

9. Future Warranted Space

In this section, we have evaluated the market opportunity for food store retail (FSR), non-food store retail (NFSR), and selected other retail and service space in the City of Vaughan. Our estimates of warranted space for FSR and NFSR have been based on a residual analysis approach. This approach is considered appropriate for long term land use planning as it does not encroach on the sales of existing stores in Vaughan to support additional space.

The following summarizes our methodology used to calculate the warranted FSR and NFSR space in the City:

1. The existing expenditures made by Vaughan residents in the City or 'Vaughan Share' were estimated based on the results of our consumer telephone survey.
2. The future Vaughan market shares were forecasted over the study period (2009 to 2031) based on an estimate of the opportunity for recapture of expenditures currently leaving the community and our knowledge of existing applications.
3. By applying the Vaughan shares to the available expenditure potential determined in Section 7 of this report, the Vaughan expenditure potential from Vaughan residents was calculated.
4. The residual potential available or the net additional expenditure growth over the study area period was calculated.
5. Inflow sales were added to the residual potential to calculate the total additional sales volume available to new Vaughan retail faculties. Inflow has been estimated based on our assumption of how much of the existing and proposed space is and will be supported by non-Vaughan residents.
6. The warranted FSR and NFSR space was then calculated based on expected sales performance levels applied to the total sales volume available.

The following sections summarize the results of our warranted space analysis, which can be considered as a general guideline in determining future space needs.

9.1 Food Store Retail

Food store retail includes supermarkets, grocery stores, convenience stores and specialty food stores. Based on our expenditure calculations for Trade Area residents, as detailed in Section 7 of this report, we have estimated the future FSR space warranted in the City of Vaughan. This has included estimating the City of Vaughan

market shares, determining the residual or additional expenditure potential available in the market from Trade Area residents, evaluating the existing sales performance level of food stores in Vaughan, and estimating inflow sales. The following summarizes the results of our analysis.

9.1.1 City of Vaughan Share

The Vaughan share refers to the food store retail expenditures of Trade Area residents made in the City of Vaughan. Based on the results from the telephone survey, approximately 85% of Primary Zone residents' food store expenditures are currently made in the City. These shares are representative of the localized or convenience nature of food store expenditures. Recognizing the convenience nature of food expenditures, for the purpose of our analysis, the Vaughan shares have been held constant over the study period.

9.1.2 Residual Expenditure Potential from Trade Area Residents

As indicated in Figure 9.1, based on the Vaughan shares applied to the total food store expenditures for each Trade Area zone, the current share of Trade Area residents' food store expenditures has been estimated at \$517.4 million in 2009. With future market growth, this share is forecast to increase to \$871.5 million by 2031; a growth of \$354.1 million. This increase is referred to as the residual potential which represents the additional market potential available from Trade Area residents to both existing and new food stores in the City of Vaughan derived from population increases, real growth, and recapture opportunities.

9.1.3 Market Opportunity

Based on the residual potential, additional sales transfers from existing food stores in Vaughan, inflow and average sales performance levels, we have estimated the total additional food store space that could be supported in Vaughan.

Based on our licence plate surveys, we have estimated inflow at 20% for existing and future food store space in Vaughan. Within the City there is currently 1,349,800 square feet of FSR space. Based on a sales inflow of 20%, the average sales per square foot for food stores is \$479.

Based on the residual expenditures available from Vaughan residents, and estimated inflow sales, some 110,000 square feet of new FSR space is warranted in the City by 2011. This would increase to 983,600 at the same sales levels, or to 804,800 at a higher \$550 per square foot sales level (expressed in 2009 dollars). This warranted space excludes any sales transfer opportunities from existing stores in Vaughan. Based on these assumptions, the City can accommodate between 983,600 and 804,800 square feet of new FSR space by 2031.

