Toronto (Planning District – PD1) recorded the lowest average auto/household of 0.51 in apartment buildings as well as the highest percent of zero auto households (56%).

As shown in Table 3.1, for market rental apartments, the average auto ownership in the Downtown Core and Downtown & Central Waterfront areas are substantially lower than in the suburban locations, being well below the market rental apartment average of 0.73. This is not the case for condominium apartment buildings, however. With condos, Downtown Core and Central Waterfront buildings are below average (at about 1.0 cars/unit) while the suburban locations that are not served by rapid transit had average autos/unit figures (around 1.08 cars/unit). Condominiums in the Centres and Avenues near rapid transit had the highest reported car ownership, on average, at about 1.15 vehicles/unit. This may be due to the higher owner income characteristics of specific buildings surveyed.

Whereas only about 17% of condominium units do not have a car, the comparable figures are 37% for market rental units and 70% for targetted rental units, as shown in **Table 3.4**. However, the differences between condominium and market rental units tend to disappear in suburban locations with relatively poor transit service (areas 4 and 5).

For condominiums, the average percentage of condo units that have zero (0) cars is above average for the Downtown Core and Downtown & Central Waterfront areas (at 20% and 24% respectively), while the lowest percentages apply to the locations on Avenues well served by surface transit (at 15%) and Centres & Avenues near subway stations (at 16%).

Table 3.4 Percent Distribution of Zero Car Households

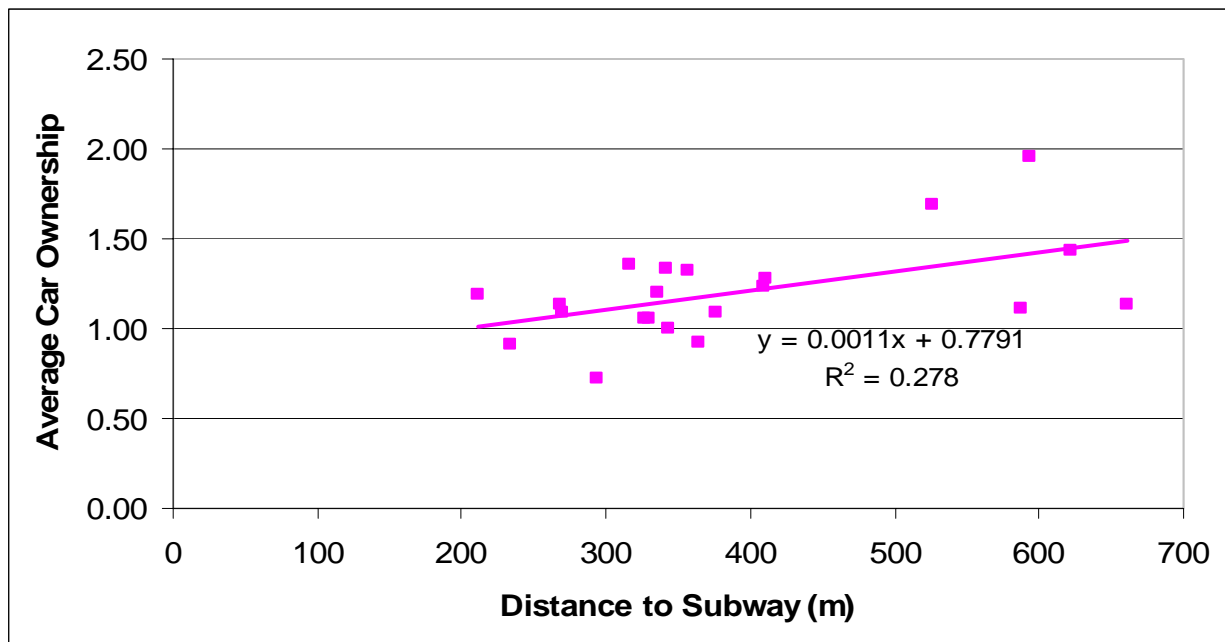
Location	Percent Zero (0) Car Households Distribution		
	Condominium	Market Rental	Targetted
1. Downtown Core	20%	63%	74%
2. Downtown and Central Waterfront	24%	-	67%
3. Centres & Avenues on the subway	16%	42%	81%
4. Avenues well served by surface transit	15%	15%	-
5. Rest of City	17%	18%	24%
Average	17%	37%	70%

Note: Italicized and shaded cell values are based on fewer than 15 responses in the cell

3.2.5 Auto ownership and subway access

The relationship between auto ownership and subway access is relatively weak. As shown in **Figure 3.3**, proximity to subway stations in locations outside the Downtown, explains about 28% of the variation in average cars/unit. This exhibit controls for unit type, but there are other, building specific factors such as differences in the price of condominium units and the socio-demographic characteristics of the residents, that probably account for most of the observed variations in auto ownership.

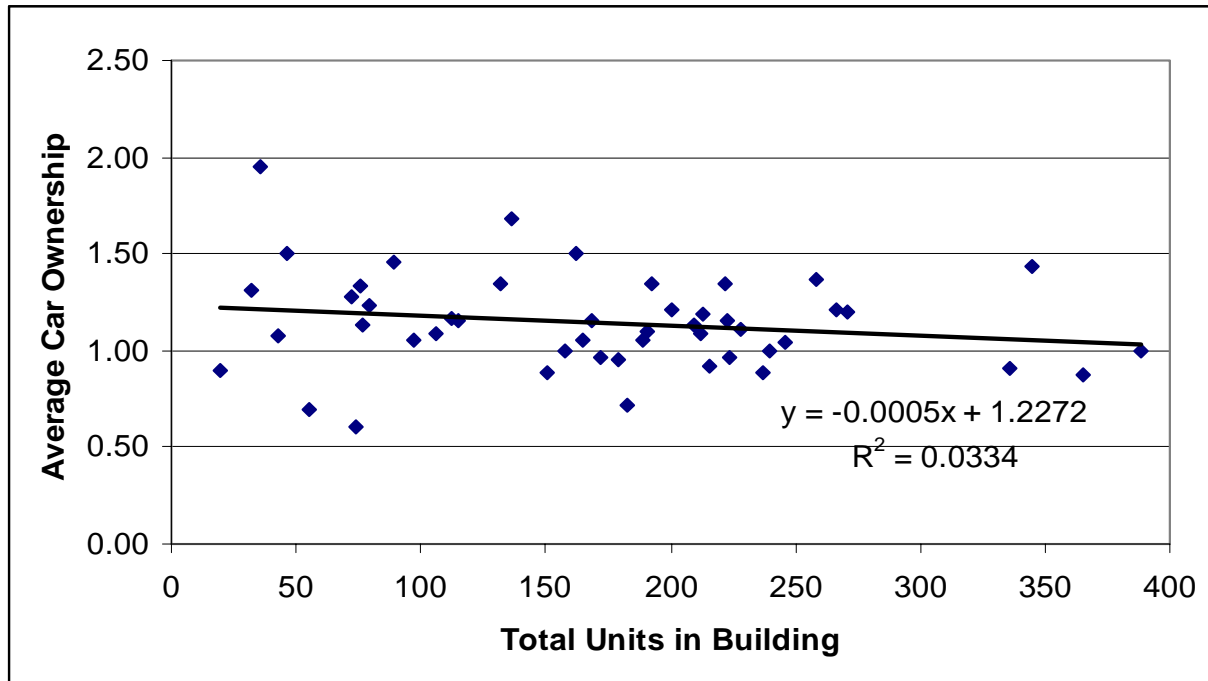
Figure 3.3 Average Auto Ownership – 2 Bedroom Condos less than 1000 m to Subway Station – (Groups 3&4)



3.2.6 Building Size does not affect auto ownership

Building size is not a predictor of car ownership. Larger buildings do not have lower parking needs than smaller buildings, based on the survey results, as shown by **Figure 3.4** (average auto ownership vs. total units in buildings for two bedroom units).

Figure 3.4 Average Auto Ownership by Building Size for 2-Bedroom Units



3.2.7 Visitor Parking Demands

Visitor parking demands for both condo and rental apartments are lowest in the Downtown Core and highest in the outer suburbs (in areas with the least competitive transit services). The estimated number of visitors driving to apartment units (and requiring parking) varies by both location and apartment type, as shown in **Table 3.5**. It is noted that the estimated visitor parking demand in vehicle trips/week in Table 3.5 is only for the purpose of comparing locational class and building type visitor parking demands.

The number of visitors driving to condominium apartments is lowest in the Downtown Core and highest in outer suburban areas. Generally, visitor parking needs appear to increase as the level of transit access to the condominium apartments declines. For condos the estimated number of visitors per unit increases as one moves from the Downtown Core to the Rest of the City.

The same consistent relationship was not shown for the market rental and targeted rental units in the sample. However, the highest reported weekly visitors per unit (estimated based on the responses to Question 9 (of the survey questionnaire) - How often do you have visitors who drive to your home?) was for location 5 – Rest of City and the lowest visitors per week were observed in the Downtown Core, for all three unit types.

Table 3.5 Estimated Visitor Parking Demand Frequency by Area and Housing Type.

Location	Visitor Parking Demand Frequency (visitors by car /week)*		
	Condominium	Market Rental	Targetted
1. Downtown Core	0.81	0.64	0.64
2. Downtown and Central Waterfront	1.02	-	0.98
3. Centres & Avenues on the subway	1.09	1.12	0.71
4. Avenues well served by surface transit	1.17	0.98	-
5. Rest of City	1.29	1.18	1.27

Note: Sample includes only buildings with 20+ responses

* Visitors/week was estimated by translating the survey responses into average visits per week (less than once per month = 0, once or twice per month = .375, 3 times per month + .75 etc.)

The estimated visitor parking demand is for comparison purposes only

3.2.8 Visitors Parking Problems vs. Housing Type

Visitor parking problems are more prevalent with rental buildings. Reported visitor parking problems do not show similar patterns to those for the estimated visitor parking demand frequency, as shown in **Table 3.6**. Targetted apartments and rental apartments reported higher levels of visitor parking problems than condominium apartments with 52% and 42% of respondents reporting frequent visitor parking problems for the targetted and rental units while only 12% of respondents living in condominium apartments reporting frequent problems. These results are based on survey responses to Question 12 (of the survey questionnaire) - How often do your visitors experience parking problems? - which reported 'always' or 'frequently'.

Table 3.6 Frequent Visitor Parking Problems by Area and Housing Type

Location	Percent Frequent Visitor Parking Problems		
	Condominium	Market Rental	Targetted
1. Downtown Core	9%	63%	56%
2. Downtown and Central Waterfront	21%	-	56%
3. Centres & Avenues on the subway	13%	34%	59%
4. Avenues well served by surface transit	3%	40%	-
5. Rest of City	12%	54%	29%

Notes: 1. Sample includes only buildings with 20+ responses

Reported visitor parking problems are particularly high for market rental and targetted rental in the downtown areas, where the visitor parking standard is 6 spaces per 100 units. High visitor parking problems were also reported for targetted rental units in location 3 (Centres & Avenues on the subway).

3.3 Visitor Parking Issues

3.3.1 Abuse of Visitor Parking

Building managers (for rental and condo developments) reported frequent examples of visitor parking being used by residents and others (so called “walk aways”), necessitating control measures including writing letters to residents, ticketing and, the ultimate sanction, towing the offending vehicle. Where residential buildings are located near other traffic generators, such as post-secondary schools, theatres or shops, visitor parking is often used by persons who are not visiting the building.

In condominium buildings which generally have concierge staff available 24 hours per day, parking use is monitored and staff deal with the abuse by notifying residents and arranging for others to be tagged or towed.

In rental buildings with visitor parking problems, building superintendents are generally not available 24 hours a day to issue manual parking permits for visitor parking or monitor the use of the visitor parking lot. Where ongoing abuse of visitor parking occurs, building superintendents will call the police to ticket offenders, however, often the Police are unavailable due to other municipal parking priorities (i.e. ticketing and towing vehicles from arterial roads during rush hours). In such situations where problems are recurring, police will suggest that private firms which employ “municipal law enforcement officers” (M.L.E.O.s) who are trained and approved by the Toronto Police Service, be engaged to provide parking control services. In these situations the full cost of these services is paid for by the building management and the by-law enforcement officers issue municipal tickets to cars found to be in contravention of the applicable by-laws (abuse of visitor parking, parking in loading zones or driveways or in designated accessible parking spaces). The entire ticket revenue goes to the municipality.

