Economic Impacts of Growth Related Infrastructure Costs

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Summary

Development charges are widely used to pay for infrastructure costs

Most cities in Canada levy a standard set of charges for residential developments. These charges generally fall into four categories: development charges (DC) that cover growth-related capital costs associated with new developments or re-development; building permits; parkland dedication; and, application and processing fees.

The underlying rationale for the DC is that development related to growth should pay for itself rather than imposing a burden on existing residents living elsewhere. By transferring the full marginal cost of municipal infrastructure and service in new developments to residents who choose to live there, the cost of growth outside the urban core is more accurately reflected in the price of real estate. Generally, DCs cover physical infrastructure (roads, water, wastewater), but are also used to cover the costs of services such as policing, transit and libraries. Typically, DCs are levied on a per dwelling unit basis, with rates varying by house type (single-detached, row and multi-unit).

DCs in HRM are low compared with other Canadian cities

DCs range from zero to over $40,000 for the 25 Canadian cities listed in Table S-1. The use of DCs is evolving in HRM, with the highest charge – $4,157 – levied in the Bedford West development. This represents 6.4% of total government levies. The corresponding share in several other cities ranges upwards of 20%.

DCs are one of many levies imposed by governments

A suite of municipal, provincial and federal fees and taxes influences housing markets in Canada (Table S-1). In general, provincial and federal taxes account for most of the government imposed impact (50-80%), with municipal fees accounting for 20-50%. HRM currently sits at the low end of the municipal fee range among major Canadian cities, with fees and charges accounting for 22% of the total. The DC tends to be the highest of the municipal fees in most cities, though in HRM, it is equivalent to land dedication and land transfer fees.

DCs contribute to higher house prices

DCs, fees, and taxes contribute to higher house prices (Table S-1). The combined effect accounts for 15 to 23% of new house prices in most cities, except in Alberta, which does not impose a provincial tax. Overall fees in HRM account for 17.2% of the median new house price of $380,000, with provincial and federal sales taxes accounting for almost 80% of that impact.

The DC on it own accounts for about 1.1% of the median price of a new single-detached house in HRM, amongst the lowest impact of cities surveyed. DCs account for as much as 7% of the median new house price in other cities.

The immediate impact of the DC and other fees falls on developers. To the extent that market conditions allow (and they usually do), developers pass these and other land development costs along to builders through lot prices, with the builders passing these costs along to new homebuyers. It is the final user of the land and services – the homeowner – who bears the ultimate cost of the DC and other fees and taxes.

DCs affect housing affordability and potentially location choice

Single-detached

Any increase in house prices reduces affordability, though the magnitude of the impact depends on the size of the increase, income distribution, how strictly mortgage rules are applied, and conditions in housing markets.

The analysis indicates that each $5,000 DC increase would add $29 to the monthly mortgage payment, based on the application of current mortgage rules. The number of households affected in terms of affordability depends on the income bracket, the number of households in the bracket and the house price. For example, for a $350,000 house, each $1,000 increase in the DC (up to $20,000) would create affordability constraints for about 200 households in the $60-65,000 income bracket.

In practice, the relatively small impact on monthly mortgage payments created by an additional $5-10,000 on house prices in the $350-450,000 range could be readily mitigated through adjustments in one or more of house size, type or features, or possibly through flexibility in the application of the mortgage rules. Consequently, increases in this range are unlikely to materially affect affordability in the new house market.

With an impact of 1.1% on 2012 median new house prices, even the highest DC in HRM does not appear to have adversely affected the new house market over the past several years. Demand has not only remained steady since 2008 (2009 excepted), but has increased for even larger homes with greater amenities, pushing average prices in some areas to levels exceeding $500,000.

Increases in the $15-20,000 range could be more problematic for those prospective purchasers at the margin. Given the range of options open to the buyer, there is no clear-cut answer to how the buyer's decision would be affected if the DC increment tipped the mortgage into an unaffordable range. The buyer could: try to increase the mortgage ratio; modify demand by selecting a less expensive house in the location of choice; shift to a subdivision within HRM with lower prices; shift focus from a new to an existing house (average costs for the 6,000 or so houses sold annually in HRM tend to be below the entry level in the new house market); or, purchase a new house in a subdivision within HRM but outside the serviced area. Given the range of options, it is unlikely that the higher DC alone would push the buyer outside HRM.

Multi-unit rental

Proposed DCs on multi-unit rental properties would be about 30% less per unit than for single-detached to reflect higher density and lower unit service costs. At this level (four increments ranging from $3,350 to $13,400/unit), when amortized over the life of the building, the proposed DC would add less than $20 (1.7%) to monthly rentals with each increment.

Buildings subject to the DC would be competing for tenants in a market with a lower cost structure (though this is generally the case with newer buildings). But given the modest effect on rents, and in the context of the typically strong rental market in HRM, the impact on demand at lower level DCs would be minimal. Higher level DCs could begin to create challenges for new buildings, particularly if HRM vacancy rates begin to climb. Accordingly, if DCs at the higher end of the range are contemplated, then consideration should be given to a transition period allowing a gradual phase-in.

DCs support HRM growth objectives

In HRM, over the long term with higher ownership costs in suburban areas and higher commuting costs in unserviced areas, we would expect to see a greater share of population growth shifting to the Regional Centre. But the strength of that shift will be contingent on the availability of suitable alternatives for those seeking housing, whether prospective new home buyers, those wishing to move from suburban and unserviced areas, or renters.

What studies elsewhere say about the DC impact on rate of development

DCs affect rate of development through several factors including the state of the economy and related factors affecting demand including population, employment and income growth; comparative DCs in adjacent communities; size of land holdings by developers and the functioning of the market for land; and the transition arrangements made in implementing or increasing the DCs.

Among the specific findings:

- DCs represent a minor component of overall housing costs when compared with construction, land and sales taxes. This is certainly the case in HRM, where current DC accounts for 1.1% of the median new house price (compared with 7% in some Ontario cities).
- DCs are fully incorporated in the final selling price of the house to the buyer where market conditions allow (stable to strong markets), and at least partially in weak markets. This is not just a function of developers and builders passing the costs along (forward shifting), but is effectively a capitalization of offsetting property taxes that buyers would otherwise have had to pay for infrastructure. In other words, the buyer either is paying up front in terms of a higher price, or over the longer term in terms of higher property taxes.
- Land prices appear to absorb some or all of the impact in the long run, particularly in an environment where DCs are increasing. Developers shift higher DCs back to land owners in the form of lower prices. This reduces upward pressure on the house prices. This impact can take several years to emerge, depending essentially on how soon developers have to go to the market to obtain raw land (or, alternatively, on how many years' supply of developed land is available).
- No direct correlation has been established between the rate of development and the level of residential DCs over the long term due to market dynamics. In strong markets, house prices reflect demand pressures more than simply a cost recovery formula.

DCs vs. property taxes and user fees

Municipal growth requires infrastructure. Over the past 20-30 years, many cities have begun to rely heavily on DCs as a fiscal tool to fund services. In part, this was a reaction to citizen anger with rising property taxes, and in part to the recognition of the merits of DCs as an economic instrument to advance urban growth objectives while improving overall tax equity by imposing infrastructure costs more directly and more immediately on those responsible for them and who benefit directly from the services provided (owners of new homes).
The conventional "postage stamp" approach to municipal taxation and fee setting has the virtue of simplicity, but suffers greatly from its failure to price resource use efficiently and send the right signals to consumers. A flat rate system is unrelated to costs of particular services. It creates excessive demand and resource waste, undermining urban development objectives aimed at increasing density.

A system of efficient prices (whether for infrastructure or services) would reflect capital costs at the margin so that users know and can respond to the actual costs they impose on the system. This results not only in greater efficiency, but also in greater equity, since no cross-subsidization occurs.

Undergrounding could result in higher home values

Undergrounding, as the term implies, refers to placing residential electrical and communications lines underground instead of suspending them on poles above ground. The costs of undergrounding utility lines, whether partially ($2,500/lot) or fully ($8,800/lot), would be borne by subdivision developers and passed along to builders and ultimately to homebuyers.

The rationale for undergrounding is to improve aesthetics and increase reliability of services. Both of these enhancements should, in theory, increase the value of real estate in the affected area. While no empirical evidence on undergrounding and home values could be found for Canada, the issue has been examined in housing markets in Australia. Neighbourhoods with buried transmission lines could expect to see house price increases of between 1 and 4%, with higher valued homes seeing the greatest increase in value. If the results of this analysis hold for HRM (which is unclear), then the lower end of the range would justify partial undergrounding, while the upper end would justify full undergrounding.

Relative to Canadian averages, property taxes in HRM are affordable

In the absence of an accepted criterion of what constitutes tax affordability, we look at how taxes in HRM compare with those in other municipalities in Canada, both in terms of their level and capacity to pay as measured by percentage of median income.

HRM ranks in the bottom half of the group of major Canadian cities in terms of average property taxes paid: $2,968 vs. an average of $3,262 (2010 data). HRM also ranks just below the group average in term of the percent of income accounted for by taxes and fees (3.9% for HRM vs. a group average of 4.3%). These comparative indicators suggest that at their current level, HRM property taxes and fees impose a relatively small burden on property owners, and one that is in line with other municipalities in Canada.

Table S-1: Government fees and charges on new single-detached houses in Canadian cities, 2012

(all values in $ unless otherwise indicated)

	Municipal charges and fees								Provincial and federal taxes				Total impact	
	2012 Median House Price	Develop-ment Charges	Land Dedication Charges	Application and Processing Fees	Total Building Permit Fees	Land Transfer Fee	Total	% of Median House Price	Provincial sales tax (PST)	Federal sales tax (GST)	Total	% of Median House Price	Overall total	% of Median House Price
	1	2	3	4	5	6	7	8	9	10	11	12	12	14
Surrey	567,000	$40,764	$12,444	$240	$3,514	$9,340	$66,302	11.69%	$37,093	$25,234	$62,327	11.0%	$128,629	22.7%
Vaughan	523,000	$35,528	$10,500	$1,815	$2,536	$6,935	$57,314	10.96%	$38,741	$23,060	$61,801	11.8%	$119,115	22.8%
Ottawa	**460,000**	$26,676	$4,413	$2,204	$2,813	$5,675	$41,781	9.08%	$34,074	$20,282	$54,356	11.8%	$96,137	20.9%
Saskatoon	**373,000**	$26,312	$1,364	$193	$1,160	$473	$29,502	7.91%	$17,762	$16,916	$34,678	9.3%	$64,180	17.2%
Waterloo	376,000	$25,437	$4,800	$1,220	$1,760	$4,115	$37,332	9.93%	$27,852	$16,578	$44,430	11.8%	$81,762	21.7%
London	**329,000**	$23,623	<10%	-	$2,140	$3,410	n.a.	n.a.	$24,370	$14,506	$38,877	11.8%	n.a.	n.a.
Hamilton	**510,000**	$22,878	$5,000	$598	$2,464	$6,675	$37,615	7.38%	$37,778	$22,487	$60,265	11.8%	$97,880	19.2%
Mississauga	624,250	$22,366	5%	$4,620	$2,490	$8,960	n.a.	n.a.	$46,241	$27,524	$73,765	11.8%	n.a.	n.a.
Toronto	**576,000**	$19,412	$24,545	$970	$4,820	$13,335	$63,082	10.95%	$42,667	$25,397	$68,063	11.8%	$131,145	22.8%
Vancouver	**830,000**	$17,899	$0	$2,365	$5,569	$14,600	$40,433	4.87%	$54,299	$36,938	$91,237	11.0%	$131,670	15.9%
Edmonton	**458,000**	$13,247	$1,023	$718	$2,721	$458	$18,167	3.97%		$21,810	$21,810	4.8%	$39,977	8.7%
Windsor	**320,500**	$12,316	$2,475	$318	$1,795	$3,283	$20,187	6.30%	$23,741	$14,131	$37,872	11.8%	$58,059	18.1%
Calgary	**467,000**	$11,356	$1,591	$1,429	$1,811	$467	$16,654	3.57%		$22,238	$22,238	4.8%	$38,892	8.3%
Prince George	364,000	$4,724	$920	$198	$2,001	$5,280	$13,123	3.61%	$23,813	$16,199	$40,012	11.0%	$53,135	14.6%
Burnaby	775,000	$4,530	$6,521	$47	$7,105	$13,300	$31,503	4.06%	$50,701	$34,490	$85,191	11.0%	$116,694	15.1%
HRM	**380,000**	**$4,157**	**$4,166**	**$100**	**$965**	**$4,935**	$14,323	3.77%	$34,545	$16,450	$50,996	13.4%	**$65,319**	**17.2%**
Winnipeg	**370,000**	$3,400	$861	$240	$1,750	$4,350	$10,601	2.87%	$24,206	$16,466	$40,672	11.0%	$51,273	13.9%
Greater Sudbury	**370,569**	$3,371	$3,750	$244	$2,256	$4,034	$13,655	3.68%	$27,450	$16,339	$43,789	11.8%	$57,443	15.5%
Whitehorse	311,000	$2,500	$555	$100	$1,558	$467	$5,180	1.67%		$14,810	$14,810	4.8%	$19,989	6.4%
Yellowknife	404,000	$135	$0	$175	$2,609	$606	$3,525	0.87%		$19,238	$19,238	4.8%	$22,763	5.6%
Charlottetown	**247,200**	$0	$4,500	$25	$300	$2,472	$7,297	2.95%	$20,411	$10,799	$31,210	12.6%	$38,507	15.6%
Montreal	**384,000**	$0	$5,200	$283	$1,629	$4,260	$11,372	2.96%	$34,114	$16,661	$50,775	13.2%	$62,147	16.2%
Quebec	**324,000**	$0	$6,750	$50	$300	$3,360	$10,460	3.23%	$28,784	$14,058	$42,842	13.2%	$53,302	16.5%
St. John's	**347,750**	$0	$2,000	$200	$2,850	$1,391	$6,441	1.85%	$25,759	$15,333	$41,092	11.8%	$47,533	13.7%
Moncton	**252,500**	-	8% market	$75	$2,250	$631	n.a.	n.a.	$18,704	$11,133	$29,837	11.8%	n.a.	n.a.