Figure 9.1

FSR ANALYSIS

2009 Dollars	2009	2011	2016	2021	2026	2031
Vaughan						
FSR Expenditures (\$Millions)	\$ 608.7	\$ 655.3	\$ 751.0	\$ 842.7	\$ 932.1	\$ 1,025.3
Vaughan Share %(1)	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
Vaughan Share (\$ Millions)	\$ 517.4	\$ 557.0	\$ 638.4	\$ 716.3	\$ 792.3	\$ 871.5
Residual Potential		\$ 39.6	\$ 121.0	\$ 198.9	\$ 274.9	\$ 354.1
TOTAL TRADE AREA						
Existing FSR (1,349,800 sq.ft.) Sales/Sq.Ft. Levels						
(Including average Inflow of 20%):						
	\$ 479					
WARRANTED ADDITIONAL SPACE - Vaughan(including inflow, excluding sales transfers)						
Additional Residual Potential Available		\$ 39.6	\$ 121.0	\$ 198.9	\$ 274.9	\$ 354.1
Plus Inflow Sales @ 20.0% (2)		9.90	30.3	49.7	68.7	88.5
TOTAL ADDITIONAL SALES POTENTIAL AVAILABLE		\$ 49.5	\$ 151.3	\$ 248.6	\$ 343.6	\$ 442.6
WARRANTED ADDITIONAL SQUARE FEET (3)						
@ \$450 per sq. ft.		110,000	336,100	552,500	763,600	983,600
@ \$475 per sq. ft.		104,200	318,400	523,400	723,400	931,900
@ \$500 per sq. ft.		99,000	302,500	497,300	687,300	885,300
@ \$525 per sq. ft.		94,300	288,100	473,600	654,500	843,100
@ \$550 per sq. ft.		90,000	275,000	452,000	624,800	804,800

SOURCE: urbanMetrics inc.

1) urbanmetrics inc. estimates based on telephone survey results.

2) urbanMetrics estimate.

9.2 Non-Food Store Retail

This section examines the market opportunity for additional non-food store retail space in the City of Vaughan. This includes a range of stores selling department store type merchandise (e.g. general merchandise stores, apparel stores, and home furnishings), pharmacies & personal care stores, and building and outdoor supply stores.

9.2.1 City of Vaughan and Secondary Trade Areas Share

As indicated in Figure 9.2, based on the results of the consumer telephone survey, we have estimated that about 74.4% of City of Vaughan residents' NFSR expenditures are currently made in the City of Vaughan. In the Secondary Trade Areas ('STA'), the City of Vaughan share has been estimated at 7.7% in STA – North East, 3.1% in STA – West, and 2.8% in STA – South. As we will discuss in Section 10 of this report, there are a number of significant retail developments that are under construction or proposed in the City of Vaughan. There are also significant developments being proposed within Vaughan's Trade area in neighbouring municipalities. Although these developments are not discussed in detail it is anticipated that they, as well as the developments being proposed within Vaughan, will influence the Vaughan market share for both Vaughan and STA residents.

Overall, the Vaughan capture rates of Vaughan residents' expenditures are expected to increase over the study period due to the addition of new NFSR stores in Vaughan. In the STA, new retail opportunities in closer proximity will likely temper the ability of new retail facilities in Vaughan to capture additional sales opportunities from these residents.

Based on our estimates of future Vaughan shares, the Vaughan share of total NFSR expenditures has been estimated at \$1,546.2 million in 2009 or an average of 12.2%. This is forecast to increase to \$2,831.9 million by 2031, representing an average of about 13.8% of Vaughan and Secondary Trade Area residents' expenditures.

9.2.2 Residual Expenditure Potential

As indicated in Figure 9.3, the residual expenditure available from Vaughan and STA residents for existing and new NFSR space in Vaughan has been estimated at \$128.9 million in 2011, increasing to \$1,285.7 million by 2031 (expressed in 2009 dollars).

9.2.3 Market Opportunity for NFSR Space

Based on the residual sales available from Trade Area residents, sales transfers and inflow, we have estimated the market opportunity for additional NFSR space in Vaughan.

There is currently approximately 7,067,600 square feet of NFSR space in Vaughan achieving an average sales performance level of \$273 per square foot (assuming an average inflow of 20%). It must however be recognized that sales performance levels can vary significantly by store type as indicated in the following table.