Other private firms, such as ParkSmart offer solutions for parking control involving the use of pay-and-display machines (paid visitor parking). This option provides a convenient method for residents who can issue permits themselves at any time of the day or night without the anxiety of finding a superintendent or visiting the management office.

Technology is also available using smart cards that allows residents to issue a “free” permit or token (contained in a microchip on the card) from the pay & display machine for their visitors to legally park in the visitor parking lot without any on-site staff intervention. The user inserts their smart card into the pay & display machine, which dispenses a permit that is displayed on the dashboard of the vehicle. In either case, security firms that are authorized to issue municipal tickets are responsible for monitoring and enforcement, including ticketing and towing.

3.3.2 Existing Utilization of Visitor Parking

Two data collection efforts were carried out to determine the actual demand for visitor parking including:

- surveys of visitor lots in areas where visitor spaces would most likely be used by visitors to the building or residents (because there were no major traffic generators in the area or such generators had ample parking); and
- the tabulation of the occupancy of visitor parking lots that are monitored by Epic Parking Control and reported tagging activities.

The surveys of 13 visitor parking lots outside the Downtown area during the peak visitor periods (one Friday and two Saturday nights between 10:00 and 12:00 PM in May 2006) revealed that the average occupancy of the available free visitor parking was 49% on Friday and between

61% and 67% on Saturday.¹ The occupancy of visitor parking lots at individual buildings ranged from 21% to 72% on the Friday (11 buildings) and 37% and 72% on the highest Saturday (67% average for 10 buildings). The occupancy range on the Saturday was 28% to 100% with an overall average of 61% for all 13 buildings.

Epic Parking Control provided data for visitor parking lots at 15 locations where they monitor pay-and-display lots for market rental buildings for four periods: June-August 2005, Sept – November 2005, December 2005-Feb 2006 and March-May 2006. These buildings would have all had visitor parking abuse problems. Based on the data collected during visits by Epic to these sites at various times during each period (12 to 28 visits per site per period) the average occupancy of visitor parking was 56% to 57%, surprisingly stable. The occupancy for individual buildings ranged from 24% to 100% and the values for individual buildings were also quite stable. The one factor that changed over the 12 month period was compliance in that the number of tags issued declined from 37% of parked vehicles to 24%, indicating that more spaces would have been available to persons who were visiting residents (but the actual level of use (occupancy of visitor spaces) did not change).

3.4 Condominium Townhouse Developments – Resident Parking Needs

Table 3.7 summarizes the results of the surveys of condominium townhouse developments with shared parking facilities across the City. With the exception of the Bridletowne Circle development, which had a very low response rate and is probably not representative of the total units in this project, the average cars per unit figures are similar ranging from 1.39 to 1.48 vehicles per unit. This compares to the current practice of supplying a minimum of 2.0 parking spaces per unit for condominium townhouse developments with individual garages and driveways. The current practice for townhouse developments is to count one parking space in the unit's garage plus a second in the driveway.

Table 3.7 Car Ownership by Unit Type and Total for Condominium Townhouse Developments.

Location		Data	Number of Bedrooms			Grand Total
			1	2	3+	
Etobicoke	Off East Mall near Burnhamthorpe Road	Sample Count		16	11	27
		Average of Car Ownership		1.44	1.55	1.48
North York	Parkway Forest Drive	Sample Count		1	40	41
		Average of Car Ownership		0.00	1.43	1.39
	Village Greenway	Sample Count			29	29
		Average of Car Ownership			1.41	1.41
Scarborough	270 Timberbank Blvd.	Sample Count			28	28
		Average of Car Ownership			1.46	1.46
	Bridletowne Circle	Sample Count			16	16
		Average of Car Ownership			1.19	1.19
Toronto	28-38 Stadium Road	Sample Count	2	34	5	41
		Average of Car Ownership	1.00	1.35	2.20	1.44
Total Sample Count			2	51	129	182
Total Average of Car Ownership			1.00	1.35	1.44	1.41

¹ The sample included a total of 13 buildings but they could not all be surveyed on all three nights.

3.5 Targetted Housing

Targetted housing types generally include senior citizen's housing, alternative housing, rooming housing and social housing. **Table 3.8** summarizes the existing standards for various City Districts.

Table 3.8 Existing Parking Standards – Targetted Housing

Housing Type	City of Toronto	Toronto Downtown	Etobicoke	Scarborough	York
Senior Citizen's	0.10	0.07 -0.12 ⁽¹⁾	0.35	0.50	0.35/0.40 ⁽²⁾
Alternative Housing	⁽³⁾	0.17 ⁽⁴⁾			
Rooming Housing	⁽⁵⁾	⁽⁶⁾			
Social Housing		0.36 – 0.56 ⁽⁷⁾			0.85-1.05 ⁽⁷⁾

⁽¹⁾ Varies by size of unit;

⁽²⁾ Senior citizens' non-profit publicly subsidized apartments. Lower standards for apartments within 500 m of RT

⁽³⁾ 1 for the first 5 dwelling units (DUs) or dwelling rooms (DRs), or fraction thereof; plus 1 for the first 15 DUs or DRs, or fraction thereof, in excess of the first 5; plus 1 for each 10 DUs or DRs, or fraction thereof, in excess of the first 20.

⁽⁴⁾ Residence owned or controlled by the Salvation Army, Y.M.C.A., Y.M.H.A., or Y.W.H.A.

⁽⁵⁾ 1 space for each 3 DRs, or fraction thereof, in excess of 3; one space for each two DUs, or fraction thereof.

⁽⁶⁾ 1 space for each 3 boarding or lodging rooms or fraction thereof in excess of 3; 1 space for each 2 DUs or fraction thereof; 1 space for each 3 Dus or fraction thereof in excess of 3.

⁽⁷⁾ Varies by unit size and proximity to RT

3.6 Live/Work Housing Type

There are many forms of live/work housing ranging from downtown lofts to special purpose townhouses that support commercial enterprises at the ground level. Furthermore there are many types of live/work or arrangements from home offices located in traditional low density residential areas to living upstairs in a commercial building. While these relatively recent lifestyle arrangements are supported since, among other things, they generally reduce the need for travel, the lack of standardized definitions, multitude of specific arrangements and the inability to easily identify different forms rendered this subject too complex to deal with as part of the current study. If deemed appropriate by City staff and Council, the parking needs of this unique housing type would warrant a specific study.

3.7 Linking of Standards to Auto Ownership

In order to fully understand the relation between existing parking standards and the empirical auto ownership data obtained from the survey, a detailed analysis was conducted to determine any trends and correlations. The data for the locational classes was displayed graphically and reviewed. Plots of the distribution of the number of vehicles vs. number of dwelling units showed clearly that the predominant unit size is the 2-bedroom unit. The detailed plots for condos and rental apartments are included herein as **Appendix C**.

In almost all cases the highest frequency of the number of vehicles per unit was 1 vehicle/unit. For instance, for the 2-bedroom units in condominium apartments in the Downtown Core 85 respondents reported 1 vehicle/unit while only 14 reported 2 vehicles/unit.

Further, comparison of the existing standards to the empirical average auto ownership per unit for the various locational classes was undertaken. The ratio of existing standards to the empirical average demand ranged from 63% to 105% where data was significant, with the lowest ratio occurring in the Downtown Core and increasing outward to the rest of the City. For example, for the predominant 2-bedroom units in condos the ratio of the existing standards to the survey averages was 71% in the Downtown Core and increased as one moves from the Downtown Core to 105% in the Rest of the City.

Residential zoning by-law standards should reflect both the parking needs of City residents and City policies that are defined in the new Official Plan (and related policies and practices) aimed at reducing auto dependency and increasing non-auto mode share. The data exploration and City's transit policy considerations as well as consultation with City staff lead to the development of recommended minimum standards which basically ensure the supply of a percent of the empirical average demand as revealed by the survey. In comparison with the existing standards, and supportive of the City's policies the lowest percent was applied to the Downtown Core and graded higher as one moves further from the Downtown Core. The results are presented in the next section.

3.8 Minimum and Maximum Standards

The Phase 1 report on the Parking and Loading Standards Review recommended that maximum requirements (in addition to minimum) be incorporated into the new City of Toronto zoning by-law. This direction was reinforced at the July 14, 2006 Workshop on Residential Parking Standards, at which City staff with a broad range of expertise attended. The provision of maximum parking requirements is also generally supported from a policy perspective, given 4 of the 5 locational stratifications proposed are related to the provision of higher levels of public transit service. For the non-transit category of "Rest of the City", provision of a maximum parking requirement in the new zoning by-law is not supported; otherwise maximum requirements are fully supported.

4.0 RECOMMENDED PARKING STANDARDS

Based on the review of empirical data, policies and urban structure/targetted mixed-use growth areas included in the 2006 City of Toronto Official Plan and discussions with City staff, the recommended parking standards are stratified into the following 5 sub-area categories:

1. Downtown Core
2. Downtown and Central Waterfront
3. Designated Centres and Avenues on the Subway
4. Designated Avenues well served by Surface Transit
5. Rest of the City

The Downtown Core is the financial district which is bounded by Simcoe Street to the west, Victoria Street to the east, Queen Street to the north and the Gardiner Expressway to the south. The Downtown and Central Waterfront is generally bounded by Bathurst Street on the west, the C.P. North Toronto rail line and Rosedale Valley Road on the north, the Don Valley Parkway on the east and Toronto Harbour on the south, but along the waterfront it also includes Exhibition Place and Ontario Place in the west and the Portlands in the east. Both areas are shown in **Figure 4.1**, which is Map 6 from the new City of Toronto Official Plan.

As discussed earlier in the report, Centres and Avenues close to subway stations were combined into one locational category since preliminary data review didn't show any strong reason to maintain the two separate categories. Moreover, proximity of rapid transit stations is a key common factor here.

Generally, the standards recommended below are based on unit size measured by the number of bedrooms. With regard to the appropriate size and standards for lofts, in consultation with City staff it was agreed that a limit of 40 sm (~430 sf) be set for lofts to be equivalent to bachelor standards and that anything greater be treated as a 1 bedroom apartment. Similarly, the limit for a bachelor unit should be 40 sm; otherwise one bedroom standards should apply.

4.1 Condominium Apartments

Based on the review of the existing parking standards within the various location categories and the empirical data as well as discussions with City staff, building management and developers, the recommended minimum and maximum parking standards for condominium apartment residents and visitors are illustrated in matrix form in **Table 4.1**. Generally, the recommended minimum standards range from about 65% of the average empirical auto demand in the Downtown Core and increase to about 95% in the outer areas of the City.

Table 4.2 summarizes the recommended minimum standards for condos and the existing parking standards. Generally, the recommended standards are either the same or lower than the existing standards.

Based on the review of the empirical data, to ensure reasonable provision to meet the average empirical parking demands the maximum recommended parking standards adopts a 1.5 ratio of the minimum standards and it is only provided for the transit oriented areas within the City. As shown in Table 4.1 there on maximum standards for the non-targetted growth areas in the "Rest of the City".



Toronto
City Planning
Division

Toronto Official Plan
Downtown and
Central Waterfront
Boundaries
June 2000

MAP 6

Downtown and Central Waterfront
 Financial District

FIGURE No. 4.1



DOWNTOWN CORE, AND DOWNTOWN CENTRAL WATERFRONT BOUNDARIES (Map 6 in the City's Official Plan)

Table 4.1 Recommended Minimum and Maximum Parking Standards – Condominium Apartments

Location	Resident Standard (to accommodate personal vehicles)										Visitor Parking (Minimum & maximum)
	Bachelor*		1 Bedroom		2 Bedrooms		3+Bedrooms				
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
Downtown Core	0.30	0.45	0.50	0.75	0.70	1.05	0.90	1.35	0.90	1.35	0.10
Downtown and Central Waterfront	0.30	0.45	0.50	0.75	0.80	1.20	1.00	1.50	1.00	1.50	0.10
Centres and Avenues on Subway	0.60	0.90	0.70	1.05	0.90	1.35	1.00	1.50	1.00	1.50	0.10
Other Avenues (well served by Surface Transit)	0.70	1.05	0.80	1.20	0.90	1.35	1.10	1.65	1.10	1.65	0.15
Rest of City	0.80	-	0.90	-	1.00	-	1.20	-	1.20	-	0.20

* 40 sm (~ 430 sf) or less

Notes:

1. Maximum standards are 50% higher than the minimum standards except for the Rest of the City where there are no maximum standards.
2. Due to under representation of bachelor units in the survey results the bachelor standards were developed based on consideration to the existing standards and in relation to the 1 bedroom standards.