Note:

1. Cities listed in descending order by size of development charge. Bold indicates 2012 median new house price; all others are average prices. New house prices include sales tax.
2. All fees and taxes are expressed as percentages of the median/average house price. Accordingly, the sales tax impact is less than the rate applied to the base price of the house.

Source: Municipal planning departments and CMHC

1 Introduction

1.1 Background

As an indicator of a healthy economy, it is encouraging that the population of HRM continues to grow. Over the decade, 2001-2011, the population increased from 359,195 to 392,255 (+9%). An extrapolation of the projection that underpinned the 2006 Regional Municipal Planning Strategy (RMPS) suggests that the population could reach just over 484,000 by 2031 (+26%). One of the goals of the RMPS was to achieve balanced growth within HRM; namely, 25% of population growth in the Regional Centre, 50% in the suburban areas, and 25% in rural areas.

The distribution of growth since 2006 has deviated from the target, with just 16% occurring within the Regional Centre. By implication, 84% of the growth has occurred in suburban and rural areas, extending the length of infrastructure networks and imposing higher public capital and operating costs. This urban expansion also increases private costs by lengthening commuting distance, intensifying traffic congestion and increasing time spent on the road for suburban and rural residents as well as all other road users.

A recent study estimated the long-term cost of not achieving the RMPS population distribution target at almost $700 million.[1] Compared with an even more intensive settlement pattern, a continuation of the rate of expansion of the past seven years could cost HRM residents as much as $3 billion in additional infrastructure capital and operating costs, commuting expenses and time, and environmental and health costs.

Where people choose to live is a function of several factors, including a trade-off between the cost of housing and the cost of commuting. Housing costs (price plus tax burden) tend to be higher in city centres, where the price for housing reflects land scarcity and willingness to pay for proximity to places of work, schools, amenities, etc. Conversely, housing costs tend to decline with distance from the city centre. The value proposition for prospective owners is a location where the house price balances the higher costs imposed by the time and expense of travel to and from work, services and amenities.

An important question for municipal government is whether the house price in suburban and rural locations fully reflects the marginal costs of the location, specifically, the higher costs arising from the provision of infrastructure and services. To the extent that these costs are averaged over all municipal residents through taxes rather than incorporated in development charges (and passed on in new house prices), those living in existing residential areas would be subsidizing expansion to higher cost areas. In other words, through its taxing structure, the municipality and existing residents would be contributing to urban expansion.

[1] Stantec, *Quantifying the costs and benefits of alternative growth scenarios, Halifax Regional Municipality*, 2013.

1.2 Objectives

HRM is currently conducting a review of its Regional Plan. One aspect of this review is the implications of new policy relative to growth targets: 25% of population growth in the Regional Centre, 50% in the suburban areas, and 25% in rural areas. Among the policies whose implications are examined in this report is the shift away from paying for growth-related infrastructure through municipal taxation on existing properties, to covering these costs directly through development charges (DC) on properties in newly developing areas.

To this end, this study aims to determine the impact of three interrelated factors:

- Development charges on new housing prices
- Housing prices on housing location choice
- Development charges on RMPS growth targets

2

Housing market in the HRM

2.1 Market indicators

The HRM housing market can be characterized as relatively stable, with about 2,400-2,600 new units started each year (Table 1). The recession in 2008-2009 caused starts to drop below 2,300 for the only years in the past decade. In the past few years, the market has added roughly an equal number of owned and rental units, with consumers expressing a preference for single-detached homes (about 40% of starts). The home ownership rate in HRM was 64% in 2006 (Census data), and had risen steadily from 53% in 1971. This rate is below the national average (68%), and below most other CMAs in Canada.

Table 1: Halifax Census Metropolitan Area - Housing market indicators

	2007	2008	2009	2010	2011	2012	2013p	2014p
Housing starts (number)								
Single-detached		1,180	875	1,039	900	991	875	925
Semi-detached		108	118	156	170	190	150	155
Townhouse/row		169	141	152	160	136	135	150
Apartments		639	599	1,043	1,724	1,437	1,400	1,100
Total starts	2,489	2,096	1,733	2,390	2,954	2,754	2,560	2,330
Prices and rents								
New (single-detached)								
Average price ($)		329,765	335,074	352,783	400,405	425,000	425,000	440,000
Median price ($)		299,900	311,400	328,078	360,000	380,000	380,000	400,000
Number by price range								
<$300,000				416	225	198		
$300-349,000				208	180	149		
$350-399,000				208	225	248		
$400-449,000				104	90	99		
>$450,000				104	180	297		
Resale								
Sales (#)	7,261	6,472	6,062	5,766	5,939	6,046	5,600	5,800
New listings (#)		10,710	10,516	10,160	10,336	10,450	10,550	10,700
Average price ($)	216,339	229,916	237,214	251,116	259,060	268,800	276,000	282,000
Rental market								
Vacancy rate (%)	3.1	3.4	2.9	2.6	2.4	3.0	4.0	4.5
Average rent (2-bedroom)	815	833	877	891	925	955	980	1,000

Source: CHMC *Housing Market Outlook* - Halifax CMA, Spring 2013. CMHC *Housing Now*, 2013

The market exhibited considerable strength after 2009, with the median new house price rising by 22% ($311,000 to $380,000). Economic recovery and continued population growth, coupled with low interest rates, would appear to be the main explanatory factors. Of note also is the marked preference for more expensive homes. Table 1 shows a higher number of sales of new houses in the $400,000 plus range, with a corresponding decline in those under $350,000. CMHC reports that prices have been strongest in the

Halifax City, Bedford-Hammonds Plains and Sackville submarkets, where average new house prices (2013) exceeded $500,000. These higher prices reflect demand for higher quality amenities and finishing, as well as larger homes.

The resale market has also been stable, with over 10,000 new listings each year and annual sales typically exceeding 6,000 units, indicating a balanced market. The average price increased by 13% between 2009 and 2012 (reflecting the market balance), well below the increase in the new house market. The gap in average prices, new vs. existing ($157,000 in 2012), can be explained by the differences in characteristics (age, size, location, amenities, cost base, etc.) between the market segments. As new houses increase in price, upward pressure on existing house prices will follow since they represent a substitute (however imperfect) for the buyer.

The rental market is steady, with relatively low vacancy rates and modest increases in rents (about 7%) since 2009. This segment of the market is heavily influenced by in-migration to HRM and a relatively large student population, but also by demographics, as an aging population seeks alternatives to home ownership.

Another characteristic of the HRM housing market that is remarkable by contrast with other CMAs is the exceptionally low number of condominium starts each year. This is explained in part by demand characteristics, but also by a developer preference to build and hold.

2.2 Market outlook

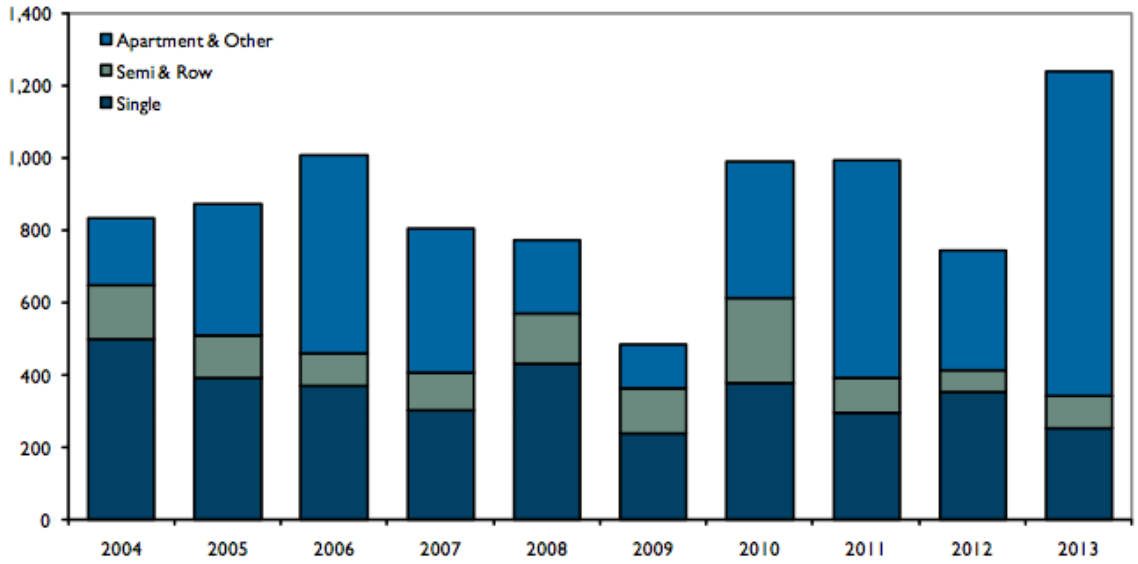
2.2.1 Market forecasts

While the new and existing housing market in the HRM has been described as strong and stable since 2009, recent changes in lending regulations and structural economic factors are beginning to impact markets in the region and across Canada. Consensus on the health and outlook for real estate is rarely ever achieved among industry and government analysts, in part because of the challenges of data collection and the pitfalls associated with interpreting it. To try and understand the most likely direction of change, we look to three major sources of analysis: CMHC, Teranet, and the financial industry.

CMHC

In their June 2013 market update, CMHC highlight the shifting trend of a year-over-year increase in overall housing starts in an environment of declining demand. Single-detached new construction fell 44% from May 2012 to 2013 due to what CMHC characterizes as “minimal population growth, flattening employment levels and some shifts in consumer demand, specifically within the aging population base.” Semi-detached, row houses, and apartment starts all saw increases in 2013. As Figure 1 illustrates, apartment starts continue to outpace every other housing type in the HRM, due in large part to what developers see as increasing demand for high-density, compact, low-cost living. CMHC notes positive net migration, low employment growth, and an ageing population as key factors that drive demand in this segment.