Figure 9.2:
Average Sales Per Square Foot – Chain NFSR Stores, Canada, 2006 & 2007

Trade Group	2006	2007
Beer, Wine and Liquor Stores	969	1124
Clothing Stores	345	307
Computer and Software Stores	690	1083
Convenience and Specialty Food Stores	508	528
Department Stores & Other General Merchandise Stores	318	320
Furniture stores	221	242
Home Centres and Hardware Stores	349	356
Home Electronics and Appliance Stores	786	915
Home Furnishings Stores	200	216
Miscellaneous Store Retailers	234	223
Pharmacies and Personal Care Stores	638	557
Shoe, Jewellery and Luggage Stores	367	408
Specialized Building Materials and Garden Stores	193	199
Sporting Goods, Hobby, Book and Music Stores	258	303
Supermarkets	520	569
Total	391	403

Source: Statistics Canada, Annual Retail Trade Survey

Based on our analysis, the total amount of warranted retail space in Vaughan by 2031 has been estimated at between 5.2 million square feet (at an average of \$300/sq.ft.) and 3.9 million square feet (at an average of \$400/sq.ft.).

Figure 9.3

NON-FOOD STORE RETAIL (NFSR) ANALYSIS

2009 Dollars	2009	2011	2016	2021	2026	2031
Vaughan						
Non-Food Store Retail (NFSR) (\$Millions)	\$ 1,544.7	\$ 1,695.9	\$ 2,035.0	\$ 2,380.9	\$ 2,736.7	\$ 3,117.3
Estimated Vaughan Share %(1)	74.4%	74.5%	74.6%	74.7%	74.9%	75.0%
Estimated Vaughan Share (\$ Millions)	\$ 1,149.3	\$ 1,262.7	\$ 1,517.9	\$ 1,779.2	\$ 2,048.8	\$ 2,338.0
Residual Potential		\$ 113.4	\$ 368.6	\$ 629.9	\$ 899.5	\$ 1,188.7
North East Zone						
Non-Food Store Retail (NFSR) (\$Millions)	\$ 1,629.3	\$ 1,758.4	\$ 2,072.7	\$ 2,374.4	\$ 2,641.8	\$ 2,863.4
Estimated Vaughan Share %(1)	7.7%	7.5%	6.8%	6.2%	5.6%	5.0%
Estimated Vaughan Share (\$ Millions)	\$ 125.5	\$ 131.1	\$ 141.8	\$ 147.9	\$ 148.3	\$ 143.2
Residual		\$ 5.6	\$ 16.3	\$ 22.4	\$ 22.8	\$ 17.7
West Zone						
Non-Food Store Retail (NFSR) (\$Millions)	\$ 1,674.2	\$ 1,819.8	\$ 2,067.2	\$ 2,315.8	\$ 2,587.9	\$ 2,812.9
Estimated Vaughan Share %(1)	3.1%	3.0%	2.8%	2.5%	2.3%	2.0%
Estimated Vaughan Share (\$ Millions)	\$ 51.9	\$ 54.6	\$ 56.8	\$ 57.9	\$ 58.2	\$ 56.3
Residual		\$ 2.7	\$ 4.9	\$ 6.0	\$ 6.3	\$ 4.4
South Zone						
Non-Food Store Retail (NFSR) (\$Millions)	\$ 7,838.6	\$ 8,175.1	\$ 9,039.9	\$ 9,941.5	\$ 10,845.0	\$ 11,779.6
Estimated Vaughan Share %(1)	2.8%	2.8%	2.7%	2.6%	2.6%	2.5%
Estimated Vaughan Share (\$ Millions)	\$ 219.5	\$ 226.7	\$ 244.5	\$ 262.1	\$ 278.5	\$ 294.5
Residual		\$ 7.2	\$ 25.0	\$ 42.6	\$ 59.0	\$ 75.0
TOTAL TRADE AREA						
Total Non-Food Store Retail (NFSR) Expenditures (\$Millions)	\$ 12,686.8	\$ 13,449.2	\$ 15,214.8	\$ 17,012.6	\$ 18,811.4	\$ 20,573.2
Total Estimated Vaughan Share (\$Millions)	\$ 1,546.2	\$ 1,675.1	\$ 1,961.0	\$ 2,247.1	\$ 2,533.8	\$ 2,831.9
Estimated Vaughan Share %	12.2%	12.5%	12.9%	13.2%	13.5%	13.8%
Existing Sales from Trade Area Residents (\$Millions)	\$ 1,546.2	\$ 1,546.2	\$ 1,546.2	\$ 1,546.2	\$ 1,546.2	\$ 1,546.2
Residual Potential (\$Millions)		\$ 128.9	\$ 414.8	\$ 700.9	\$ 987.6	\$ 1,285.7