Table 4.2 Recommended Minimum Standard for Condos vs. Existing Parking Standards

Location	Resident Standard (to accommodate personal vehicles)												Visitor Parking	
	Bachelor		1 Bedroom		2 Bedrooms*		3+Bedrooms						Recommended	Existing
	Recommended	Existing	Recommended	Existing	Recommended	Existing	Recommended	Existing	Recommended	Existing	Recommended	Existing	Recommended	Existing
	0.30	0.30	0.50	0.50	0.70	0.75	0.90	1.20	0.90	1.00	1.00	1.00	0.10	0.06
Downtown Core	0.30	0.30	0.50	0.50	0.70	0.75	0.90	1.20	0.90	1.00	1.00	1.00	0.10	0.06
Downtown and Central Waterfront	0.30	0.30	0.50	0.50	0.80	0.95	1.00	1.20	1.00	1.00	1.00	1.00	0.10	0.06
Centres and Avenues on Subway ¹	0.60	0.85-1.1	0.70	0.85-1.1	0.90	1.0-1.1	1.00	1.0-1.1	1.00	1.00	1.00	1.00	0.10	0.1-0.25
Other Avenues (well served by Surface Transit)	0.70	n/a	0.80	n/a	0.90	n/a	1.10	n/a	1.10	1.10	1.10	1.10	0.15	n/a
Rest of City ²	0.80	0.39-1.25	0.90	0.74-1.25	1.00	0.95-1.25	1.20	0.95-1.35	1.20	1.20	1.20	1.20	0.20	0.2-0.25

Notes:

1. York -NYC condo standards (within 500m of rapid transit)
2. Range of standards for various locations

For resident parking requirements, the values increase across the row of the matrix from Bachelor units to 3 Bedrooms, and down the columns from “Downtown Core” to the “Rest of the City”.

Regarding visitor parking requirements, it was the consensus of the Project Team that the existing requirement of 0.06 spaces per unit in the Downtown is too low and that the 0.25 requirement in many other areas is too high. Thus the range has been tightened from 0.06 - 0.25 to 0.10 for the first three locational categories to 0.20 in all other areas, with a mid-point value of 0.15 for “Avenues well served by Surface Transit”.

4.2 Rental Apartments

The empirical data reveal that auto ownership/dwelling unit ratios for rental apartments are generally about 75% of that of condominiums for the first 4 locational categories – Downtown Core, Downtown and Central Waterfront, Centres and Avenues on the Subway, and Avenues well served by Surface Transit. Thus, for this reason the recommended parking standards for rental apartments are generally about 75% of that for condominiums. However, for the “Rest of the City” category the recommended standards are the same for both tenure types as evident from the empirical data. The recommended minimum and maximum parking standards for rental apartment residents and visitors are illustrated in matrix form in **Table 4.3**.

Again the minimum and maximum matrix exhibit the same patterns as described in section 4.1 above for condominiums. Similar to the condos the maximum values are about 150% higher than the minimum standards. As shown in Table 4.3, there are no maximums in the outer non-targetted growth area. The values for visitor requirements have not been reduced.

4.3 Visitor Parking Standards

As shown in Table 4.1 and Table 4.3, based on the review of the empirical data and existing visitor parking standards within the various location categories as well as discussions with City staff, it is recommended that, in the growth areas, condominium and apartment buildings should have the same visitor parking requirement of 0.10 parking spaces per unit in the Downtown, Centres and Avenues on a subway, and 0.15 parking spaces along the Avenues well served by bus and streetcar routes. In the rest of the City a common visitor parking standard of 0.2 spaces per unit is recommended. The 0.10 standard for the Downtown is an increase over the existing standard of 0.06 parking spaces per unit but elsewhere the proposed visitor parking standards are generally lower than the existing standards.

4.4 Condominium Townhouse Developments

The auto ownership levels from the survey results of 182 condominium townhouse units with shared parking facilities would suggest a parking standard significantly less than the current practice of supplying a minimum of 2.0 parking spaces per unit. (The current practice for townhouse developments is to count one parking space in the unit’s garage plus a second in the driveway). As shown in Table 3.7 apart from the Bridletowne Circle development there is not much variation by location. The key issue for these types of developments is whether the parking is physically provided with each dwelling unit or alternatively provided in a consolidated central location. If the former, there is no alternative to providing a standard of 2.0 parking spaces per unit; if the latter, however, a minimum parking standard of 1.5 spaces per unit would appear to meet the total parking demand and is therefore recommended.

Table 4.3 Recommended Minimum and Maximum Parking Standards – Rental Apartments

Location	Resident Standard (to accommodate personal vehicles)										Visitor Parking (Minimum & maximum)
	Bachelor*		1 Bedroom		2 Bedrooms		3+Bedrooms				
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
Downtown Core	0.20	0.30	0.40	0.60	0.50	0.75	0.70	1.05	0.10		
Downtown and Central Waterfront	0.20	0.30	0.40	0.60	0.60	0.90	0.80	1.20	0.10		
Centres and Avenues on Subway	0.40	0.60	0.50	0.75	0.70	1.05	0.80	1.20	0.10		
Other Avenues (well served by Surface Transit)	0.50	0.75	0.60	0.90	0.70	1.05	0.90	1.35	0.15		
Rest of City	0.80	-	0.90	-	1.00	-	1.20	-	0.20		

* 40 sm (~ 430 sf) or less

Notes:

1. Rental Apartment minimum standards are generally about 75% of the recommended condo minimum standards except for the “Rest of City” category where the standards are the same as for condos.
2. Maximum standards are 50% higher than the minimum standards except for the Rest of the City where there are no maximum standards.

4.5 Targetted Housing

Generally, targetted housing developments have lower parking standards. Also, the empirical survey results show that the average auto ownership for the targetted housing types surveyed is about 30% of the corresponding average for condominiums and about 50% of the average for rental apartments. However, the survey did not distinguish all targetted housing types and the captured types were under-sampled.

There is a need to better define and categorize all targetted housing types. It is therefore recommended that further studies be conducted to establish appropriate parking standards after better defining and categorizing various targetted housing types.

5.0 OTHER PARKING PROVISIONS

5.1 Bicycle Parking Provisions

City policies and programs support greater use of cycling, both for recreation and functional travel including commuting to and from work places.

Adequate and safe bicycle parking provisions are important ways to provide convenience and security for cyclists at both origins and destinations and enhance the attractiveness of this mode of travel. Inadequate facilities and fear of theft are major deterrents to bicycle transportation. Effective bicycle parking requires, in addition to adequate supply, a properly designed storage/rack in an appropriate location for the type of use. Ensuring the provision of adequate bicycle parking facilities is required in creating a city-wide bicycle friendly environment that encourages the future use of bicycles for everyday transportation and enjoyment as planned by the City.

5.1.1 Review of Existing Toronto Standards

The former City of Toronto was the only municipality that had formal zoning provisions for bicycle parking, with regulations that only applied to post 1993 buildings. For buildings containing 10 or more dwelling units, other than senior citizen housing, 0.75 bicycle parking spaces are required per unit to a maximum of 200 parking spaces.

5.1.2 Comparison of Standards in other Jurisdictions

For apartment/townhouses, Litman, et al, (1999)², recommends 1 bicycle space per dwelling (for long term use – Class I) plus a 6 space rack at each building entrance (for short-term use -Class II). **Table 5.1** summarizes bicycle parking spaces requirements for a number of other Canadian jurisdictions

Table 5.1 Bicycle Parking Requirements for Residential Developments - Selected Canadian Cities.

	Vancouver		Calgary			Ottawa	Kingston	Toronto*
	Class I	Class II	Class I	Class II	Total			
Multi-unit residential (spaces/unit)	0.75	6 spaces (min)	0.50	0.10	0.60	0.75	1.00	0.75

* City of Toronto requires 80% of spaces to be occupant and 20% to be visitors; not more than 50% in vertical position and cannot be provided in dwelling unit; Maximum supply of 200 spaces.

Notes: Class I = Secured Long Term parking; Class II = Short term parking

5.1.3 Recommended Bicycle Standards

Given the City's goal to increase bicycle use, bicycle parking requirements must be based on anticipated future bicycle demand. As stated in the Toronto Bike Plan Report, because bicycle ownership levels are similar for all City Districts, it is anticipated that the requirement for residential buildings will be consistent across the City. Based on the review of available information (including City of Toronto By-law No. 1121-2001) and discussions with City staff, as well as developers and building management, the following requirements are recommended:

² Todd Litman, et al, Pedestrian and Bicycle Planning; A Guide to Best Practices, VTPI (www.vtppi.org), 2000.

- Minimum of 0.75 bicycle parking space per dwelling unit without any upper limit across all location categories except for the Downtown Core and the Downtown & Central Waterfront where the minimum should be set higher at 1 bicycle parking space per dwelling unit to reflect the higher level of cycling in the downtown: 80% as bicycle parking for residents and 20% as bicycle parking for visitors. This parking should be provided in a secure, weather-protected location on the building site. The bicycle storage facilities can include bicycle racks in a monitored area, a limited-access room or garage, and bicycle lockers.
- Not more than 50% of the parking spaces shall be provided in a manner that requires a person to park the bicycle in a vertical position.
- Bicycle parking spaces shall not be provided in a dwelling unit or on a balcony thereof.
- A bicycle parking space is an area that is equipped with a bicycle rack for the purpose of parking and securing a bicycle, and:
 - Where bicycles are parked on a horizontal surface, such space has horizontal dimensions of at least 0.6 m wide by 1.8 m long and a vertical dimension of at least 1.9 m high; and
 - Where bicycles are parked in a vertical position, such space has horizontal dimensions of at least 0.6 m wide by 1.2 m long and a vertical dimension of at least 1.9 m high; and
- All bicycle parking spaces shall be provided and maintained in a highly visible weather protected area.

5.2 Accessible Parking Provisions

5.2.1 Review of Existing Standards – Toronto and Area

Many of the existing zoning by-laws do not include provisions for accessible parking spaces. In 2004 The City of Toronto published the Accessibility Design Guidelines which includes directions on the number, size and location of accessible parking spaces. Though the guidelines are comprehensive some of the recommendations seem onerous in comparison with other standards. For instance, while the 2004 City Guidelines suggest a total accessible parking space width of 4.86 metres (including 1.2 m pedestrian aisle), the Canadian Standards Association (CSA) recommends a minimum width of 3.9 metres (including 1.5 m aisle), while other jurisdictions are around 4.0 m.

Table 5.2 summarizes the existing residential accessible parking space requirements included in the current zoning by-laws.

Table 5.2 Accessible Parking Requirements

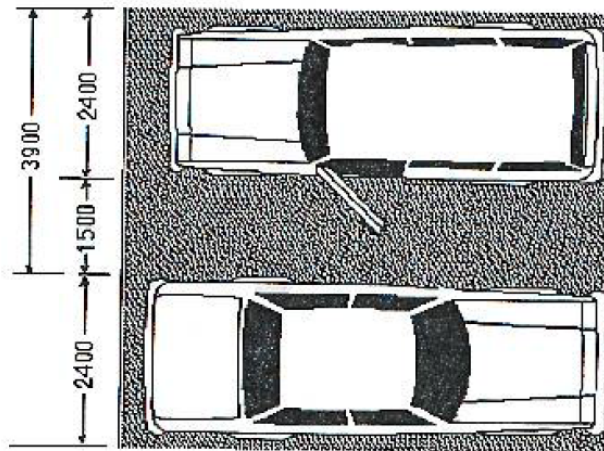
District	By-law	Section	Measure Unit	Measure	Minimum
Etobicoke	1984-140	320-19 B1	Required parking spaces	0-9	0
				10-100 For each 100 or part of :	1 1
Scarborough			Building		2 in total
York		3.2.1 (D.3a) 3.2.1 (D.3b)	Building Unit	>10 and <50 50	1- included as part of total 1- for each 50 parking spaces or portion thereof.

The existing accessible parking standards for Downtown Toronto, Toronto, North York and East York are separate from the parking by-law requirements. The former Etobicoke has the most detailed standards. The general approach consistent with most jurisdictions is to specify the number of required accessible parking spaces as a function of total parking spaces.