Figure 1: HRM housing starts by intended use, 2004 to 2013.



Source: CMHC

Sales of existing homes in the HRM declined sharply (26%) in the three major submarkets of the HRM – the regional centre and Bedford-Hammonds Plains, while average prices were up slightly over the same period.

Teranet

Teranet publishes the monthly National Bank House Price Index which tracks properties with at least two sales, measuring the increase or decrease of the property value in the period between the sale. Teranet's June Communiqué noted year-over-year national house price inflation in April of 2%, which was the smallest yearly increase in prices since 2009. The HRM saw an increase of 2.3% year-over-year, while prices from April to May remained flat. This finding is significant given that the spring market is traditionally one of the most active of the year.

Financial industry

The Royal Bank of Canada (RBC) is the country's largest residential real estate lender, holding over $186 billion worth of mortgages (17% market share) in 2011. The bank publishes extensively on housing markets and affordability in Canada. Most recent analysis of trends and outlook in the market suggest that a major cooling of residential real estate sales is occurring in 2013 across the country, with a 13% decline in year-over-year home resales in the first quarter. While some evidence suggests the downward trend is slowing, RBC expects the market to remain subdued for the remainder of the year.

The resale market in Atlantic Canada mirrored that of the country as a whole, dropping 13% in the first three months of 2013. While some centres have begun to rebound (Fredericton, Saint John), Halifax has continued on a downward trajectory. Affordability, on the other hand, remains strong across the entire region, as selling prices have begun to move downward while the costs of ownership remain stable.

2.2.2 Population trends

The market for all types of housing is ultimately driven by changes in population. The strong new and resale single-detached markets experienced in recent years in the HRM have been supported by positive net migration into the region. This has been especially so for the demand for multi-unit rentals. To get a sense of how demand for housing as it relates to population may change in the future, we must look to recent trends and forecasts.

Population dynamics in Nova Scotia have been characterized by rural out-migration and urban growth. This urban/rural divide, while apparent in terms of industry and economics, is felt most acutely at the level of socio-economic conditions and the resulting impact on population and demography. The difference in circumstances between HRM and the other regions is striking. Though all indicators help to complete the picture, four stand out: the participation rate is substantially lower in rural areas, reflecting a lack of employment opportunities (Cape Breton is a full 15 percentage points below Halifax); the unemployment rate is higher (notwithstanding the much lower participation rate); average incomes are substantially lower (Halifax average income is 20-40% higher); and, government transfers account for as much as 25% of total income, compared with just 10% for Halifax.

Table 2, detailing population change by county in Nova Scotia from 1986 to 2012, shows that, though the total population of Nova Scotia has increased by 1.1% since 1996, the population of 14 of 18 counties has declined, and in several counties the decrease exceeds 15%, with Guysborough losing over 25%. Looking at the 2006-2012 period, only Halifax and Colchester Counties show a population increase. Taking Halifax (with almost 44% of the population) out of the mix means population in the rest of the province has dropped by 7.7% since 1996.

Table 2: Nova Scotia population by county, 2006-2012

	1986	1996	2001	2006	2012	Percentage change		
						1996-2012	1996-2006	2006-2012
Shelburne	17,800	17,394	16,655	15,904	14,792	-15.0%	-8.6%	-7.0%
Yarmouth	27,600	27,941	27,548	26,919	25,501	-8.7%	-3.7%	-5.3%
Digby	22,300	20,968	20,068	19,382	17,930	-14.5%	-7.6%	-7.5%
Queens	13,400	12,712	12,022	11,446	10,971	-13.7%	-10.0%	-4.1%
Annapolis	24,000	22,856	22,330	21,870	21,582	-5.6%	-4.3%	-1.3%
Lunenburg	47,400	48,658	48,884	48,184	46,743	-3.9%	-1.0%	-3.0%
Kings	54,600	60,648	60,436	61,620	60,935	0.5%	1.6%	-1.1%
Hants	37,200	40,450	41,643	42,276	41,576	2.8%	4.5%	-1.7%
Halifax	314,300	351,739	369,244	384,778	413,512	17.6%	9.4%	7.5%
Colchester	46,000	50,468	50,632	51,283	52,424	3.9%	1.6%	2.2%
Cumberland	35,500	34,615	33,438	32,748	31,464	-9.1%	-5.4%	-3.9%
Pictou	50,700	49,849	48,226	47,621	46,533	-6.7%	-4.5%	-2.3%
Guysborough	12,900	11,160	10,059	9,222	8,299	-25.6%	-17.4%	-10.0%
Antigonish	19,100	20,018	20,084	19,335	18,779	-6.2%	-3.4%	-2.9%
Inverness	22,300	21,404	20,441	19,430	18,198	-15.0%	-9.2%	-6.3%
Richmond	12,000	11,273	10,486	9,945	9,342	-17.1%	-11.8%	-6.1%
Cape Breton	126,100	120,490	112,093	108,285	102,810	-14.7%	-10.1%	-5.1%
Victoria	8,900	8,684	8,165	7,762	7,304	-15.9%	-10.6%	-5.9%
Nova Scotia	**892,100**	**931,327**	**932,454**	**938,010**	**948,695**	**1.9%**	**0.7%**	**1.1%**

Source: Statistics Canada

Over the next quarter century, this overall gain in population in the province is expected to reverse. Nova Scotia's overall population is projected to decline from 948,700 to 926,300 from 2012 to 2038, while the proportion of the population aged 65+ will rise more than 11% to comprise nearly one-third of the total[2].

Projections for the HRM reflect the historical urban/rural dichotomy. The population of the region is expected to increase form 413,700 in 2012 to 484,145 in 2031, or a gain of approximately 17% (0.9% per year)[3]. While adding an average of 3,700 new residents (1,685 households) to the HRM every year bodes well for the housing market in the future, the composition of population gain must be considered. This increase in overall population will be driven by a more than doubling of the older (65+ years) cohort, a modest rise in youth (<14 years), and a working age population that is growing in numbers but shrinking in proportion to all others. These trends will affect demand for housing type in the HRM, as a large proportion of buyers / owners will presumably be downsizing with a smaller number of potential buyers coming behind them.

2.2.3 Housing demand

Demand for new houses in subdivisions like Bedford West and Russell Lake has been high in recent years, but has been impacted by the same factors affecting housing markets across the country. Realtors consulted as part of this study describe a healthy market for new homes driven primarily by double-income families in their 30s and 40s looking for turn-key houses near recreational amenities, parks, and new schools. Buyers are moving to new suburbs from older communities in Bedford, Fall River, and peninsular Halifax. A large number of purchasers come from outside Nova Scotia and many are new immigrants to Canada.

The decision to purchase a new home is often based on the amenities and green space available, but is increasingly driven by a lack of comparable options on the Peninsula at the same price point. For many, living in the suburbs is not a question of whether to commute or not. As more and more recreational infrastructure is built outside the city, families must choose between adults commuting to work, or the whole family traveling on evenings and weekends to recreational activities. Realtors suggest that buyers in their communities are choosing to concentrate home, school, and recreation in suburban neighborhoods while accepting that a commute to work may be necessary.

The market for new homes in new subdivisions has been strong over the past five years, but has slowed over the past six months. Industry stakeholders point to changes in mortgage rules as the major cause of the recent fragility in the market. Some realtors believe that stricter rules have priced out 10-20% of first-time homebuyers.[4] While many buyers of new homes in suburban communities are on their second or third home, they have recently been unable to sell their existing home due to the inability of first-time home buyers to secure financing or sell their existing home. This "trickle-up" effect has resulted in a new home market characterized by an increasing number of conditional sales that do not close in the end, which ties up housing inventory and increases the carrying costs and risks to developers and builders.

[2] Nova Scotia Commission on Building Our New Economy, *Interim Report*.
[3] Stantec. *Quantifying the Costs and Benefits of Alternative Growth Scenarios*, HRM
[4] This is supported by recent studies by the Bank of Nova Scotia and Bank of Montreal. Looking ahead, industry commentators predict that demand will increase in the short term as prospective buyers seek to lock in mortgages at today's relatively low rates, with demand falling off after the rush ends.

Finally, when asked about how increases in home prices as a result of DCs may affect their local markets, the views of development industry stakeholders were mixed. Some stated that the market slowed substantially in 2013, and they argued that any additional cost would decrease demand even further because affordability would be adversely affected. Others noted that the costs would be absorbed in the price and that the market for high-end homes would remain buoyant over the longer term.

2.2.4 Outlook in context

Putting this information together gives us some indication of where the housing market in the HRM may be headed. There seems to be a consensus about a downward shift in both re-sales and overall demand for housing in the short term. Developers appear to be responding to this change by constructing fewer detached homes in the HRM, while increasing construction of multi-unit rentals. It is possible, however, that this phenomenon may simply reflect a greater flexibility to adjust the supply of single-detached houses in the short term as compared to the longer-term nature of large multi-unit construction projects.

It could be argued that recent trends in the market are a reflection of the tightening of mortgage rules that occurred in 2012, which led to shorter amortization periods, greater down-payment requirements, and stricter lending criteria. There are estimates that these factors have knocked 15-20% of prospective buyers out of the market. Industry stakeholders consulted for this study noted a drop in demand for high-end ($400,000-plus) homes as a result. It was suggested that many of those who could afford to purchase homes in subdivisions like Bedford West withdrew offers because they were unable to sell their existing homes to first-time buyers.

While changes in the market in HRM have occurred in the short term, other factors may also have an impact. It has been widely acknowledged that major gains seen in the Canadian housing market to 2012 were due in large part to the introduction of emergency interest rates in response to the global financial crisis that took hold in 2008. There is mounting evidence that mortgage rates have begun to move upward and may return to levels closer to historical averages. This source of increased cost would have an impact on affordability and further contract demand for housing at any given price point.

3

Development charges

3.1 Rationale and design

Most major urban centres in Canada levy a standard set of charges for residential developments, whether uniform, area-specific or site-specific (Montréal). These charges generally fall into four categories: development or infrastructure charges that cover growth-related capital costs associated with new developments or re-development; building permits; parkland dedication, ranging from 5-10% of the land subject to the development application (or cash in lieu of land); and, application and processing fees.

Development charges (DC) tend to be the largest single fee (excluding sales tax), generally accounting for 50-75% of total fees. They are financial instruments used by municipalities to pay for growth-related costs associated with new development. The underlying rationale is that development related to growth should pay for itself rather than imposing a burden on existing residents living elsewhere. Most larger cities in Canada levy such charges (Table 3). Generally they cover physical infrastructure, but increasingly they are also used to cover the costs of services such as policing, transit and libraries.

3.2 Use across Canada

Municipal governments across Canada apply DCs as a fiscal management tool. In most cases, charges are assessed to recover a portion of the initial cost of providing infrastructure, while other tools, such as property tax, water rates and other user fees, cover ongoing costs of service to new developments. DCs are ordinarily assessed at the time of subdivision approval and paid by the developer.

Increasingly, municipalities recognize development charges as an urban growth and development policy instrument. By transferring the full marginal cost of municipal infrastructure and service in new developments to developers and residents that choose to live there, the cost of growth outside the urban core is more accurately reflected in the cost of construction and price of real estate. DCs can influence urban form over the long term through incentives they provide to increase density. To do this effectively, the charge ideally would be based on lot frontage, or if levied on a per unit basis (as most DCs in Canada are), structured in such a way so that the differences in charges applied to different housing forms are large enough to influence development decisions in favour of higher density.

Table 3 sets out the range of fees and charges, including DCs, for 25 Canadian municipalities. In most cases, the fees are tied directly to the number of dwelling units (house) in the proposed development (or can be expressed on a per house basis). For the municipalities listed in Table 3, the DCs range from zero to over $40,000. HRM, at $4,157, ranks in the bottom half of the list (Markham, Ontario, not included in Table 3 has the highest DC at over $65,000, covering a full range of hard and soft costs).