Existing Non-Food Store Retail (NFSR) Stores(7,067,550 sq.ft.) Sales/Sq.Ft. Levels (Including average Inflow of 20%):	\$ 273
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WARRANTED ADDITIONAL Non-Food Store Retail (NFSR) SPACE - Vaughan(including inflow, excluding sales transfers)						
Additional Residual Potential Available		\$ 128.9	\$ 414.8	\$ 700.9	\$ 987.6	\$ 1,285.7
Plus Inflow Sales @ 20% decreasing to 17.5% by 2031 (2)		\$ 32.2	\$ 99.7	\$ 161.7	\$ 218.6	\$ 272.7
TOTAL ADDITIONAL SALES POTENTIAL AVAILABLE		\$ 161.1	\$ 514.5	\$ 862.6	\$ 1,206.2	\$ 1,558.4
WARRANTED ADDITIONAL SQUARE FEET (3)						
@ \$300 per sq. ft.		537,100	1,714,900	2,875,500	4,020,800	5,194,700
@ \$325 per sq. ft.		495,800	1,583,000	2,654,300	3,711,500	4,795,100
@ \$350 per sq. ft.		460,400	1,469,900	2,464,700	3,446,400	4,452,600
@ \$375 per sq. ft.		429,700	1,371,900	2,300,400	3,216,600	4,155,800
@ \$400 per sq. ft.		402,800	1,286,200	2,156,600	3,015,600	3,896,000

SOURCE: urbanMetrics inc.

1) urbanmetrics inc. estimates based on telephone survey results.

2) urbanMetrics estimate.

9.3 Other Selected Retail and Service Space Potential

The following section examines the future demand for other selected retail and service space in the City of Vaughan based on a per capita space ratio technique. The commercial categories analyzed in this manner generally do not lend themselves to an expenditure analysis and in some cases, data is not available or reliable. It should be recognized that this approach imposes a “generic” or “typical” set of market demand conditions on the current and future population of Vaughan. These conditions are based on existing service levels in the City and observations made in a variety of other market areas and, as such, cannot directly reflect special circumstances or characteristics such as income levels and regional or local preferences. For the purpose of our analysis we have assumed that outflow would equate to inflow.

The following retail and service space facilities are included in our analysis:

- Beer, Wine & Liquor Stores;
- Consumer Goods Rental;
- Cultural, Entertainment & Recreational Activities;
- Food Services & Drinking Places;
- Personal & Household Goods Repair & Maintenance;
- Personal Care Services;
- Caterers (including banquet halls);
- Civic and Social Organizations;
- Finance, Insurance and Real Estate;
- Health Care;
- Professional, Scientific, & Technical Services;
- Selected Educational Services; and
- Selected Office Administrative Services.

It should be noted that our analysis is based on our inventory of ground floor space and, therefore, our estimates for certain service uses can be considered conservative. These include local serving offices including, health care services, real estate agencies, travel agencies, accounting and legal offices, financial advisors, and similar establishments.

Within the City of Vaughan there is currently just over 5 million square feet of selected retail and service oriented space typically found in shopping centres, which equals 18.3 square feet per capita. Over the forecast period the total amount of this type of space is anticipated to increase due to population growth and increases in the space per capita ratios for various categories. It should be noted however that the space per capita ratios are expected to remain constant rather than increase, while the Consumer Goods Rental category is expected to decrease as a result of a decline in video rental establishments (which make up the majority of space in that category).

It is important to remember that our forecast cannot fully capture how the emergence of new retail trends or store formats will alter future per capita ratios, and therefore, flexibility and a realistic interpretation of these findings is required for the application of this approach. Based on our analysis, an additional 3,454,550 square feet of selected retail and service oriented space will be required in Vaughan by 2031.