5.2.2 Recommended Accessible Parking Standards

The recommended standards for accessible parking should reflect the aging trends among the population and consequently the increasing percent of the population needing accessible parking. Based on discussions with City staff and building managers and review of existing standards and available literature, the recommended accessible parking standards are:

- the minimum vertical clearance for accessible parking spaces shall be 2.0 m – as recommended by the CSA,
- for a single accessible space, the minimum width and length shall be 3.9 m and 5.6 m respectively – as recommended by CSA. For two adjacent accessible parking spaces a common aisle of 1.5 m shall be provided as illustrated in the sketch below.
- 1 accessible space for every 25 spaces or less for the first 100 parking spaces; plus 2 spaces for each additional 100 parking spaces (i.e. 1:50) – as recommended in the 2004 City of Toronto Accessibility Design Guidelines. In situations where there are less than 25 spaces, at least 1 space should satisfy the dimensions for accessible parking and be marked as such, but for buildings with less than 5 spaces not necessarily designated.



Also, the 2004 City Guidelines require that designated accessible parking space(s), whether external or internal, should be provided within 30 m of the main accessible entrance and/or any other accessible entrances. Further, for multi-storey or underground parking garages, at least one level of parking should include easy to locate accessible parking spaces.

6.0 NEXT STEPS

6.1 Further Consultation

This report (in final draft form) should be submitted to community councils with a recommendation that the recommended residential parking standards be widely circulated to the Urban Development Institute, the Board of Trade, ratepayer organizations, and the general public for review and comment during the early part of 2007. Comments should then be considered by staff prior to final recommendations proceeding to City Council.

6.2 Further Studies

Based on the conclusions presented in this report, three areas of further study should be considered. Firstly, it was not possible to deal with the so called "live/work" housing type. There are a multitude of arrangements and they are both difficult to identify and to categorize. Even if this can be effectively done, it is not clear as to how standards for each category might be applied since many of the arrangements are very informal and not necessarily related to the building structure. The live/work housing type is thus extremely complex and could easily be the subject of a separate study.

Secondly, the targetted housing area is comprised of at least four separate categories, each with quite distinctive parking needs. In some cases, the former City of Toronto had undertaken parking studies and determined appropriate standards. Unfortunately there were not sufficient samples of targetted housing in the survey conducted as part of this study to address needs across the amalgamated City. The City has two options in this regard: first it could simply adopt existing standards for City-wide applications, or second it could undertake more detailed study to provide an update and sounder basis for wider applications of new standards.

Finally, through the July 14, 2006 workshop, there was significant discussion about the difficulties of implementing even significantly reduced standards for mainstreet type developments along the Avenues. These infill developments typically have quite shallow depth lots and small building footprints, thus making it difficult and expensive to provide underground parking. It was felt that a broader implementation strategy was needed that would allow the standards to be adjusted on a site specific basis and would include such strategies as shared use parking for mixed-use developments and provision of off-site parking in nearby parking facilities and/or commercial developments and possible reductions in conjunction with Travel Demand Management (TDM) programs including car sharing. These and other strategies are currently being considered by the Toronto Waterfront Revitalization Corporation as part of a Central Waterfront Parking Strategy.

APPENDICES

APPENDIX A:

- 1. Toronto Residential Parking Survey Questionnaire**
 - 2. Survey Letter from City of Toronto**
 - 3. Letter from Mayor David Miller**
 - 4. Follow-up Reminder Post Card**
 - 5. Second Survey Letter from City of Toronto**
-

**Questionnaire
Residential Parking Survey – 2006**

ID Number.....

INTRODUCTION

The City of Toronto is conducting a special survey of the residents of condominium and rental apartment buildings to determine parking standards for new buildings (for both residents and visitors). Your household has been selected to be part of this important survey. Please answer all the questions as accurately as possible and return the questionnaire in the postage paid envelope provided. Your cooperation will be very much appreciated and it will assist the City in planning for future parking needs.

HOUSEHOLD CHARACTERISTICS

1. How many bedrooms are in this unit?

- a. None (Studio or Bachelor unit)
- b. One Bedroom
- c. Two Bedrooms
- d. Three Bedrooms
- e. Four or More Bedrooms (please specify # _____)

2. What is the approximate size of this unit? (1 sq.m. = approximately 10 sq.ft.)

- a. Less than 500 square feet
- b. 500 to 999 square feet
- c. 1000 to 1499 square feet
- d. 1500 to 1999 square feet
- e. 2000 plus square feet
- f. Don't know

3. How many people normally live in this unit?

a. Total residents _____

How many are:

a. Under 16 _____ b. 65 or older _____

4. Do you own or rent this unit?

- a. Own
- b. Rent

CAR OWNERSHIP AND PARKING NEEDS

5. How many vehicles are there in this household? Please include all cars, vans or light trucks that are owned or used by residents, including leased and company owned vehicles that are brought home and parked overnight.

- a. None
- b. One
- c. Two
- d. More than two (please specify # _____)

6. Where are the vehicles mentioned in Question 5 usually parked?

- a. In your building's parking lot or garage (please specify # of vehicles _____)
- b. On street near building (please specify # of vehicles _____)
- c. Elsewhere (examples: private garage, public parking facility, on-street quite far away) (please specify # of vehicles _____)

Questions continue on back.

7. If transit service to your building was improved, would your household be able to reduce the number of vehicles needing to be parked overnight? Yes No

If **YES**, please describe the nature of public transit improvements that would reduce your parking requirements.

- a. Routing changes to bring vehicles closer to the building
 b. More frequent service
 c. Other (please describe) _____

VISITOR PARKING QUESTIONS

8. How often do you have visitors that travel by public transit?

- a. Less than once per month (or never)
 b. Once or twice per month
 c. 3 times per month
 d. 1 – 3 times per week
 e. More than 3 times per week

9. How often do you have visitors who drive to your home?

- a. Less than once per month (or never)
 b. Once or twice per month
 c. 3 times per month
 d. 1 – 3 times per week
 e. More than 3 times per week

10. Where do visitors who drive to your home normally park? *(Please select the single, most appropriate response.)*

- a. On building property
 b. On street near building
 c. In other locations (please specify) _____

11. Is there a fee charged for the visitor parking at your building (on site/ not including on-street parking)?

- a. No b. Yes

12. How often do your visitors experience parking problems?

- a. Never b. Infrequently
 c. Frequently d. Always

13. What types of problems are regularly encountered by your visitors? Please select the option or options that best describe the problems that your visitors experience.

- a. Not applicable (our visitors never experience parking problems)
 b. Insufficient parking on site
 c. Insufficient parking on nearby streets
 d. No nearby public parking lots or garages
 e. Other problem (please explain) _____

14. When do your visitors experience problems? Please select those days and time periods when problems are encountered.

- a. Not applicable (our visitors never experience parking problems)
 b. Weekday daytime (before 6:00 PM)
 c. Weekday evenings (after 6:00 PM) f. Saturday evenings
 d. Friday evenings g. Sunday daytime
 e. Saturday daytime h. Sunday evenings

Thank you!

Name
Unit, Street
City, Prov, PC

Date

To the Smith Household (or Unit Occupant):

The City of Toronto has commissioned a special survey of the residents of condominium and rental apartment buildings to determine parking requirements for new buildings. Your household has been selected to be part of this important survey.

Cansult Limited has been retained to conduct this survey for the City as part of a study which will determine whether or not the parking requirements set out in current zoning by-laws for residential buildings are adequate.

Completing this survey will take only a few minutes of your time and provide the City with important information that is needed to determine the parking needs for residents and their visitors. Please answer all the questions as accurately as possible and return the questionnaire in the postage paid envelope provided.

The survey results will be used to help determine future zoning by-law requirements for resident and visitor parking. The questionnaire has an identification number for mailing purposes only; this is simply so that Cansult staff can remove your address from the mailing list as soon as your questionnaire is returned. Your name or address will never appear on the questionnaire or be used in our analysis.

Please return this questionnaire by2006, if possible. If you have any questions about the survey, or if you need assistance to complete the survey form, please call either David Crowley, at Cansult Limited (905 470 2010, Ext 202) or Greg Stewart at City Planning (416 392 2691).

Thank you for your contribution to this important study,



Ted Tyndorf
Chief Planner and Executive Director
City Planning Division

Mayor

DAVID MILLER

February 2006

Dear Resident:

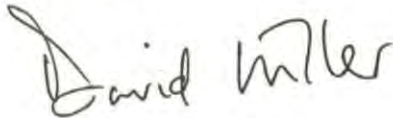
The City Planning Division is conducting a review of the parking space requirements for apartment buildings found in the City's zoning by-laws.

Zoning by-laws require apartment buildings to provide on-site parking spaces for occupants and visitors to minimize the need for parking on City streets. Some parts of the City may require more residential parking than others. For example, in the downtown area, where many people walk or take transit, there may be less need for residents to own a car, and therefore the demand for residential parking is less. On the other hand, in those parts of the City where people are more reliant on cars there may be a need for higher residential parking standards.

The aim of the current review is to determine whether the existing parking standards need to change and by how much. You can help by completing the attached parking survey. The more surveys that are returned, the more likely the new zoning standards for apartment buildings will accurately reflect the parking needs of residents and their visitors.

Thank you for your cooperation and contribution to this important study.

Yours truly,



Mayor David Miller





Fareed Amin
Deputy City Manager

Ted Tyndorf
Chief Planner and Executive Director

City Planning Division
City Hall, 12th Floor, East Tower
100 Queen Street West, Toronto, Ontario M5H 2N2
Tel: (416) 392-8772
Fax: (416) 392-8115

Date

To the *Smith* Household (or Unit Occupant):

One week ago, a special City of Toronto survey was mailed to you by Cansult Limited, asking for information that is needed to determine parking requirements for new residential buildings. **If you have already completed and returned your survey form, please accept our sincere thanks. If not, could you please complete and return the survey to Cansult as soon as possible.**

Your response is important. Your household has been selected to be part of this survey in order to estimate the parking needs of buildings that are similar to yours. If you have not yet received the questionnaire or have misplaced it, please call 905-470-2010, ext. 214 and Cansult will be happy to send you another one.

Thank you for your contribution to this study,

Ted Tyndorf, Chief Planner and Executive Director
City Planning

March 15, 2006

To thehousehold or the Current Occupant:

RE: Residential Parking Survey - 2006

Three weeks ago your household should have received a letter from Cansult Limited that included a short Residential Parking Survey. The letter introduced the survey and asked you to complete the form and return it to Cansult, the firm retained to conduct the survey for the City. As of today, Cansult has not received your completed questionnaire.

If you have already completed the survey and sent it back to Cansult, please accept our thanks and ignore this letter. If not, completing this survey will take only a few minutes of your time and provide the City with important information that is needed to update current parking requirements for apartments and condominiums similar to yours. Please answer all the questions as accurately as possible and return the questionnaire in the postage paid envelope provided.

In the event that your questionnaire has been discarded or misplaced, a replacement is enclosed. If you need any assistance to complete the survey form, please call David Crowley, at Cansult Limited (905 470 2010, Ext 202) or Greg Stewart at City Planning (416 392 2691).

Your assistance in completing this survey is critical to the success of this study. Thank you for your important contribution.