Table 3: Government fees and charges on new single-detached houses in Canadian cities, 2012

(all values in $ unless otherwise indicated)

	Municipal charges and fees								Provincial and federal taxes				Total impact	
	2012 Median House Price	Develop-ment Charges	Land Dedication Charges	Application and Processing Fees	Total Building Permit Fees	Land Transfer Fee	Total	% of Median House Price	Provincial sales tax (PST)	Federal sales tax (GST)	Total	% of Median House Price	Overall total	% of Median House Price
	1	2	3	4	5	6	7	8	9	10	11	12	12	14
Surrey	567,000	$40,764	$12,444	$240	$3,514	$9,340	$66,302	11.69%	$37,093	$25,234	$62,327	11.0%	$128,629	22.7%
Vaughan	523,000	$35,528	$10,500	$1,815	$2,536	$6,935	$57,314	10.96%	$38,741	$23,060	$61,801	11.8%	$119,115	22.8%
Ottawa	**460,000**	$26,676	$4,413	$2,204	$2,813	$5,675	$41,781	9.08%	$34,074	$20,282	$54,356	11.8%	$96,137	20.9%
Saskatoon	**373,000**	$26,312	$1,364	$193	$1,160	$473	$29,502	7.91%	$17,762	$16,916	$34,678	9.3%	$64,180	17.2%
Waterloo	376,000	$25,437	$4,800	$1,220	$1,760	$4,115	$37,332	9.93%	$27,852	$16,578	$44,430	11.8%	$81,762	21.7%
London	**329,000**	$23,623	<10%	-	$2,140	$3,410	n.a.	n.a.	$24,370	$14,506	$38,877	11.8%	n.a.	n.a.
Hamilton	**510,000**	$22,878	$5,000	$598	$2,464	$6,675	$37,615	7.38%	$37,778	$22,487	$60,265	11.8%	$97,880	19.2%
Mississauga	624,250	$22,366	5%	$4,620	$2,490	$8,960	n.a.	n.a.	$46,241	$27,524	$73,765	11.8%	n.a.	n.a.
Toronto	**576,000**	$19,412	$24,545	$970	$4,820	$13,335	$63,082	10.95%	$42,667	$25,397	$68,063	11.8%	$131,145	22.8%
Vancouver	**830,000**	$17,899	$0	$2,365	$5,569	$14,600	$40,433	4.87%	$54,299	$36,938	$91,237	11.0%	$131,670	15.9%
Edmonton	**458,000**	$13,247	$1,023	$718	$2,721	$458	$18,167	3.97%		$21,810	$21,810	4.8%	$39,977	8.7%
Windsor	**320,500**	$12,316	$2,475	$318	$1,795	$3,283	$20,187	6.30%	$23,741	$14,131	$37,872	11.8%	$58,059	18.1%
Calgary	**467,000**	$11,356	$1,591	$1,429	$1,811	$467	$16,654	3.57%		$22,238	$22,238	4.8%	$38,892	8.3%
Prince George	364,000	$4,724	$920	$198	$2,001	$5,280	$13,123	3.61%	$23,813	$16,199	$40,012	11.0%	$53,135	14.6%
Burnaby	775,000	$4,530	$6,521	$47	$7,105	$13,300	$31,503	4.06%	$50,701	$34,490	$85,191	11.0%	$116,694	15.1%
HRM	**380,000**	**$4,157**	**$4,166**	**$100**	**$965**	**$4,935**	$14,323	3.77%	$34,545	$16,450	$50,996	13.4%	**$65,319**	**17.2%**
Winnipeg	**370,000**	$3,400	$861	$240	$1,750	$4,350	$10,601	2.87%	$24,206	$16,466	$40,672	11.0%	$51,273	13.9%
Greater Sudbury	**370,569**	$3,371	$3,750	$244	$2,256	$4,034	$13,655	3.68%	$27,450	$16,339	$43,789	11.8%	$57,443	15.5%
Whitehorse	311,000	$2,500	$555	$100	$1,558	$467	$5,180	1.67%		$14,810	$14,810	4.8%	$19,989	6.4%
Yellowknife	404,000	$135	$0	$175	$2,609	$606	$3,525	0.87%		$19,238	$19,238	4.8%	$22,763	5.6%
Charlottetown	**247,200**	$0	$4,500	$25	$300	$2,472	$7,297	2.95%	$20,411	$10,799	$31,210	12.6%	$38,507	15.6%
Montreal	**384,000**	$0	$5,200	$283	$1,629	$4,260	$11,372	2.96%	$34,114	$16,661	$50,775	13.2%	$62,147	16.2%
Quebec	**324,000**	$0	$6,750	$50	$300	$3,360	$10,460	3.23%	$28,784	$14,058	$42,842	13.2%	$53,302	16.5%
St. John's	**347,750**	$0	$2,000	$200	$2,850	$1,391	$6,441	1.85%	$25,759	$15,333	$41,092	11.8%	$47,533	13.7%
Moncton	**252,500**	-	8% market	$75	$2,250	$631	n.a.	n.a.	$18,704	$11,133	$29,837	11.8%	n.a.	n.a.

Note:

1. Cities listed in descending order by size of development charge. Bold indicates 2012 median new house price; all others are average prices. New house prices include sales tax.
2. All fees and taxes are expressed as percentages of the median/average house price. Accordingly, the sales tax impact is less than the rate applied to the base price of the house.

Source: Municipal planning departments and CMHC

DCs are generally assessed on an average-cost basis across municipalities and range in absolute and relative size across the country. At the high end in some Ontario cities, DCs account for as much as 7.2% of house prices. By contrast, in HRM the highest current DC ($4,157) accounts for 1.1% of the median new house price.

The land transfer fee is typically expressed either as a fixed percentage of the land/house value (e.g., 1.5% in the case of HRM), or is progressive, rising in percentage as specified thresholds are reached (e.g., 1% on the first $50,000, 1.5% on the next $100,000, etc.).

Table 3 also includes provincial and federal sales taxes. Because total taxes vary within a narrow range amongst provinces, the overall percentage impact on house prices varies between 11 and 14% (with the exception of Alberta at just under 5%).

The approach to sales taxation varies across provinces, with some charging a Harmonized Sales Tax ranging from 13 to 15% (the Atlantic Provinces and Ontario), four others a provincial sales tax (Québec 9.975%, Saskatchewan 5.0%, Manitoba and British Columbia 7.0%) and Alberta with no provincial tax. The federal GST is 5%.

The tax impact is among the highest in HRM (at 13.4%), largely because Nova Scotia's provincial sales tax is the highest in the country (10%).

3.3 Impact and implications for HRM growth

The full range of DCs, fees, and taxes have a direct impact on the price of housing. The combined effect accounts for 15 to 23% of new house prices in most cities, except those in Alberta (8-9%). Municipal and provincial/federal fees in HRM account for 17.2% of the median price of $380,000.

In general, provincial and federal taxes account for most of the government imposed impact (50-80%), with municipal fees accounting for 20-50%. HRM currently sits at the low end of the municipal fee range among major Canadian cities, with fees and charges accounting for 20-25% of the total impact on the median house price.

The immediate impact of development charges (and other costs including land dedication, application/ processing, and building permit fees) falls on developers. To the extent that market conditions allow (and they usually do), developers pass these costs (as well as land and servicing costs) along to builders through lot prices, with the builders passing these costs along to new homebuyers. It is the final user of the land and services – the homeowner – who bears the ultimate cost of the DC and other municipal fees. As long as the DC accurately reflects the incremental infrastructure costs, this makes clear to the buyer the cost of his/her location decision. How influential it actually is in practice depends on the size of its impact on the house price.

The implications of this are many. DCs can drive buyers into the urban centre where costs are lower to reflect lower development charges, though home prices may be higher, reflecting land scarcity. Buyers may also choose to move beyond the suburbs into unserviced areas where charges and land costs are lower, but commuting costs are higher. Such decisions depend on the strength of the desire for a new versus an existing home, though market structure may have more influence on choice than pure

economics. Purchasing a new home is often the norm in unserviced areas but less possible in the urban centre if ownership of a new single detached is the objective. It may even cause buyers to alter their ownership choice and opt for a condominium or even rent, provided suitable options exist. So, there are trade-offs; but that is the nature of a market where prices reflect true costs.

The full dynamic impact of DCs, fees, and taxes on housing markets across Canada remains unclear. Markets in general have been strong, with the national average house price rising from $158,021 in January 2000 to $388,910 in May 2013 – an increase of 146%, or 11% per year. This trend has remained so through the introduction of, and increases in, DCs in many municipalities over this time. Of course, low interest rates have played a major role in supporting demand and prices. A return to higher interest rates would dampen prices, causing new homebuyers to accept smaller and more affordable homes, or possibly causing them to shift to the existing home market.

In HRM, over the long term with higher ownership costs in suburban areas and higher commuting costs in unserviced areas, we would expect to see a greater share of population growth shifting to the Regional Centre. But the strength of that shift will be contingent on the availability of suitable alternatives for those seeking housing, whether prospective new home buyers, those wishing to move from suburban and unserviced areas, or renters. This calls into question whether the HRM regional centre offers, or is likely to offer, such suitable alternatives. This is really a question about whether the right mix of incentives (or absence of unintended obstacles) exists to encourage apartment and condominium development in the regional centre. Land costs are higher, but building height can offset this. Developers would also need to adjust and build structures to meet the mix of dwelling unit characteristics (type/size/amenities) the market wants.

4

Development charges in HRM

4.1 Development pattern

Development and population density in the HRM has followed a cycle not unlike the tides that surge in and out along our coastline. From its establishment in 1749 to the late-1800s, the city and surrounding region resembled the HRM today in that slightly less than half of the region's residents lived in the city proper, with the balance spread fairly evenly in surrounding coastal and inland communities. The population of peninsular Halifax and downtown Dartmouth grew rapidly through the early 1920s in proportion to communities outside the core, and surged back out again to suburban and exurban areas in the years around World War II. Growth in the suburbs continued through the next few decades, drawing population out of the urban core and into new residential communities in Cole Harbour, Sackville, Bedford, Fairview, and Spryfield.

4.1.1 Population distribution

The trend toward dispersion of population outside the regional centre (comprised of peninsular Halifax, and the part of Dartmouth bound by the Circumferential Highway and Halifax Harbour) that took hold in the 1960s continues to this day. Investment in transportation infrastructure, such as twinned highways, bridges, and public transit along with earlier regional plans that set aside large land holdings for new subdivision development have contributed to the trend toward settlement of population in suburban areas.[5] The more recent development of suburban industrial parks, office complexes, big-box shopping districts, and community centres has served to support this trend. Newer developments in exurban, unserviced communities linked by twinned highways to the HRM have seen major growth in population and new housing over the past decade. Through all of this, population in the regional centre has remained stable.

The HRM's 2006 Regional Plan targeted a balanced approach to development with 25% of new housing growth directed to the regional centre, with 50% of new builds to occur in serviced suburban communities, and 25% directed to exurban, unserviced rural areas. These targets were set in support of a national trend toward regional planning efforts that emphasize higher-density housing development over single-family dwellings sitting on large suburban lots. While housing density targets have yet to be met in the HRM, the RMPS target, if achieved, would result in public and private savings of an estimated $700 million to 2031[6].