Figure 9.4

Warranted Additional Selected Retail and Service Space in Vaughan (2009 to 2031)

		2009*	2011	2016	2021	2026	2031
POPULATION		276,062	294,232	329,082	360,589	389,663	418,826
Retail Category		Square Feet	Sq.ft./Capita	Square Feet	Square Feet	Square Feet	Square Feet
Beer, Wine & Liquor Stores Sum 1)		81,900	0.30	89,000	104,500	119,800	135,300
Commercial	Consumer Goods Rental	72,750	0.26	73,000	68,800	61,300	51,100
Services	Cultural, Entertainment & Recreational Activities 1)	859,700	3.11	934,600	1,096,500	1,257,700	1,419,800
	Food Services & Drinking Places 2)	1,429,550	5.18	1,523,600	1,704,100	1,867,300	2,017,800
	Personal & Household Goods Repair & Maintenance 1)	47,700	0.17	51,900	60,800	69,800	78,800
	Personal Care Services 1)	533,200	1.93	579,700	680,100	780,000	880,600
	Caterers (includes banquet halls 2)	359,550	1.30	383,200	428,600	469,600	507,500
	Civic and Social Organizations 2)	36,750	0.13	39,200	43,800	48,000	51,900
Commercial Services Sum		3,339,200	12.10	3,585,200	4,082,700	4,553,700	5,007,500
Local Offices	Finance, Insurance and Real Estate 2)	414,900	1.50	442,200	494,600	541,900	585,600
	Health Care 1)	524,600	1.90	570,300	669,100	767,500	866,400
	Professional, Scientific & Technical Services 1)	304,150	1.10	330,700	387,900	445,000	502,300
	Selected Educational Services 1)	186,700	0.68	203,000	238,100	273,100	308,300
	Selected Office Administrative Services 1)	200,000	0.72	217,400	255,100	292,600	330,300
Local Office Sum		1,630,350	5.91	1,763,600	2,044,800	2,320,100	2,592,900
Total Selected Retail & Service Sum		5,051,450	18.30	5,437,800	6,232,000	6,993,600	8,506,000

Source: urbanMetrics inc.

Note: 1) Per Capita square footages have been increased 1% per year.

2) Per Capita Square footages have been held constant for the study period

3) Per Capita square footages have been decreased by Per

* 2009 Population data was determined using Places to Grow forecasts and a straightline growth methodology.

9.4 Summary of Additional Warranted Retail Space

A summary of the amount of warranted additional retail space in Vaughan by major store type over the 2009 to 2031 period is presented in Figures 9.5 and 9.6. For the food and non-food retail categories, we have used increasing sales per square foot performance levels (from \$450 to \$525 per square foot level for FSR and from \$300 to \$400 per square foot for NFSR) to estimate demand for future space. This is considered appropriate because competition in the retail sector has historically pushed upward the level of store productivity.

Figure 9.5

	Cumulative Additional Space					
	2009*	2011	2016	2021	2026	2031
Demand						
Non-Food Store Retail	7,067,600	537,100	1,583,000	2,464,700	3,216,600	3,896,000
Food Store Retail	1,349,800	110,000	318,400	497,300	654,500	804,800
Commercial Services	3,339,200	246,000	743,500	1,214,500	1,668,300	2,135,900
Local Offices	1,630,400	133,300	414,500	689,800	962,600	1,249,000
Beer Wine and Liquor	81,900	7,100	22,600	37,900	53,400	69,700
Total	13,468,900	1,033,500	3,082,000	4,904,200	6,555,400	8,155,400

Source: urbanMetrics inc., 2009

Figure 9.6
Total Future Warranted Space Summary

	2009	Additional	Total 2031
NFSR	7,067,550	3,896,000	10,963,550
FSR	1,349,800	804,800	2,154,600
Commercial Ser	3,339,200	2,135,900	5,475,100
Local Offices	1,630,350	1,248,950	2,879,300
Beer Wine and I	81,900	69,700	151,600
Total	13,468,800	8,155,350	21,624,150

Source: urbanMetrics inc., 2009

In total, by 2031 approximately 21.6 million square feet of retail and selected service space would be warranted in Vaughan to serve the future population of nearly 420,000 residents. It should be noted that not all service categories were considered in this model. Our analysis of warranted space is considered a guideline only, and must be evaluated in the context of the assumptions utilized, including anticipated population growth and average sales per square foot levels and inflow.