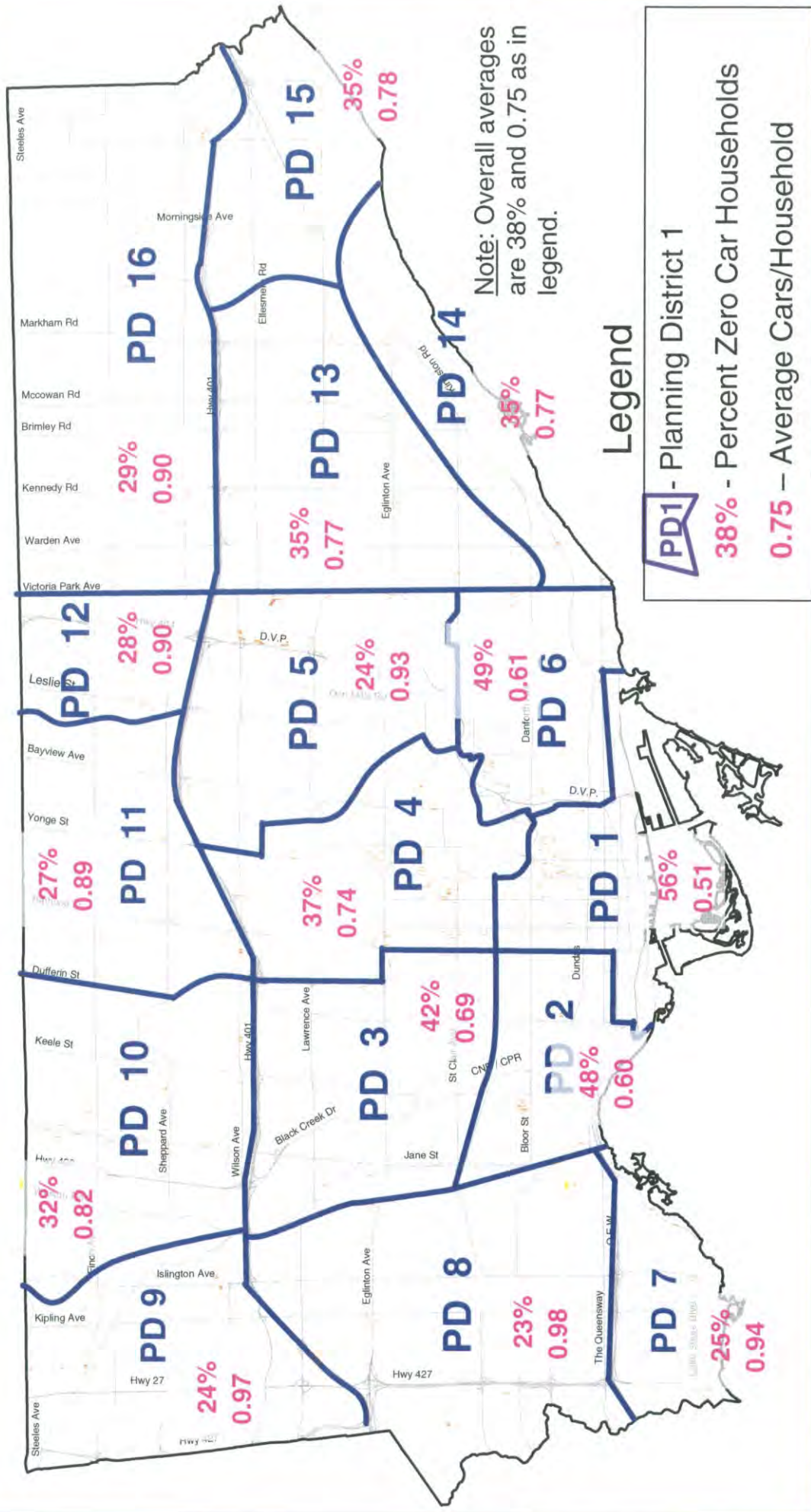


Ted Tyndorf
Chief Planner and Executive Director
City Planning Division

APPENDIX B:

**Summary of 2001 Transportation Toronto Survey Auto Ownership Data for
City of Toronto Planning Districts**

Apartment Buildings Percent Zero Car Households & Average Auto Ownership Summary of 2001 TTS Results



2001 TTS DATA

APARTMENTS						
Planning Districts	Number of Vehicles per Household				Total Households	Average Vehicles/ HH
	0	1	2	3+		
PD1	39493	27587	3821	231	71132	0.51
PD2	18095	16296	2761	212	37364	0.60
PD3	17484	20148	3927	215	41810	0.69
PD4	20733	29952	5022	463	56170	0.74
PD5	6695	16830	3971	430	27926	0.93
PD6	16235	14460	2498	270	33463	0.61
PD7	3263	7410	2252	116	13041	0.94
PD8	7274	18798	5333	601	32006	0.98
PD9	2993	6906	2057	309	12265	0.97
PD10	8022	13371	3039	311	24743	0.82
PD11	8621	18137	4328	340	31426	0.89
PD12	3598	6948	2037	168	12751	0.90
PD13	12914	19614	3807	399	36734	0.77
PD14	3488	5448	1141	42	10119	0.78
PD15	2418	3719	773	45	6955	0.78
PD16	6991	12976	3993	331	24291	0.90
Total	178317	238601	50762	4519	472196	0.75

SORTED By Veh/HH		
Rank	Planning Districts	Average Veh/hh
1	PD1	0.51
2	PD2	0.60
3	PD6	0.61
4	PD3	0.69
5	PD4	0.74
6	PD13	0.77
7	PD14	0.78
8	PD15	0.78
9	PD10	0.82
10	PD11	0.89
11	PD16	0.90
12	PD12	0.90
13	PD5	0.93
14	PD7	0.94
15	PD9	0.97
16	PD8	0.98

TOWNHOUSES						
Planning Districts	Number of Vehicles per Household				Total Households	Average Vehicles/ HH
	0	1	2	3+		
PD1	1131	1794	516	62	3503	0.86
PD2	478	988	285	45	1796	0.94
PD3	343	862	246	30	1481	0.98
PD4	144	669	397	60	1270	1.29
PD5	188	1008	594	188	1978	1.40
PD6	531	1224	240	79	2074	0.94
PD7	67	353	299	77	796	1.48
PD8	157	791	654	206	1808	1.50
PD9	181	712	427	55	1375	1.26
PD10	358	1164	469	135	2126	1.18
PD11	76	1003	481	71	1631	1.34
PD12	413	1766	994	147	3320	1.26
PD13	218	741	396	12	1367	1.15
PD14	40	334	167	41	582	1.36
PD15	131	806	465	124	1526	1.38
PD16	542	3178	1818	405	5943	1.35
Total	4998	17394	8450	1737	32576	1.21

SORTED By Veh/HH		
Rank	Planning Districts	Average Veh/hh
1	PD1	0.86
2	PD6	0.94
3	PD2	0.94
4	PD3	0.98
5	PD13	1.15
6	PD10	1.18
7	PD9	1.26
8	PD12	1.26
9	PD4	1.29
10	PD11	1.34
11	PD16	1.35
12	PD14	1.36
13	PD15	1.38
14	PD5	1.40
15	PD7	1.48
16	PD8	1.50

2001 TTS DATA

APARTMENTS (% of # of Vehicles)						
Planning Districts	Number of Vehicles per Household				Total Household	Average Vehicles/ HH
	0	1	2	3+		
PD1	56%	39%	5%	0%	100%	0.51
PD2	48%	44%	7%	1%	100%	0.60
PD3	42%	48%	9%	1%	100%	0.69
PD4	37%	53%	9%	1%	100%	0.74
PD5	24%	60%	14%	2%	100%	0.93
PD6	49%	43%	7%	1%	100%	0.61
PD7	25%	57%	17%	1%	100%	0.94
PD8	23%	59%	17%	2%	100%	0.98
PD9	24%	56%	17%	3%	100%	0.97
PD10	32%	54%	12%	1%	100%	0.82
PD11	27%	58%	14%	1%	100%	0.89
PD12	28%	54%	16%	1%	100%	0.90
PD13	35%	53%	10%	1%	100%	0.77
PD14	34%	54%	11%	0%	100%	0.78
PD15	35%	53%	11%	1%	100%	0.78
PD16	29%	53%	16%	1%	100%	0.90
Total	38%	51%	11%	1%	100%	

SORTED By % Zero Veh/HH		
Rank	Districts	% Zero Veh/hh
1	PD1	56%
2	PD6	49%
3	PD2	48%
4	PD3	42%
5	PD4	37%
6	PD13	35%
7	PD15	35%
8	PD14	34%
9	PD10	32%
10	PD16	29%
11	PD12	28%
12	PD11	27%
13	PD7	25%
14	PD9	24%
15	PD5	24%
16	PD8	23%

TOWNHOUSES (% of # of Vehicles)						
Planning Districts	Number of Vehicles per Household				Total Household	Average Vehicles/ HH
	0	1	2	3+		
PD1	32%	51%	15%	2%	100%	0.86
PD2	27%	55%	16%	3%	100%	0.94
PD3	23%	58%	17%	2%	100%	0.98
PD4	11%	53%	31%	5%	100%	1.29
PD5	10%	51%	30%	10%	100%	1.40
PD6	26%	59%	12%	4%	100%	0.94
PD7	8%	44%	38%	10%	100%	1.48
PD8	9%	44%	36%	11%	100%	1.50
PD9	13%	52%	31%	4%	100%	1.26
PD10	17%	55%	22%	6%	100%	1.18
PD11	5%	61%	29%	4%	100%	1.34
PD12	12%	53%	30%	4%	100%	1.26
PD13	16%	54%	29%	1%	100%	1.15
PD14	7%	57%	29%	7%	100%	1.36
PD15	9%	53%	30%	8%	100%	1.38
PD16	9%	53%	31%	7%	100%	1.35
Total	15%	53%	26%	5%	100%	

SORTED By % Zero Veh/HH		
Rank	Districts	% Zero Veh/hh
1	PD1	32%
2	PD2	27%
3	PD6	26%
4	PD3	23%
5	PD10	17%
6	PD13	16%
7	PD9	13%
8	PD12	12%
9	PD4	11%
10	PD5	10%
11	PD16	9%
12	PD8	9%
13	PD15	9%
14	PD7	8%
15	PD14	7%
16	PD11	5%

APPENDIX C:

**Distribution of Vehicle Ownership vs Unit Size
for Condo and Rental Apartments by Various Location Categories**

Distribution of Number of Vehicles (Condos in the Downtown Core)

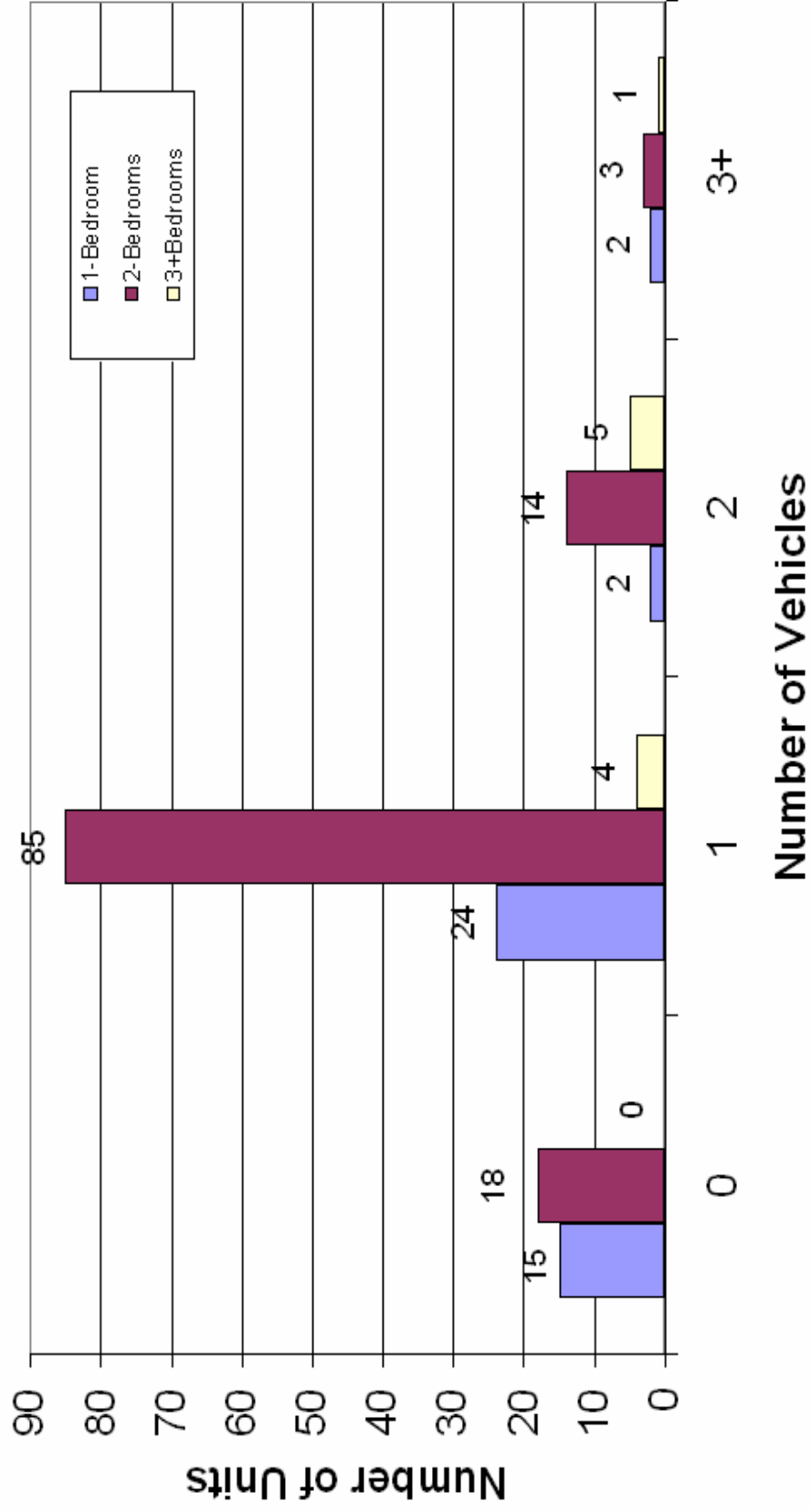


FIGURE No. C-C1



**Distribution of Number of Vehicles
Condos in the Downtown Core (Location Category 1)**

Distribution of Number of Vehicles (Condos in the Downtown & Central Waterfront)