4.1.2 Housing market

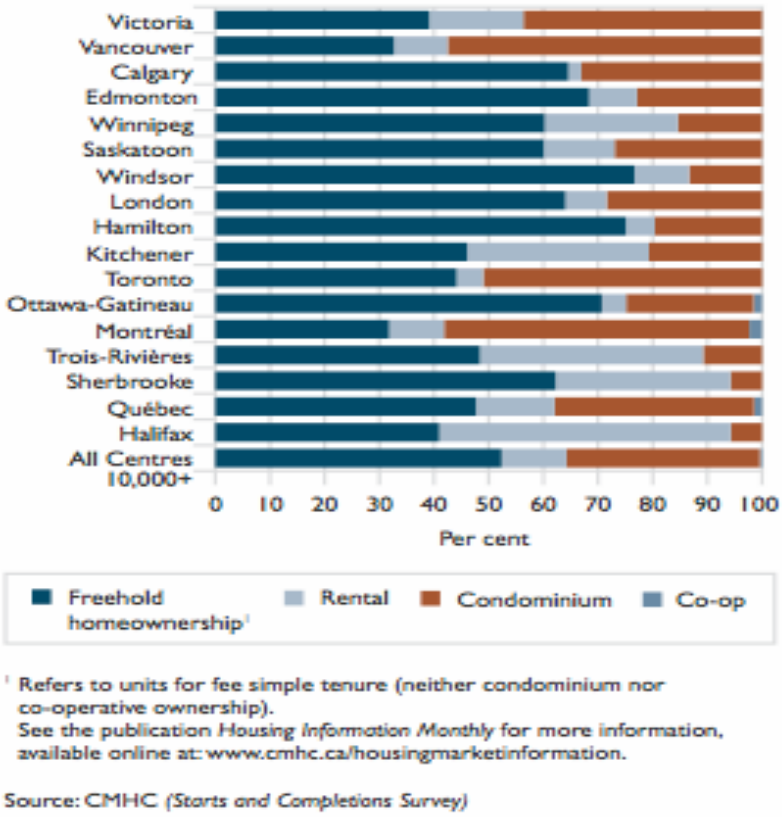
One trend that has established itself uniquely in the housing market in the HRM is the large proportion of rental apartments over condominiums constructed in the city. Indeed, Halifax leads all other major Canadian Metropolitan Areas in apartment construction as a

[5] The Regional Development Plan implemented by the province in 1970s/1980s established suburbs in Cole Harbour, and Sackville, with public developments such as Millwood and Forest Hills and private developments (e.g., Colby Village.

[6] Stantec, *Quantifying the Costs and Benefits of Alternative Growth Scenarios*, HRM, 2012.

share of total housing starts by intended tenure, with multiple units accounting for roughly 60% of all new starts in 2011 (Figure 2). This pattern has been the norm for several years.

Figure 2: Share of starts by intended tenure, all selected CMAs, 2011



While this is close to the national average of 58%, more than 90% of those were rental units as opposed to condominium units. This trend toward rental versus condominium development has been attributed to four key factors.

- First, on the supply side, industry observers note that the small number of developers who build multi-unit developments in the HRM share a corporate culture that favors maintaining ownership of property rather than selling it.
- Second, on the demand side, a combination of factors including transient population, slow employment/income growth, aging population, and dwelling cost structure provides the basis for a strong rental unit market (attractive rents despite low vacancy rates versus high home ownership costs).
- Third, a property developer suggests that the market for condominiums in Halifax is geared mainly to empty nesters and so is fairly small. One building every 4-5 years tends to absorb the demand.
- Fourth, an industry analyst noted that bank financing for condominium developments requires developers to pre-sell half of the units before construction begins. A combination of the lengthy approvals process and multi-year construction results in the closing of all units on the same day. Canadian tax law dictates that, while the first $400,000 in income is taxed at around 14%, any

income above that is taxed at approximately 50%. That is to say, a developer that has carried the cost of a condominium development for a number of years must immediately pay out nearly half of the proceeds in tax. This combination of financial risk and tax burden serves as a disincentive for developers to build condominiums.

4.2 Current and proposed charges

4.2.1 Rationale and type

As an economic or financial instrument, the main objective of the DC is to support urban development plans – which in the case of HRM may be characterized as two-fold: first, to promote more compact and sustainable growth by ensuring the real costs of growth are borne by those imposing the demand (this is a pricing function – making sure that the user understands and bears the full cost of his/her decision); second, to promote equity amongst residents by ensuring development charges reflect actual cost differences across urban areas (i.e., unit costs are likely to be lower in urban vs. suburban areas).

The HRM has the ability to impose DCs under two provisions: 1) Under a subdivision by-law to recover infrastructure costs associated with the provision of streets, installation of utilities, and construction of facilities related to power, sewage, transit, etc; and 2) Under a separate by-law designed to recover costs on a wider array of infrastructure applied to the entire HRM or specified areas[7].

Currently, the HRM and the Halifax Regional Water Commission (HRWC) apply a set of fees, DCs, and capital cost charges (CCCs) for new home construction. DCs vary across HRM, depending on regional cost differences. Table 4 outlines per-unit (PU) and per-square-foot (PSF) charges based on a 2,500 square-foot home in the subdivision of Bedford West. Those are the highest in the Municipality (the values shown in Table 3).

4.2.2 Proposed development charges

HRM and HRWC have proposed new DCs to cover a range of services including transportation, solid waste removal, undergrounding utility wires, and water supply and wastewater treatment. Estimates of these proposed charges are listed in Table 5. If implemented, some of these charges would replace those in Table 4 (wastewater, water and transportation), increasing the net cost; undergrounding represents a new charge and would add to the overall total.[8]

[7] HRM, *Regional Municipal Planning Strategy* (2013).
[8] It is worth noting that the undergrounding proposal contained in the current Regional Plan review is for service drops from street to house only, a cost that is at the lower end of the range (see Table 5).

Given that these charges are estimates and could change, and in light of the uncertainty over whether and when they may be implemented, they provide an uncertain and potentially cumbersome basis for assessing DC impacts on housing affordability. Instead, to simplify the analysis, we take a more general approach using notional $5,000 increments. Table 5 shows the relationship between the estimates and these increments. The DCs ($8,094) fall within the $10,000 range, though the net impact would be closer to the $5,000 increment. The undergrounding costs would add in the range of $9,000, bringing the total increase to just over $15,000.

Table 4. HRM and HRWC fees and development chargs for new home construction (Bedford West), 2013

Fees and Charges	Amount ($)	Basis	Total per Unit ($)
Application and permit fees			
1. Development application fee	100	PU	100
2. Building above grade permit fee	0.3	PSF	375
3. Building below grade permit fee	0.1	PSF	125
4. Plumbing fee	50	PU	50
5. HRM streets and services permit	200	PU	200
6. HRWC connection charge	55	PU	55
7. HRWC new account charge	25	PU	25
8. Water meter charge	45	PU	45
9. HRWC inspection fee	90	PU	90
Total application and permit fees			**$1,065**
Development charges			
10. Solid Waste Regional CCC	230	PU	230
11. Wastewater Treatment Regional CCC	880	PU	880
12. HRWC CCC (Bedford West)	1751	PU	1,751
13. Transportation CCC (Bedford West)	1,296	PU	1,296
Total development charges			**$4,157**

Source: HRM Staff

Undergrounding, as the term implies, refers to placing residential electrical and communications lines underground instead of suspending them on poles above ground. The rationale for undergrounding is to improve aesthetics and increase reliability of services. For the HRM, it was determined through the Municipal Planning Strategy (2006) that the continued practice of installing utilities infrastructure overhead ran counter to the Strategy's aesthetic and reliability objectives.

Undergrounding of utilities is typically applied in one or more ways in cities across North America. The HRM has considered options involving various intensities of undergrounding for new developments[9]:

- **Full undergrounding** – HRM would mandate new developments to underground all electrical and utility lines along collector roads and residential streets. This carries an estimated cost of $8,800/40' lot.

[9] *Underground Utilities Feasibility Study for Halifax Regional Municipality* (2005). Cost estimates from HRM staff.

- **Partial undergrounding** – HRM would mandate undergrounding of all lines along residential streets while electrical and utility lines along main arteries would remain overhead. This carries an estimated cost of $7,700/40' lot.
- **Lot-only undergrounding –** electrical and utility lines along collector roads and residential streets would remain overhead, while utilities from pole to house would be underground. This carries an estimated cost of $2,500/40' lot.

Table 5: Proposed HRM and HRWC development charges

		Assumed development charge increments			
Development charge	**Cost ($/unit)**	**$5,000**	**$10,000**	**$15,000**	**$20,000**
Proposed development charges					
Wastewater CCC	6,300				
Transportation CCC	1,419				
Water CCC	375				
Subtotal	**8,094**				
Proposed undergrounding charges					
Service drop (street to house)	2,500				
Residential street	5,200				
Collector road	1,100				
Subtotal	**8,800**				
Grand total	**16,894**				

Source: HRM Staff

The costs of undergrounding utility lines, whether fully or partially, would be borne by subdivision developers in the HRM in the same manner as water, sewer and road services. Developers are expected to pass undergrounding costs up through the residential development value chain in the same manner as the cost associated with these other services. The final cost of the home to the consumer would, therefore, include the cost of the undergrounding, the margins of the developer and builder, real estate agent commission, and HST.

4.2.3 Nominal vs. real charges

From the developer-builder's perspective, gauging the impact of higher DCs is not simply a matter of determining its percentage change to the current house price. This is because the charge forms part of the cost structure for developers and builders, and hence, part of the cost base that is subject to mark-up to cover carrying charges and risk. According to one developer/builder, the developer's gross margin is typically in the 25% range, while the builder operates with a target margin of 10%. Thus, at the developer stage, the DC could rise by 25%, and at the builder stage by 10%. In addition, the sale to the buyer would cost the builder the real estate agent's 5% fee, and a 15% sales tax would apply to these additional costs. Accordingly, a $5,000 increase in the DC would cause the house price to rise from, say, $400,000 to $408,300; not a 1.25% increase, but a 2.10% increase (the build-up is shown in Table 6).

Table 6: Total house price impact of DCs and fees charged to developers in HRM	
Total DCs and fees charged to developer	$5,000
25% Developer margin	+ 1,250
Total cost passed on to builders	6,250
10% Builder margin	+ 625
Total cost added to house price	6,875
5% Real estate agent commission	+ 345
Total pre-tax impact of DCs and fees charged to developer	7,220
15% HST	+ 1,085
Total house price impact	**$8,305**

If developers and builders actually apply their full margins when passing along DCs and fees to homebuyers, initial total charges can increase by 66% once real estate agent commissions and HST are taken into account. The ability to pass these costs on in full depends to some extent on market conditions and the time period under consideration:

- In the short run, with strong demand in the housing market, the incidence of these costs would fall on the buyer; in a weak market, some of these costs may have to be absorbed by the developer/builder, though obviously there are limits to this absorptive capacity. As that limit is approached, the industry response would be to reduce the supply of houses (build only for confirmed purchasers) or change the mix of dwelling units.
- In the long run (once land in existing subdivisions is used up), some or all of any higher DC could be expected to put downward pressure on land prices, possibly by as much as the DC itself. This is because land is the one element in the cost equation whose value tends to contain a large premium. It appreciates over time due to scarcity, without incurring any actual costs.

4.3 Impact on detached / semi-detached house price

4.3.1 DCs and house prices

A central question asked by this study is whether an increase in DCs to cover infrastructure costs will have an effect on house prices in the HRM, and how changes in prices may affect consumer purchase behavior. To understand this impact, we must first consider how the full range of fees and charges has affected prices to date.

Table 3 shows that current municipal charges and fees assessed by HRM add about 4.0% to the 2012 median price of a new single-detached house. The DC on its own adds about 1.1%. These charges did not appear to adversely affect the new house market over the past several years, as demand has not only remained steady since 2008 (2009 excepted), but has increased for even larger homes with greater amenities, pushing average prices in some areas to levels exceeding $500,000.

The impact of the change in mortgage eligibility rules began to become evident in the housing data in 2013. Housing starts (single-detached) were up in 2012 over 2011 (by 10%), but are expected to drop in 2013 (by 11%) and then recover in 2014. Home-builders confirm this trend, reporting a softening market in late 2012, which has carried over into 2013.[10] It is worth noting that housing starts are a good, but not perfect, indicator of the state of the market, since 40-60% (reportedly) are built on speculation that a buyer will come along within a short period. So, there would be a lag of a few months before the shift in demand becomes evident from the housing start data.

4.3.2 Impact analysis

If HRM expands the range of services to which development charges apply (wastewater, transportation, undergrounding electrical and communications wires, libraries, parks and recreation), then charges would rise. To test the impact on the market, development charges are increased by increments of $5,000 to an upper amount of $20,000 above the current level. We assess the impact and market response for single-detached houses across a range of prices in HRM (including the range of most new homes in the Bedford West, Bedford South and Russell/Morris Lake subdivisions).