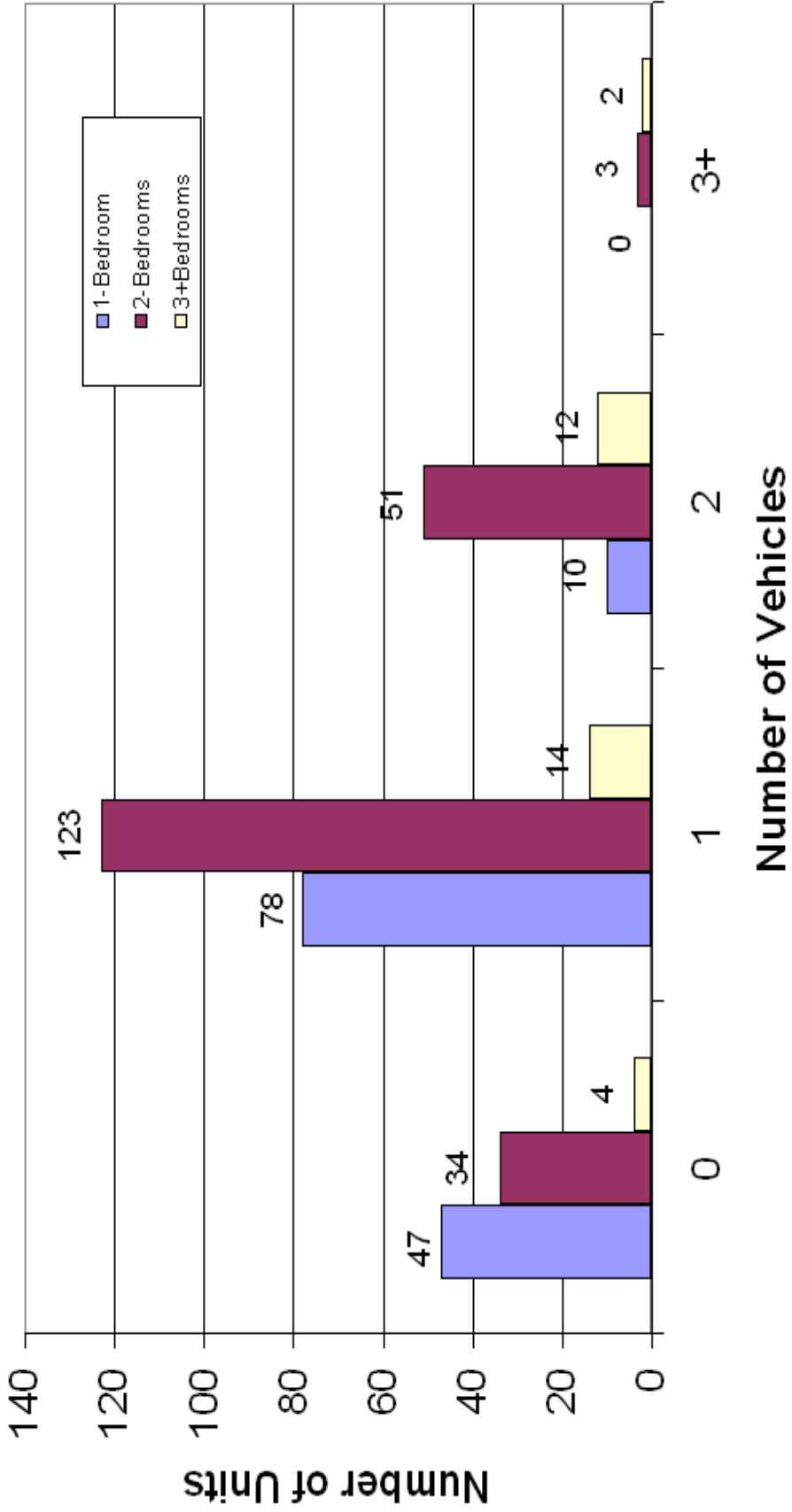


FIGURE No. C-C2



**Distribution of Number of Vehicles
Condos in Downtown and Central Waterfront (Category 2)**

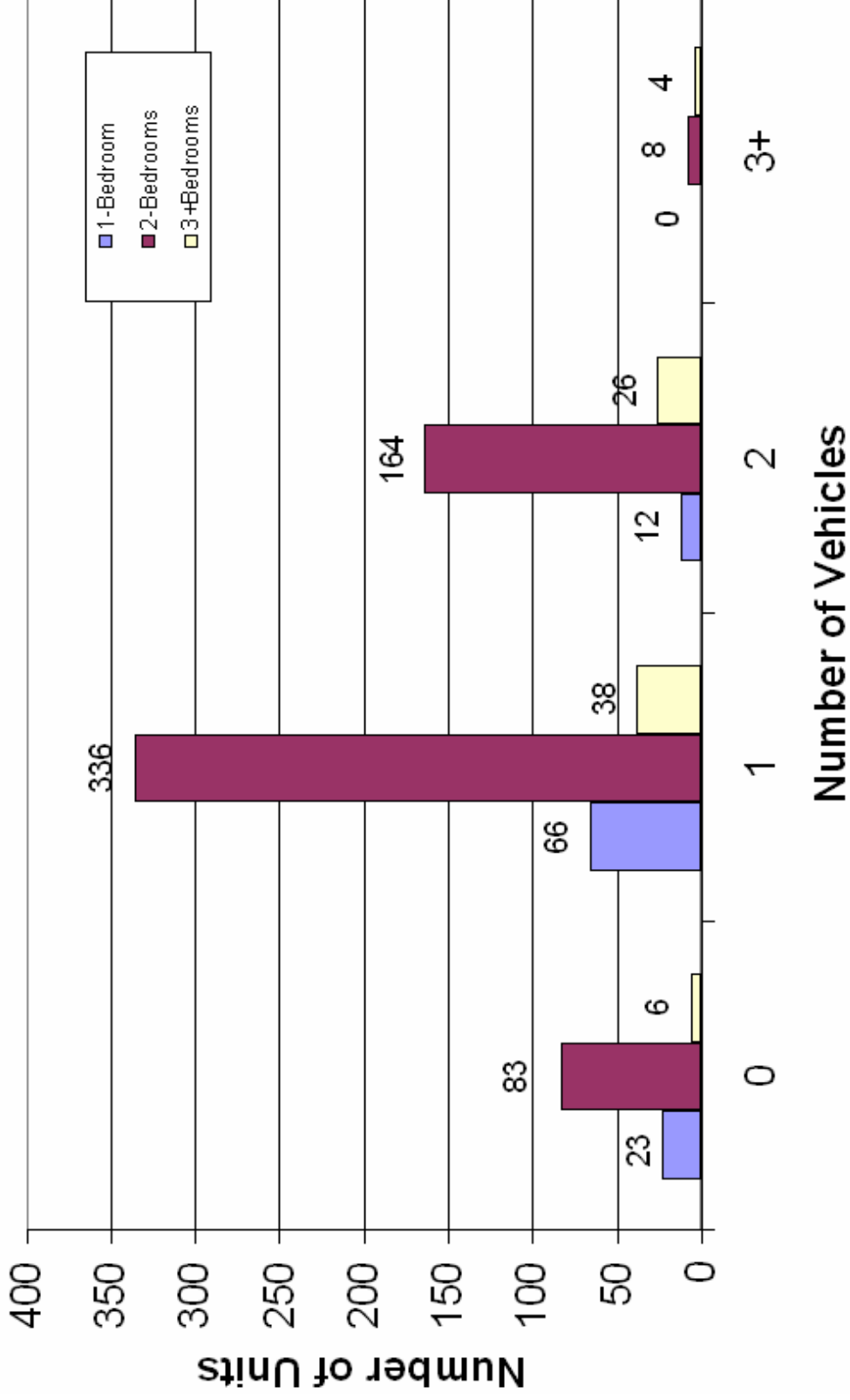


FIGURE No. C-C3



Distribution of Number of Vehicles
Condos in Centres & Avenues on the Subway (Category 3)

Distribution of Number of Vehicles (Condos on Avenues well served by Surface Transit)

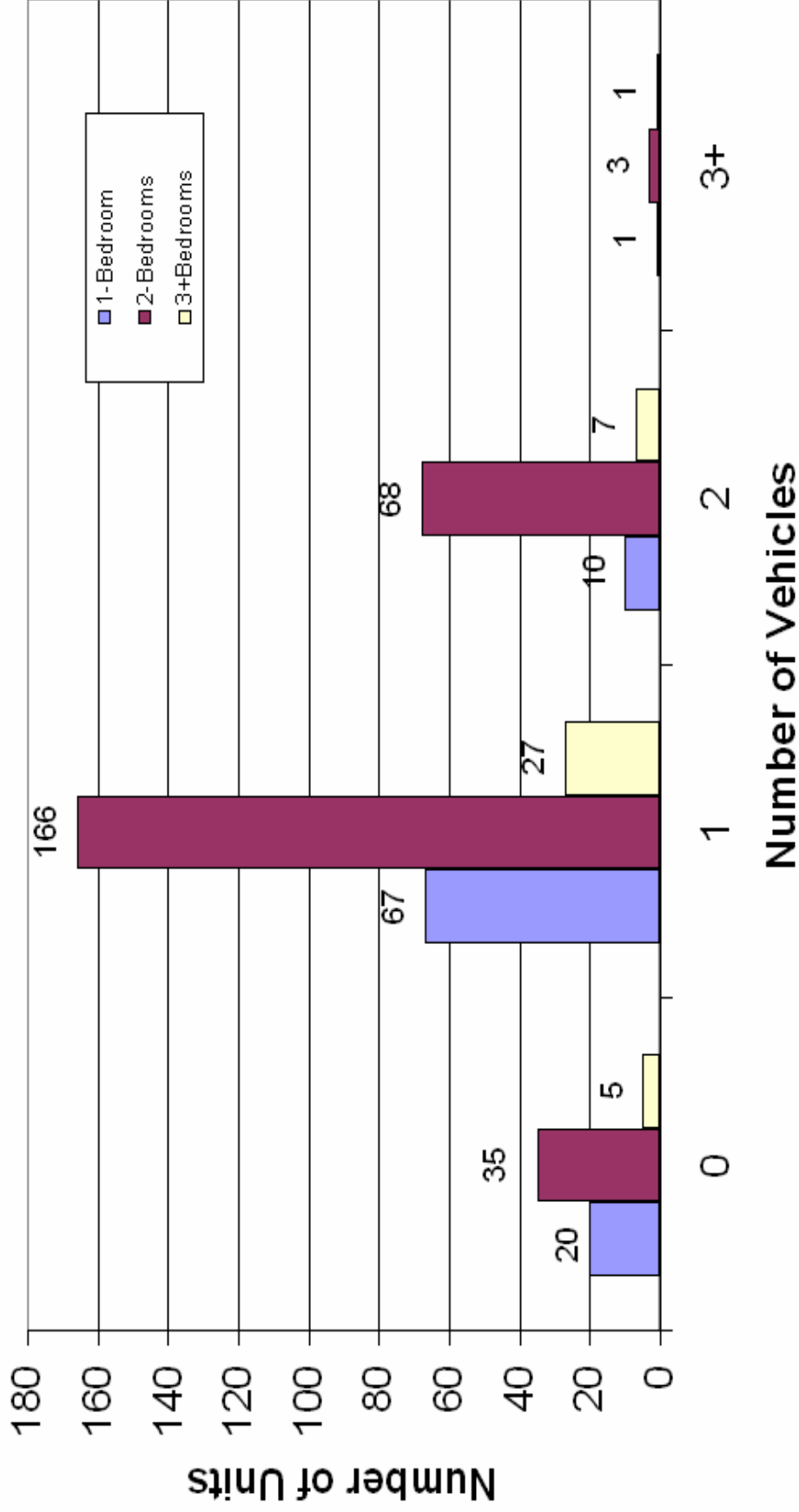


FIGURE No. C-C4

**Distribution of Number of Vehicles
Condos on Avenues well served by Surface Transit (Category 4)**



Distribution of Number of Vehicles (Condos in the Rest of the City)