The first step is to determine the number of households in HRM that could afford a new house. We do this by assessing actual 2010 household income distribution against recent house price levels and current mortgage rules. Table 7 sets out the key values in Columns 1-5, as well as the dollar impact of the higher development costs expressed as monthly mortgage payment increments. New house prices in this example range from $250,000 to $625,000, though the units in the subdivisions in question would ordinarily start at $300,000 for a townhouse.

Table 7 shows there are about 75,000 households in HRM that could afford a house priced at $250,000. This is the number of households with a gross income exceeding the $45,000 needed to qualify for a conventional mortgage assuming a maximum mortgage to gross income ratio of 32% (with a down payment of 20%). Applying the same formula at the upper end of the spectrum, the number drops to 31,550 households with the $110,000 gross income needed to qualify for a mortgage for a house priced at $625,000.

For purposes of the analysis, we simply increase the development costs by the basic DC, assuming the range of sensitivity ($5,000 to $20,000) covers the charges in Table 5, with at least partial coverage of developer/builder margins. This causes the monthly mortgage payment to rise by just over $29 for each $5,000 increment (the increase would be $48, if all mark-ups and fees were included), rising to $116 at $20,000 ($193 if all mark-ups and fees were applied). With DCs fixed on a per unit basis, the impact declines proportionately as houses increase in price.

[10] CMHC, *Housing Now*, June 2013.

Table 7: Impact of increasing development charges on new house affordability

					Monthly mortgage at assumed development charge increase			
House price	Mortgage	Required gross income	Approx. no. families at or above required income	Base monthly mortgage payment	$5,000	$10,000	$15,000	$20,000
(1)	(2)	(3)	(4)	(5)	$29	$58	$87	$116
$250,000	$200,000	$45,000	75,080	$1,169	1,198	1,227	1,256	1,285
$281,250	$225,000	$50,000	71,160	$1,315	1,344	1,373	1,402	1,431
$312,500	$250,000	$55,000	67,245	$1,461	1,490	1,519	1,548	1,577
$343,750	$275,000	$60,000	65,555	$1,608	1,637	1,666	1,695	1,724
$375,000	$300,000	$65,000	61,465	$1,754	1,783	1,812	1,841	1,870
$406,250	$325,000	$72,500	55,150	$1,900	1,929	1,958	1,987	2,016
$437,500	$350,000	$77,500	52,515	$2,046	2,075	2,104	2,133	2,162
$468,750	$375,000	$85,000	47,815	$2,192	2,221	2,250	2,279	2,308
$500,000	$400,000	$90,000	41,325	$2,338	2,367	2,396	2,425	2,454
$531,250	$425,000	$95,000	38,160	$2,485	2,514	2,543	2,572	2,601
$562,500	$450,000	$100,000	34,813	$2,631	2,660	2,689	2,718	2,747
$593,750	$475,000	$105,000	33,141	$2,777	2,806	2,835	2,864	2,893
$625,000	$500,000	$110,000	31,550	$2,923	2,952	2,981	3,010	3,039

1. Includes all purchase costs, fees, taxes and charges, excluding the development charge increase.
2. After 20% downpayment.
3. Based on maximum mortgage ratio (principle, interest, insurance, taxes, and heat) to gross income of 32%.
4. Based on 2010 HRM income distribution (Source: Statistics Canada, special tabulation)
5. Without increased development charges, assuming 25 year mortgage at 5%.

For purposes of the analysis, these increments are assumed to apply equally on a per house basis irrespective of price, though this need not be the case since the developer would have the option to pass the development charges along to buyers on a discretionary basis. In other words, even though the municipality bases the total development charge on the number of units, the developer's objective is to recoup this overall cost through lot prices that could vary by lot size and market conditions.

4.3.3 Implications for affordability

The questions, then, are what impact would the increase in the development charge have on affordability? How would this affect the buying decision?

Any increase in the price of a new house has an adverse impact on affordability. This is clear from Table 8, showing the impact of the incremental development charge on houses priced at $343,750 (row or small single-detached) and $468,750 (single-detached). At a price of $343,750, some 65,555 households with an income of at least $60,000 could afford to buy this house under current mortgage rules (able to afford a maximum monthly mortgage of $1,608); 47,815 households with income at or above $85,000 could afford to buy the house priced at $468,750 (able to afford a maximum monthly mortgage of $2,267). Adding the DCs (before any mark-up) causes the required mortgage payments to rise, thereby reducing affordability at each income level (the actual impact may be determined by following the rows to the right).

To estimate the impact on affordability, we divide the households in each bracket into four groups, assuming an even distribution of income within each bracket. In Case 1 (house price $343,750), there are 4,090 households in HRM in the $60-65,000 income bracket. In Case 2, (house price $468,750), there are 6,490 households in the $85-90,000 income bracket. The actual number of households affected depends on house price and mortgage and where it strikes the income distribution in the bracket.

Table 8: Impact of rising development charges on housing affordability in HRM

	Case 1: house price $343,750				Case 2: house price $468,750			
	4,090 households with income $60,000-65,000				6,490 households with income $85,000-90,000			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Income quartile	60,300	61,550	62,800	64,050	$85,000	$86,250	$87,500	$88,750
2. Households in bracket	1,023	1,023	1,023	1,023	1,623	1,623	1,623	1,623
3. Maximum monthly mortgage	**1,608**	**1,641**	**1,675**	**1,708**	**2,267**	**2,300**	**2,333**	**2,367**
4. Development charge (DC)	5,000	10,000	15,000	20,000	5,000	10,000	15,000	20,000
5. Monthly mortgage incl DC	**1,637**	**1,666**	**1,695**	**1,724**	2,221	2,250	2,279	2,308
6. Households able to afford	3,068	2,045	1,023	1,023	6,490	6,490	4,867	3,244
7. Total households at or above	64,533	63,510	62,488	61,465	47,815	47,815	47,815	46,192
8. Loss per $1000 DC increase	205	205	205	205	0	0	325	325

Source: Statistics Canada, special tabulation, for income data

- In Case 1, the DC impact at each $5,000 increment is just high enough to cause the required mortgage to exceed affordability (as defined by mortgage eligibility rules) in each quartile. Where the amount in Row 5 exceeds the amount in Row 3 in any bracket, the house becomes unaffordable for the 1,023 households in each quartile (e.g., with the $5,000 DC in Q1, the monthly mortgage rises to $1,637, exceeding the maximum mortgage available at that income level). If the DC does not rise above $5,000, the house is affordable for all households in Q2-Q4. If the DC rises to $10,000, the required mortgage rises to $1,666, exceeding the maximum mortgage ($1,641) in that bracket. But the required mortgage is still affordable for households in Q3 and Q4, so with a DC at $10,000, the house is affordable for half the households in the $60-65,000 income bracket.
- In Case 2, a DC of up to $10,000 has no impact on affordability because the mortgage available (Row 3) exceeds the required mortgage (Row 5) in all quartiles. But increasing the DC to $15,000 causes the required mortgage to exceed the available mortgage for households in Q1; at $20,000, the DC would extend the affordability constraint to the Q2 households.

We can draw a few conclusions from these examples.

- First, there is no consistent relationship between the increment in the DC and the number of households affected in terms of affordability. This depends on the income bracket, the number of households in the bracket and the house price. In the examples in Table 8, the number of households facing affordability constraints per $1,000 of DC increase is relatively small: 205 for houses in Case 1 and 325 households in Case 2, but only after the DC exceeds $10,000.

- Third, we are assuming a strict application of the 32% mortgage ratio rule. From the results in Table 8, we can see that in several cases the difference is less than $25 between the maximum mortgage according to that rule and the amount needed to cover the DC increment. In practice, a difference of a few dollars would be accommodated.

The second question posed above asks how the buyer's decision would be affected if the DC increment in fact tipped the mortgage into an unaffordable range. For this, there is no clear-cut answer; the buyer has several options:

- If location were important (and real estate agents contend that it is), then select a less expensive house, or the same structure but with less expensive features. Each subdivision has houses at several price points, and within each, there is a range of options. The required financial adjustment in most instances would appear to be minor and within the envelope of what is offered.
- If house specifications are important and location secondary, then shift to a subdivision where land costs contribute less to price. There are options within existing subdivisions in suburban HRM.
- If adjusting house characteristics and location still leave the new house price unaffordable, then buy an existing house. Average costs for the 6,000 or so houses sold annually in HRM ($280,000) tend to be below the entry level in the new house market. There is much to choose from.
- Try to increase the mortgage ratio to adjust to the higher price. For high-income households in particular, the banks can be flexible around the 32% rule. Increasing this by even two percentage points (to 34%) would add about $25,000 to a maximum mortgage in the $390,000 range.
- Purchase a new house in a subdivision outside the serviced area. House construction costs are likely to be similar to those in suburban subdivisions, but land and service (possibly) costs less, making this a potentially attractive option from a purely cost perspective. Overall commuting costs, of course, would be substantially higher, but it is not clear how (if at all) these are factored into the calculations.

4.3.4 Location decisions

The relatively small impact on mortgage payments created by an additional $5-10,000 on house prices in the $350-450,000 range could be readily mitigated through adjustments in one or more of house size, type or features, or possibly through flexibility in the application of the mortgage rules. DCs in this range are unlikely to cause a change in location. Increases in the $15-20,000 range may become more problematic for those prospective purchasers close to the margin (and who are in the market *only for a new home*) and could send them beyond the serviced area for more attractive options.

There are a number of relatively new developments in HRM in which the bulk of new homes are being built. The Parks of West Bedford, Russell Lake West, and the Ravines of Bedford South are currently being developed by a small number of real estate developers and hold a large portion of the new housing stock and available lots. Other smaller pockets of new housing are being developed in other areas of the region. For those who desire a new home in HRM, these communities offer the widest range of options. For those prospective purchasers who insist on a new home, are close to the

margin of affordability, and are pushed out of the market because of an increase in the price of a house, few options exist within the municipality. New home construction is limited to in-fills in the Regional Centre, and higher land and construction costs would likely make this option unaffordable for a buyer unable to purchase in a suburban community.

Beyond the Regional Centre and new suburban developments, options are limited to unserviced areas within HRM and outside HRM completely. This preference has been expressed by many and has led to increased development in areas such as Hammonds Plains, St. Margaret's Bay, Prospect, and as far afield as Chester, Windsor, and Elmsdale. What these options have in common is proximity and access to twinned or large arterial roadways, and the development of community, recreation, and shopping amenities.

While the option to live outside the HRM has attracted many, it is unclear whether affordability of suburban homes is the driving factor; the decision may simply be based on a preference for rural living. In comparing average house prices in suburban HRM to those in unserviced areas, the case for increased affordability appears somewhat weak. House prices (new and existing) average between $270,000 in Hammonds Plains to nearly $350,000 in Enfield, with new homes in these areas requiring an additional $25,000 in septic infrastructure. Adding in the cost of commuting and, most likely, a second vehicle and the gap begins to close.

It should be noted that this exurban-only option applies to a subset of homebuyers in the HRM, that is, the portion of the market that demands a new home. For many other buyers, the options beyond new homes in the suburbs expand to existing home stock in many neighborhoods in the HRM. It is unrealistic to assume that anyone priced out of a new suburban development would necessarily move outside the region.

4.4 Multi-unit rents

4.4.1 DC impact

Multi-unit apartment buildings represent a major portion of residential construction in the HRM. Understanding the potential impact of DCs on developers' decisions to construct high-density housing is, therefore, important.

For the purposes of evaluating the impact of DCs for multi-unit building construction, infrastructure and land dedication charges were examined in isolation due to a lack of comparative data (construction cost and land value) for other cities at the time of the analysis. All calculations have been based on a 100-unit apartment building with 1,200 square-foot units constructed for $175,000 each. This cost estimate is based on information provided by an HRM developer.

As Table 9 illustrates, infrastructure charges alone add between 1 and 20% to the total construction cost of $17,500,000. Land dedication charges add another few percentage points in each case. DCs are highest among Ontario municipalities, with the HRM falling well below most cities examined.

Table 9: Infrastructure and land dedication charges on multi-unit dwellings in Canadian cities, 2012

	Average Rent 2BR	Infrastructure Charges	% of Total Construction Cost	Land Dedication Charges	Total	% of Total Construction Cost
Vaughan	$955	$3,461,700	20%	$850,000	$4,311,700	25%
Hamilton	$876	$1,956,000	11%	5%	$1,956,000	-
Mississauga	$1,117	$1,563,294	9%	5%	$1,563,294	-
London	$896	$1,406,700	8%	$37,500	$1,444,200	8%
Ottawa	$1,104	$1,128,300	6%	10%	$1,128,300	-
Toronto	$1,164	$1,084,100	6%	15%	$1,084,100	-
Surrey	$897	$1,080,000	6%	$657,600	$1,737,600	10%
Windsor	$770	$949,500	5%	5%	$949,500	-
Greater Sudbury	$891	$928,500	5%	5%	$928,500	-
Vancouver	$1,210	$884,957	5%	$615,055	$1,500,012	9%
Kelowna	$911	$801,100	5%	$530,000	$1,331,100	8%
Waterloo	$904	$533,800	3%	$241,300	$775,100	4%
Calgary	$1,150	$414,289	2%	10%	$414,289	-
HRM	**$926**	**$335,000**	2%	**10%**	**$335,000**	**-**
Regina	$948	$286,735	2%	10%	$286,735	-
Prince George	$729	$204,500	1%	$25,000	$229,500	1%
Burnaby	$1,119	$171,200	1%	$426,000	$597,200	3%
Edmonton	$1,071	$132,628	1%	10%	$132,629	-
Winnipeg	$901	-	-	10%	-	-
Charlottetown	$797	-	-	$0	-	-
Montreal	$1,414	-	-	-	-	-
St. John's	$744	-	-	10%	-	-
Moncton	$721	-	-	8%	-	-

Note: cities with no available DC data at the time of the analysis were excluded from the table.

4.4.2 Development decision analysis

A developer's decision to build multi-unit rental properties is based on a complex range of factors that include projected demand for housing, land cost, availability and cost of financing, the existence of viable alternatives, etc. In order to evaluate the impact DCs might have on the multi-unit rental market, the factors that can be identified with some certainty must be isolated and assessed.

In the case of apartment development in the HRM, we can begin to understand the impact of DCs by looking at how the incremental cost added to the construction of a building affects the rents per unit owners must charge to meet the average capitalization rate, or expected rate of return on the investment in the property, achieved by investors in 2012. The analysis is based on the following assumptions:

- **Building / unit type** – the analysis is based on a 100-unit building with 1,200 ft^2, 2-bedroom apartments.
- **Building construction cost** – construction cost runs between $175,000 and $210,000/unit (effectively, about $150-175/$ft^2$). We use these costs because they are at the low end of the cost range, where unit DCs would have the greatest proportional impact. Construction costs for multi-unit buildings in HRM can exceed $400/$ft^2$.
- **Land cost** – assumed to be approximately $20,000 per unit.

- **Net rents** – average gross rents for similar units in the HRM of $1,300 are adjusted down by approximately 8% to account for property tax, management fees, and maintenance.
- **CAP rate** – an average capitalization rate of 5.7% was achieved among developers in the HRM in 2012[11].
- **Development charges** – because DCs would be applied to multi-unit developments based on a different formula than detached dwellings, proposed DCs of $5,000, $10,000, $15,000, and $20,000 were each reduced by 30%.

Estimating rents required to meet the average CAP rate on a property investment under the four DC scenarios involves applying the average CAP rate to the total building construction cost plus DC. The results of the analysis are summarized in Table 10.

Table 10: Monthly apartment rents per unit required to meet average CAP rate on multi-unit construction

Building construction	Cost per sqft	Total land cost	Total construction	Development Charges per Unit ($)			
				3,350	6,700	10,050	13,400
21,000,000	175	2,000,000	23,000,000	1,208	1,226	1,243	1,260
24,000,000	200	2,000,000	26,000,000	1,363	1,381	1,398	1,416
27,000,000	225	2,000,000	29,000,000	1,519	1,536	1,554	1,571
30,000,000	250	2,000,000	32,000,000	1,674	1,691	1,709	1,726

Table 10 tells us that a building with one hundred $210,000-units ($175/ft^2 construction plus $20K land cost) would require monthly rents of between $1,208 and $1,260 under minimum and maximum DC scenarios to achieve a 5.7% capitalization rate on the property investment. As construction cost increases, required monthly rents rise and the proportional impact of DCs declines.

Although the above analysis is a simplified representation of a financial model a developer might use to make an investment decision, it serves as an indicator of how DCs may impact multi-unit development. A two-bedroom apartment in Clayton Park rents for about $1,300 per month. Table 10 illustrates that if construction costs are kept below $200 per square foot, required rents are in the range of the average being charged, thereby not undermining the investment opportunity. As construction cost exceeds $200 per square foot, the DC has the potential to push required rents past average levels in the current market.

4.4.3 Other considerations

The model above illustrates the potential impact that DCs can have on the investment returns expected by developers. It also highlights that, given the market assumptions used, required rents run close to what the market currently charges in the HRM, and that investor returns are sensitive to construction cost variability.

The cost of borrowing also plays a major role in developer decision-making. Should the currently low interest rate environment begin to return to its historical average, developer margins will narrow and be less able to absorb increased construction costs. What isn't known is the lower end of the range of return (CAP rate) developers are willing to accept – this model assumes a fixed rate of 5.7%.

[11] Colliers International Canada.

Finally, the development of rental apartments in the HRM is also affected by changes in the market forces of demand and supply. Despite the municipality's high proportion of rental housing as compared to other cities in Canada, vacancy rates have remained stable at an average of about 2.6% since 2009 (2.8% for all Canadian cities). Should this trend continue, population growth in the HRM would continue to provide demand for multi-unit rentals given the limited supply of condominiums in the region.

Developers, however, have commented that an oversupply of rental units is currently being built into the market and will take many years to return to equilibrium (this is consistent with CMHC's vacancy rate projections in Table 1). If an oversupply of rental units were to exist, future developers facing increased construction costs in the form of DCs, higher interest rates, or both, could be challenged to compete with rents offered at existing buildings. The vacancy rate data, though rising, show no indication of an unbalanced market at this point.

4.5 Market impacts – empirical evidence

4.5.1 Key questions

Municipal growth requires infrastructure. Municipal governments have three options to fund infrastructure development: property taxes, development charges, and grants from senior levels of government. The latter source has greatly declined over the past few decades, leaving municipalities to fund development largely from their own resources. In discussing the DC, it should always be borne in mind that *costs have to be covered one way or the other*; the DC simply represents an alternative to property taxation, one that imposes the cost more directly and more immediately on those who benefit (owners of new homes). DCs in one form or another have been implemented since the late 1980s. They have been the subject of several empirical studies to assess impact. The results of these studies have been summarized in two reports (one Canadian and one American),[12] with the main findings presented below. We organize the discussion by addressing two key questions:

- Will the DC affect the rate of residential development?
- Can DCs influence development objectives?

4.5.2 Impact on rate of development

The rate of residential development would be affected (if at all) directly though the impact on housing demand arising from the impact on house prices. But more broadly, DCs affect rate of development through several factors including the state of the economy and related factors affecting demand including population, employment and income growth; comparative DCs in adjacent communities; size of land holdings by developers and the functioning of the market for land; and the transition arrangements made in implementing or increasing the DCs.

[12] Watson and Associates Ltd., *Town of Ajax 2008 Development Charge Background Study*; Burge et al., *Effects of proportionate-Share Impact Fees*, Housing Policy Debate, Vol. 18, Issue 4.

Among the specific findings:

- DCs represent a minor component of overall housing costs when compared with construction, land and sales taxes. This is certainly the case in HRM, where current DC accounts for 1.1% of the median new house price (compared with 7% in some Ontario cities).
- DCs are fully incorporated in the final selling price of the house to the buyer where market conditions allow (stable to strong markets), and at least partially in weak markets. This is not just a function of developers and builders passing the costs along (forward shifting), but is effectively a capitalization of offsetting property taxes that buyers would otherwise have had to pay for infrastructure. In other words, the buyer is paying up front in terms of a higher price, or over the longer term in terms of higher property taxes (though the latter would fail to achieve any equity objective associated with user pay principles since existing homeowners would be paying higher taxes on infrastructure benefits they do not receive).
- Land prices appear to absorb some or all of the impact in the long run, particularly in an environment where DCs are increasing. Developers shift higher DCs back to land owners in the form of lower prices. This reduces upward pressure on the house prices. This impact can take several years to emerge, depending essentially on how soon developers have to go to the market to obtain raw land (or, alternatively, on how many years' supply of developed land is available).
- No direct correlation has been established between the rate of development and the level of residential DCs over the long term due to market dynamics. In strong markets, house prices reflect demand pressures more than simply a cost recovery formula.

4.5.3 Impact on development objectives

DCs can influence overall infrastructure costs through higher density development provided the charge is designed appropriately. Whether average or area-specific DCs are used and what basis is used to denominate the DC are two key elements of design.

- The literature indicates that area-specific rather than average charges can be used to encourage density. Three reasons are put forward as to why costs may differ, justifying area-specific DCs: distance from major facilities; existing infrastructure may already have capacity; and, service standards may vary among developments due to differing characteristics.
- Area-specific DCs may be formulated more readily for hard services (water, sewer) than soft ones (policing, libraries), and consequently there is limited scope for differentiating the DC for a large share of the charge for soft services.
- In order to make density development attractive, there must be a sufficient differential between low density and high-density development charges.
- Area-specific DCs would not in themselves be sufficient to attract higher density development since there are several factors at work influencing decisions on form and location.

- With respect to density of residential development, evidence suggests that DCs applied on a per unit basis can confound objectives because they provide an incentive for lower density development. A developer survey in Toronto found that when DCs are applied on a per unit basis, developers have an incentive to increase lot size, thereby decreasing population density. By increasing lot frontage, the subdivision would hold fewer units, thereby saving the developer part of the increased cost of DCs.[13] Of course, whether a DC provides such an incentive depends on the size of the charge relative to the market value of lots to builders. It only makes sense to increase lot size and reduce the number of units if the savings in DCs is greater than the revenue from lot sales. Nonetheless, DCs levied on a per unit basis have been criticized for failing to provide an adequate density incentive; DCs based on frontage (the factor generally driving infrastructure costs) could align objectives more effectively.

4.5.4 Impact of undergrounding

The affordability analysis above considers the impact of all DCs, fees, and taxes on the price of housing in HRM. The increases to current DCs captured by the four cost scenarios are high enough to capture charges for undergrounding utilities. Because undergrounding and the associated charges are being examined by the HRM, it is useful to consider how undergrounding alone may have an affect on house prices.

The rationale behind undergrounding is the improvement of both the aesthetics of the neighborhood and reliability of the infrastructure installed. Both of these enhancements should, in theory, increase the value of real estate in the affected area. Residential real estate markets, however, are not infinitely flexible in the face of rising construction costs. That is to say, new house prices are as reflective of consumer demand as the producer costs that underlie supply. Economic theory suggests that when costs increase in the short run, developer and builder profit margins will shrink and fewer houses will be built and sold in the medium term, all other factors remaining equal.

Another way of looking at how undergrounding may impact house prices is to try and determine what consumers might be willing to pay for the perceived benefits their neighborhood receives. While no empirical evidence on undergrounding and home values could be found for Canada, the issue has been examined in housing markets in Australia.

Results of both contingent valuation (willingness to pay) and cost-benefit analysis point to undergrounding having a modest positive impact on house prices. These analyses determined consumers would be willing to pay approximately $7,000 per house for undergrounding, and that neighborhoods with buried transmission lines would see house price increases of between 1 and 4%, with higher valued homes seeing the greatest increase in value. Value aside, identified benefits also included increased reliability and quality of supply, safer street lighting, and reduced landscape management costs.