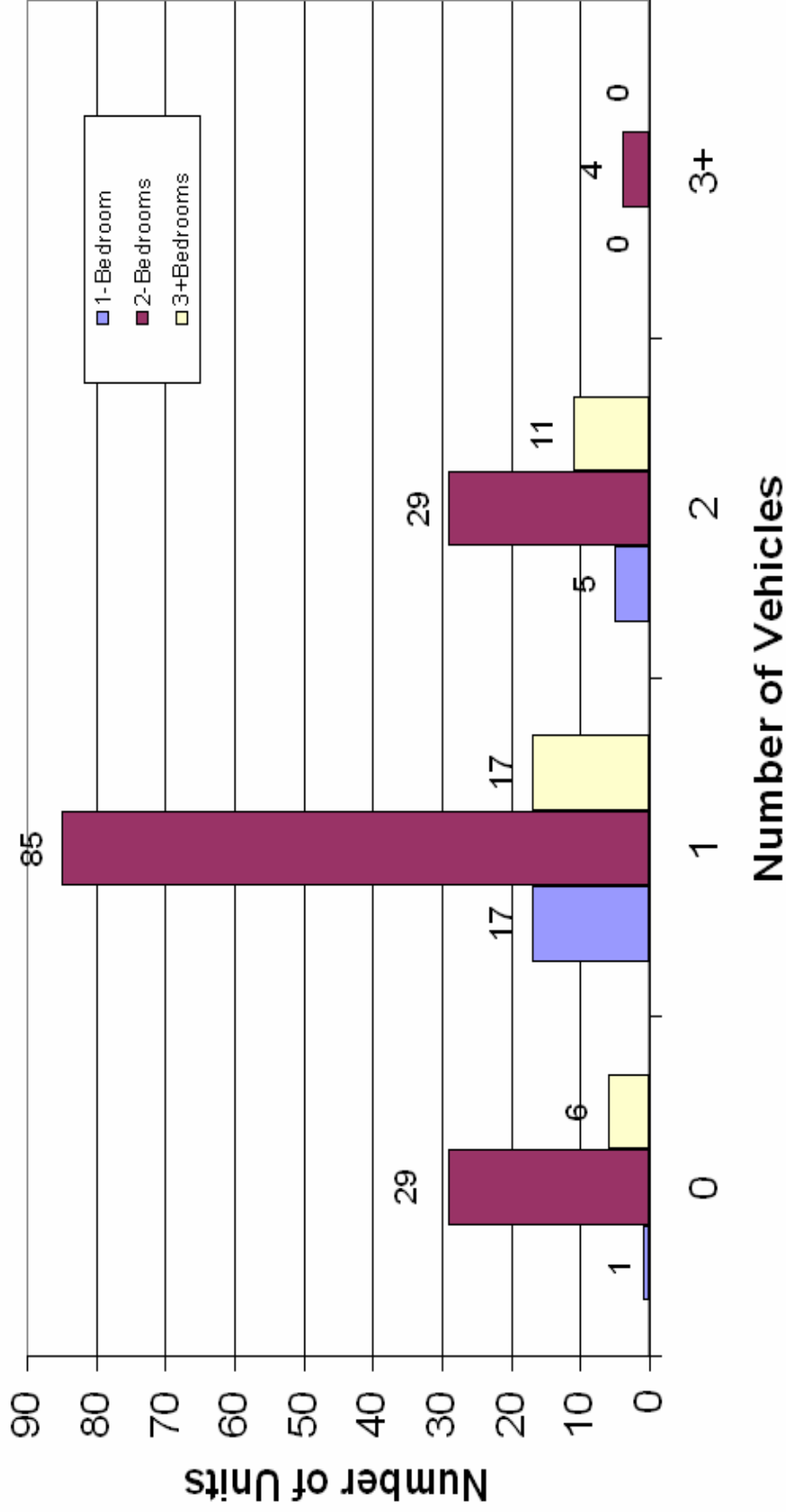


FIGURE No. C-C5

**Distribution of Number of Vehicles
Condos in the Rest of the City (Category 5)**



Distribution of Number of Vehicles (Rental Apartments in the Downtown Core)

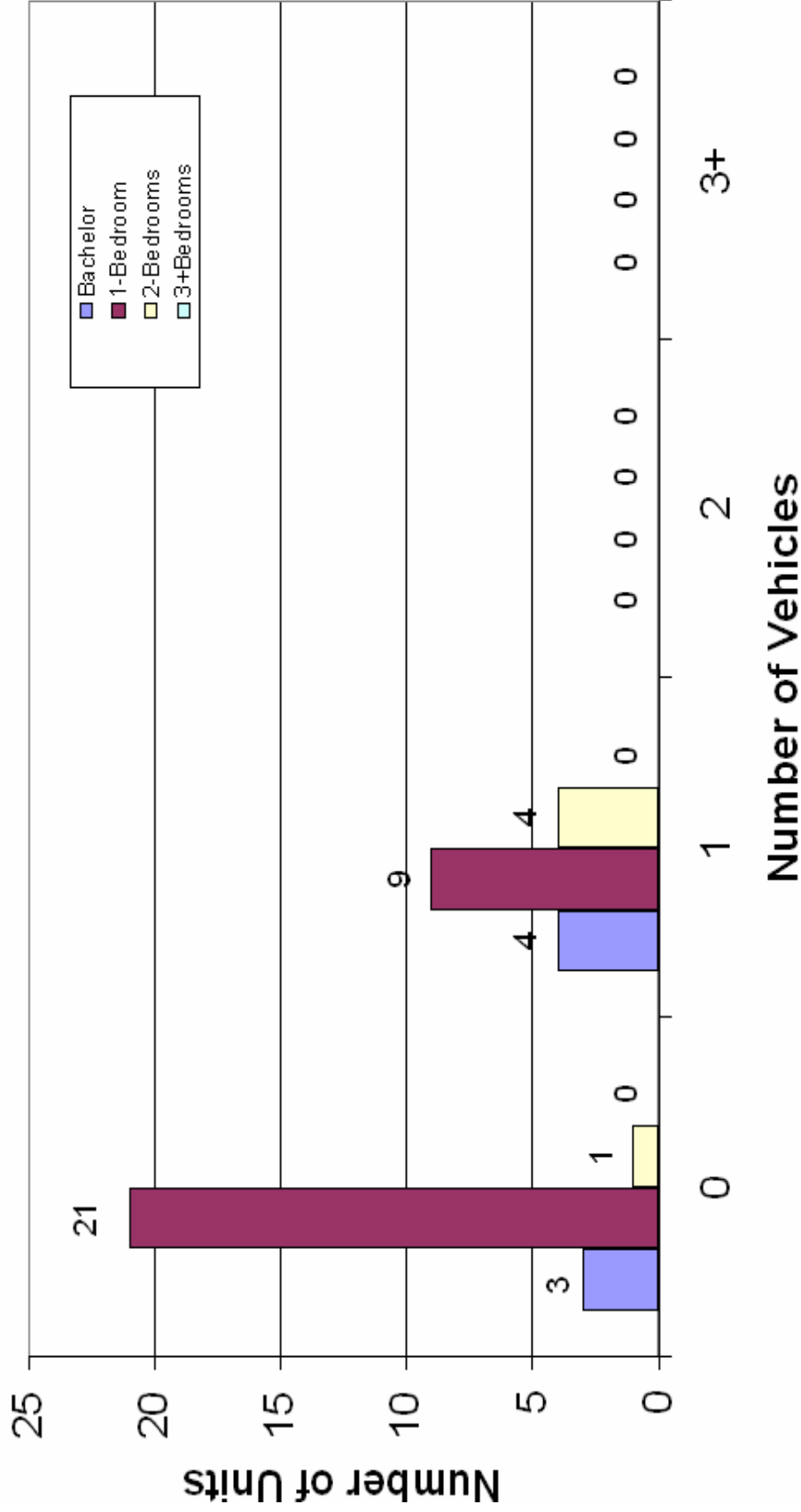


FIGURE No. C-A1

**Distribution of Number of Vehicles
Rental Apartments in the Downtown Core (Location Category 1)**



Distribution of Number of Vehicles (Rental Apartments in the Downtown & Central Waterfront)

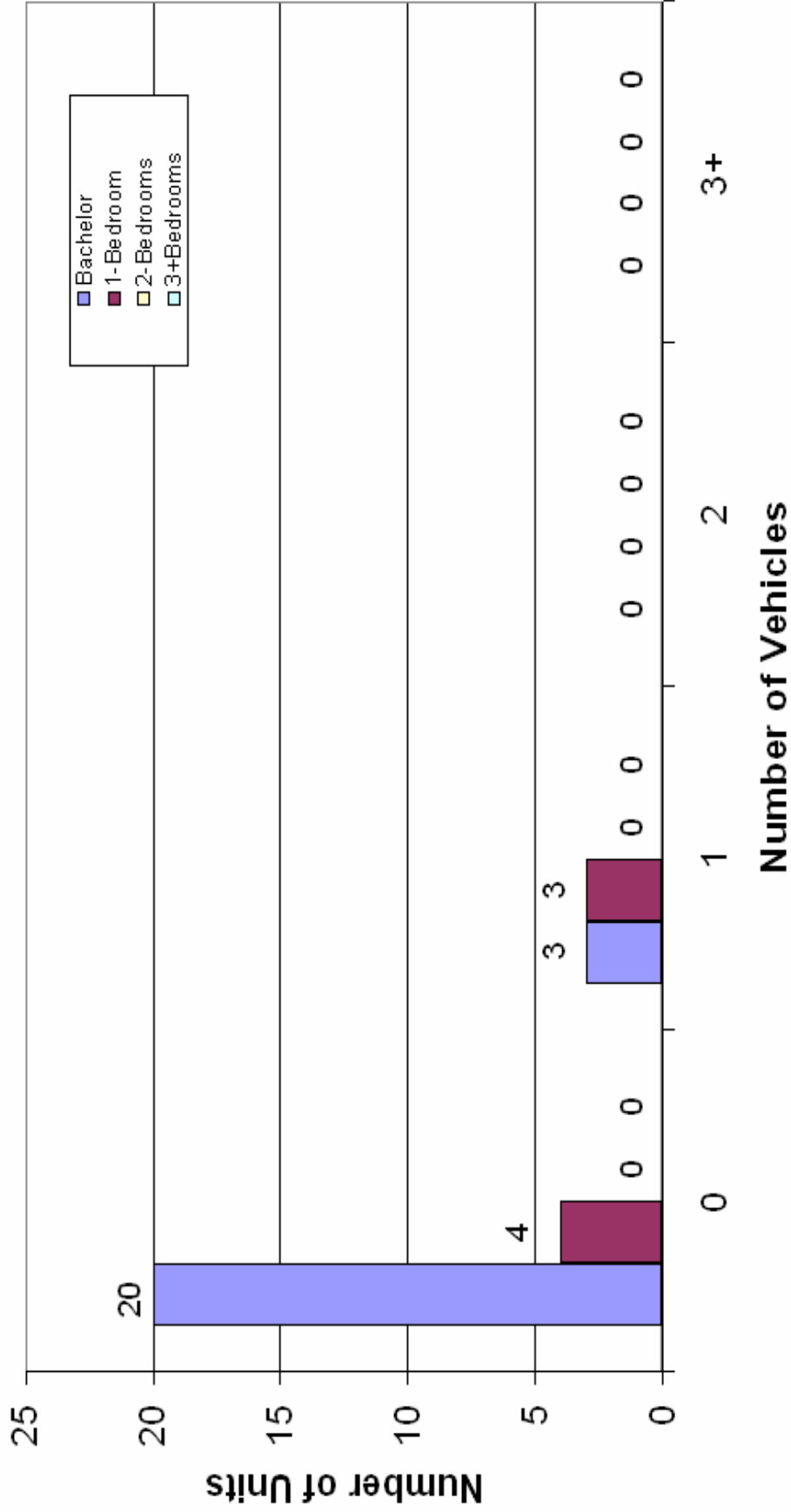


FIGURE No. C-A2

**Distribution of Number of Vehicles
Rental Apartments in Downtown & Central Waterfront (Location Category 2)**



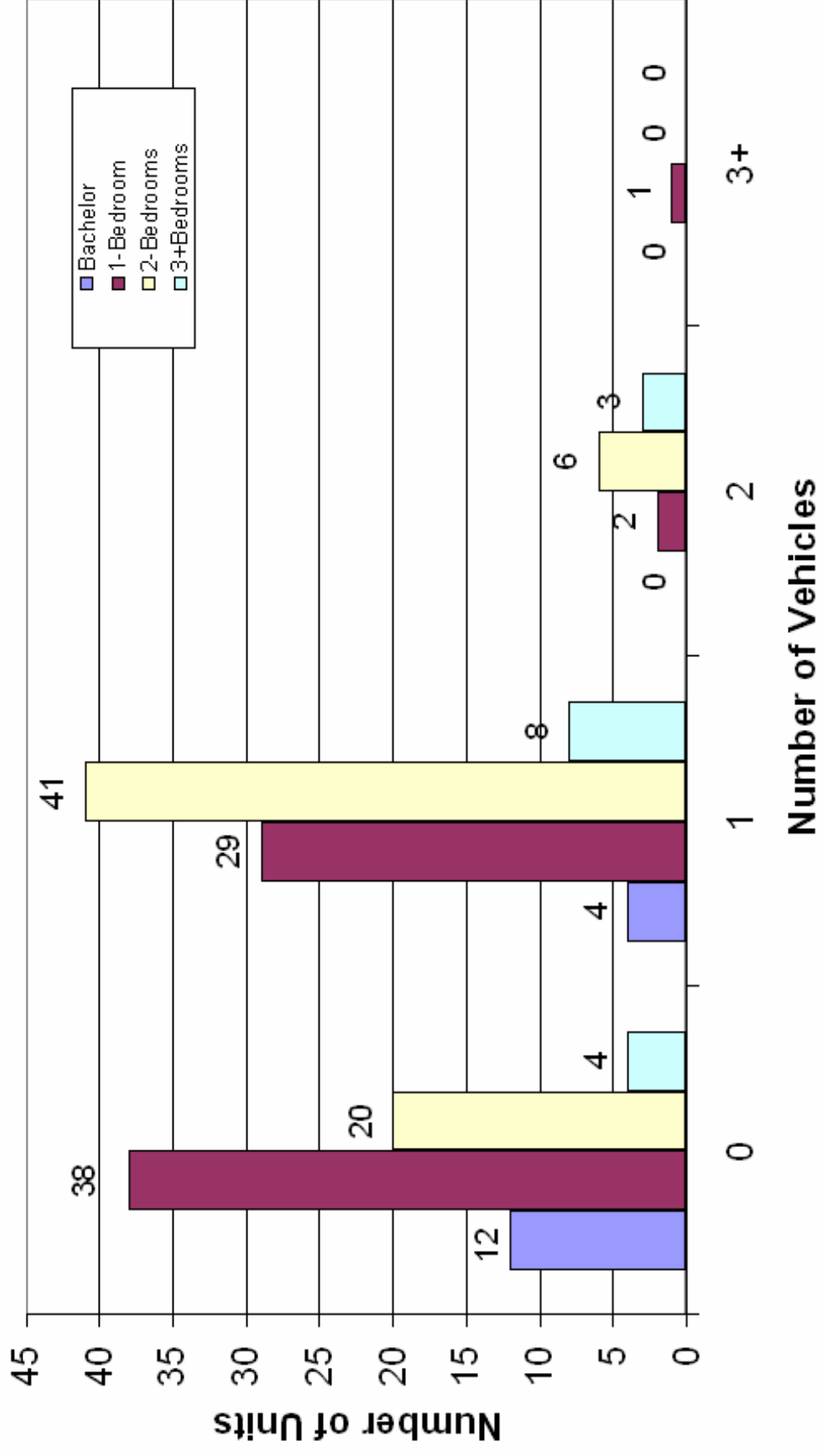


FIGURE No. C-A3



Distribution of Number of Vehicles
Rental Apartments in Centres & Avenues on the Subway (Category 3)

Distribution of Number of Vehicles (Rental Apartments on Avenues served well by Surface Transit)

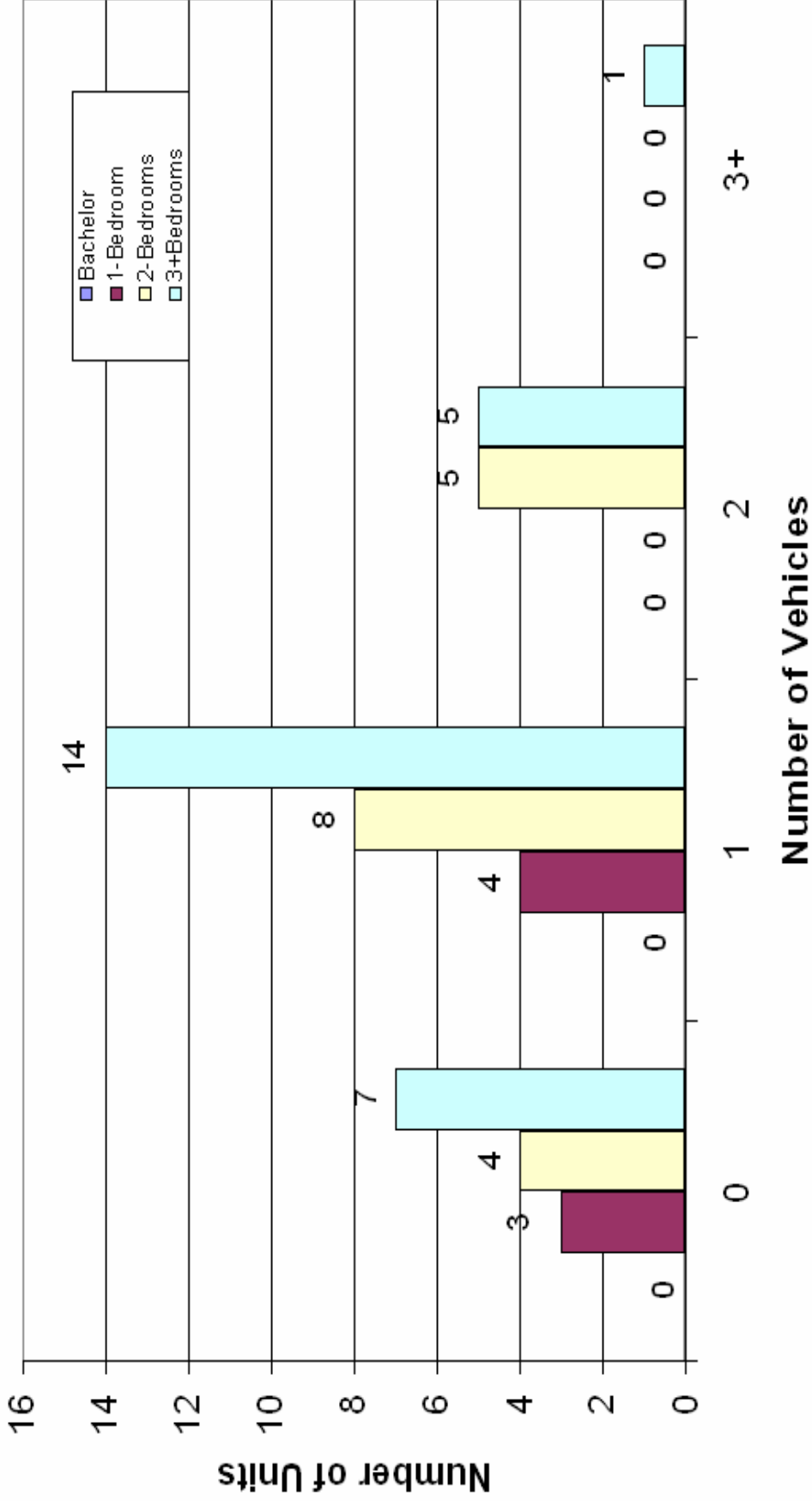


FIGURE No. C-A4

Distribution of Number of Vehicles
Rental Apartments on Avenues well served by Surface Transit (Category 4)



Distribution of Number of Vehicles (Rental Apartments in the Rest of City)

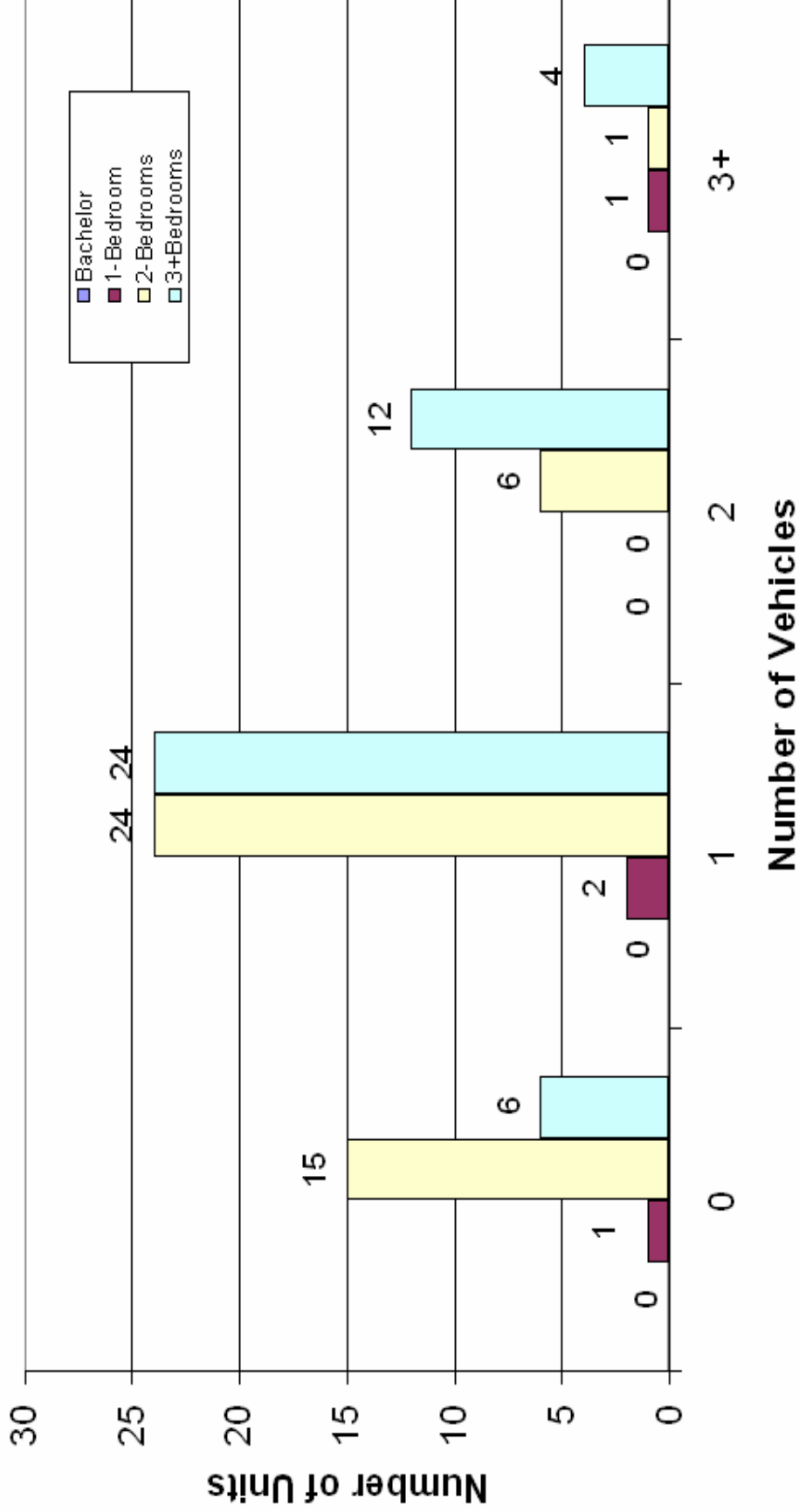


FIGURE No. C-A5



**Distribution of Number of Vehicles
Rental Apartments in the Rest of the City (Category 5)**