[13] Skaburskis and Tomalty, in a review of DCs in Toronto and Ottawa, report that in Toronto increasing the number of lots in a development can increase DC cost faster than net revenue, and although the charges are lower on high-density units, the difference is not enough to offset the gains from increasing lot frontage. This contrasts with the finding in Ottawa, where the design of the DC encourages density (the DCs on single-detached houses adversely affected affordability and were driving buyers into town houses or row houses).

The relative merits of undergrounding extend beyond the narrow question of impact on house prices and values to include the broader economic and environmental impacts (the so-called external effects). Locating lines below ground in a well-designed system rather than overhead can have a positive effect on the overall reliability of local utilities by reducing power outages caused by tree contact, weather, and other external shocks. The extent of the benefit, however, depends on the interconnectedness of the new system to proximate overhead lines that may have greater incidence of outage.

Undergrounding utilities can also have a positive impact on tree cover in new suburban areas. Assuming that lines are fully undergrounded on residential streets (rather than service drops), and that homeowners plant trees where power lines would have created obstruction, growth in the suburban canopy could result in increased pollution abatement, improved aesthetics, and home energy savings resulting from shade of mature trees. Higher tree density is also associated with improving water quality, and mitigating storm water damage and erosion[14].

Other potential benefits of undergrounding include reduced tree maintenance and utility-pole related automobile accidents.

Assuming full undergrounding of all utilities, the present value of the above range of benefits over 40 years has been estimated as follows[15]:

- Increased reliability: $289,000.
- Air pollution abatement: $13,500.
- Improved aesthetics: $318,500.
- Home energy savings: $159,600.
- Reduced tree maintenance and motor vehicle accidents: $428,000.

[14] Halifax Regional Municipality, *Urban Forest Master Plan*, 2012.
[15] Kinectrics Inc., *Underground Utilities Feasibility Study for Halifax Regional Municipality*, 2005.

5

Alternatives and affordability

5.1 Alternatives to development charges

5.1.1 Property taxes and user fees

Property taxes and fees represent a second-best option to cover costs of network services. Two approaches are possible: first, rates and fees would be equal for all property owners (by class) across areas within the HRM; second, taxes and fees are structured to reflect the differences in capital and operating costs associated with delivering the services covered.

The conventional “postage stamp” approach to municipal taxation and fee setting has the virtue of simplicity, but suffers greatly from its failure to price resource use efficiently and send the right signals to consumers. A flat rate system is unrelated to costs of particular services. It creates excessive demand and resource waste.

A system of efficient prices (whether for infrastructure or services) would reflect costs at the margin so that users know and can respond to the actual costs they impose on the system. This results not only in greater efficiency, but also in greater equity, since no cross-subsidization occurs. The key is to unbundle the various services covered by a single property tax and price each according to its costs and the user’s use of the service: garbage removal, recycling, snow removal, water, sewer, parking. The prices – which could be split into fixed and variable components – should be transparent and directly linked to costs.

5.2 Affordability

5.2.1 What does it mean

Housing affordability is a concept rooted in the assessment of household budget “rules of thumb” against the basic housing costs of mortgage principle and interest, taxes, insurance, and utilities. In a practical sense, mortgage lenders determine a household’s ability to borrow money to buy a house by applying monthly gross income to the cost factors above plus other outstanding debt obligations (credit card, consumer debt, lines of credit, etc.). Monthly housing costs can represent no more than between 30% and 40% of gross income, depending on a borrower’s income level, credit rating, and other factors.

Although this affordability criterion is used to determine the maximum amount a household can borrow, it does not necessarily take into account what a household can practically afford. It could be argued that ratios that attempt to predict the ability of families or individuals to make timely mortgage payments over 25 to 30 years fail to account for the realities of human nature and our collective discounting of real costs in the face of consumer wants and overstated need. Regardless of whether or not a family

of four needs a 3,000 square-foot house in suburban HRM, demand exists and has been effectively satisfied over the past few years as evidenced by the expansion of communities such as Bedford West and Russell Lake West.

Discussions of affordable housing also focus on the ability of low-income individuals or households to meet basic shelter needs. DCs would have an adverse impact on this segment of the market, if implemented without consideration of the consequences for those with low incomes. For this reason, in cities where DCs are implemented, policies are adopted that either exempt their application for specified categories of housing, or provide some form of subsidization to ensure affordability objectives are met.

5.2.2 Indicators

National and local indicators of affordability help provide a sense of how housing market factors and household finance interact, and how changes in either may affect affordability in the future. RBC's *Housing Trends and Affordability* is a quarterly analysis of housing affordability in major centres across Canada. The May 2013 report concluded that national housing affordability has been stable since 2010, but that owning a home requires "a modestly larger-than-usual share of a typical household's income," – 42% nationally, as compared to the standard financial industry benchmark of 32% (housing cost to income).[16] Table 11 summarizes housing affordability in major Canadian cities in the first quarter of 2013.

Table 11: Affordability ratios of bungalows in select Canadian cities, 2013

	Average price	Qualifying gross HH income ($)	RBC housing affordability ratio	Average affordability measure since '85
Canada	366,500	77,700	42.5	39.0
Vancouver	786,300	147,300	82.3	59.8
Calgary	451,800	89,500	38.7	39.1
Edmonton	330,000	71,900	30.4	33.1
Toronto	556,600	113,300	53.8	48.7
Ottawa	389,800	88,400	39.1	36.8
Montreal	294,500	63,900	40.1	36.8
Atlantic	**220,400**	**52,600**	**32.6**	**31.6**

Source: RBC

While a number of cities fall well outside the 32% affordability ratio, housing in Atlantic Canada is considered affordable by this metric. Affordability in the HRM may fall above the aggregated Atlantic measure due to higher average house prices, but this would be offset by higher average incomes.

The report concludes that, while the Canadian housing market is stressed, it is not yet in the "danger zone", but that the major risk to affordability comes from rising costs of borrowing. Should the extremely low interest rate environment that has contributed most

[16] It may strike some readers as surprising that affordability ratios in some cities far exceed the 32% guideline established by lenders. This is possible because as reported in Table 10, the ratio does not reflect what is actually occurring in the housing market. For example, the 82% reported for Vancouver reflects the relationship between median income and average house prices; the measure of median income captures many who already own homes and who are not actually in the market. At the average house prices reported, those in the market would have to have income at the qualifying level indicated (to meet the 32% guideline) or have a substantial down payment that would bring the ratio into line.

to affordability return to “normal”, households across the country would face higher financing costs. RBC raised its five-year rates for fixed mortgages twice in June 2013, with other major financial institutions following suit.

5.2.3 Implications of DCs

The relevant issue for the analysis of increased DCs in the HRM is whether or not the combined effect of increased charges, fees, taxes, and market trends will impact affordability in both technical and real terms. The house price impact analysis in Chapter 4 demonstrates that even $20,000 increases to new house prices in select communities will have little effect on the ability of home owners to secure and service mortgages at current interest rates. It theoretically knocks some households out of any given market, but there are plenty of HRM residents and new immigrants with income enough to meet the affordability criteria.

How affordability changes will depend on a range of factors that include interest rates, household income, performance of the broader economy, and others. If industry stakeholders report a 15% to 20% decline in sales activity after the introduction of stricter lending rules, then it is conceivable that a return to more normal, non-emergency interest rates will also impact housing affordability.

Demand for new housing in suburban HRM will be affected to the extent that suitable alternatives exist. While alternatives include existing homes in peninsular Halifax, Dartmouth, and older suburbs in Sackville, Fairview, and Spryfield, there is a segment of the market that demands a new house in a community with specific amenities. Options also exist in communities outside HRM but within commuting distance, and growth in those areas indicates that some are willing to bear the economic costs associated with travel and unserviced lots.

In essence, a range of household-level and economy-wide factors, as defined by access to mortgage financing, influences affordability. Should house prices increase in the short term due to DCs, while interest rates rise, new homes will become less affordable for a greater number of people. Affordability in the long term will depend on how trends in household income, interest rates, housing supply, demographics, and macroeconomic performance interact and drive the market.

5.2.4 Property taxes

The issue of affordability also applies to property taxes and services. In the absence of an accepted criterion of what constitutes tax affordability, we instead look at how taxes and services in HRM compare with those in other municipalities in Canada, both in terms of the amount paid and capacity to pay as a percentage of median income. These indicators are set out in Table 12, with cities listed in descending order of taxes/fees paid.

Table 12. Relative impact of annual property taxes and services, selected cities, 2010 ($)

	Median income	Property tax		Services		Total	
		Paid	% of income	Paid	% of income	Paid	% of income
	1	2	3	4	5	6	7
Toronto	68,110	2,999	4.4%	942	1.4%	3,941	5.8%
Vancouver	67,090	2,721	4.1%	1,010	1.5%	3,731	5.6%
Saint John	69,100	2,701	3.9%	914	1.3%	3,615	5.2%
Edmonton	87,930	2,366	2.7%	1,178	1.3%	3,544	4.0%
Regina	84,890	2,485	2.9%	857	1.0%	3,342	3.9%
Victoria	77,820	2,696	3.5%	557	0.7%	3,253	4.2%
Fredericton	n.a.	2,790	n.a.	458	n.a.	3,248	n.a.
Montreal	67,010	3,083	4.6%	40	0.1%	3,123	4.7%
Calgary	89,490	2,114	2.4%	948	1.1%	3,062	3.4%
Halifax	**76,500**	**2,332**	**3.0%**	**636**	**0.8%**	**2,968**	**3.9%**
Winnipeg	72,050	2,078	2.9%	811	1.1%	2,889	4.0%
St. John's	78,210	1,422	1.8%	1,002	1.3%	2,424	3.1%
Simple average		2,482	3.3%	779	1.1%	3,262	4.3%

Col. 1 median income, all census families (CANSIM, Table 111-0009)
Col. 2 includes municipal, school and other taxes, net of grants and credits
Col. 3 derived by expressing Col. 2 as a percentage of Col. 1.
Col. 4 includes water, sewer and garbage collection charges not included in Col. 2
Col. 5 derived by expressing Col. 4 as percentage of Col. 1
Source: City of Edmonton, *2010 Residential Property Taxes and Utility Charges Survey*

From Table 12 we can see that in terms of total taxes and fees paid, HRM ranks in the bottom half of the group of cities selected for comparison ($2,968 vs. an average of $3,262). HRM also ranks just below the group average in term of the percent of income accounted for by taxes and fees (3.9% for HRM vs. a group average of 4.3%). These comparative indicators suggest that at their current level, HRM property taxes and fees impose a relative small burden on property owners, and one that is in line with other municipalities in Canada.[17]

Of course, the average assessed value represented in the survey for HRM (about $200,000) is well below the value/price of new houses ($380,000). The latter would pay in the range of $4,600 in taxes, a substantially higher burden. While high absolute levels of property taxation are a concern for future housing demand, taxes do form an element in the mortgage eligibility formula, and so far, do not seem to have had a negative impact on growth.

[17] The annual household expenditure survey conducted by Statistics Canada provides data on average property taxes paid at the provincial level for all households. For Nova Scotia as a whole, average property taxes in 2010 were about $1,200, accounting for about 2% of household expenditures (comparable to the amount spent on telephone (landline and cellphones and only about 20% more than household spending on tobacco and alcohol). See Statistics Canada, *Survey of Household Spending*, Table 203-0021 at http://www5.statcan.gc.ca/cansim/a26

It is worth noting that the tax and service fee data in Table 12 are compiled through an annual survey of municipalities. The survey is intended to compare the tax and service costs of owning a similar house in each of the municipalities covered. The characteristics of the house forming the basis for the survey (a single-detached bungalow) were ones representative of Edmonton when the survey was started in 1997. These characteristics are not necessarily representative of houses in other municipalities. Accordingly, the results should be used with caution. They provide indicative, but not definitive or comprehensive, information on relative taxes and fees.

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