

Financing Capital Improvements and the Renovation of Social Housing in Ontario

Prepared for the Asset Leveraging Working Group
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Objective

The objective of this study is to determine what options and specific ways of structuring debt may exist for the refinancing/recapitalizing of existing social housing projects to provide the capital needed for major capital repairs, intensification and/or energy efficiency upgrades.

Options are currently constrained by a variety of program factors, the limitations of the terms of existing Canada Mortgage and Housing Corporation (CMHC) mortgage insurance coverage, and the limited availability for housing providers to increase gross rents or increase net operating income to meet increases to debt service costs. In addition, Service Managers and the Province of Ontario have limited financial resources available to fund capital expenditures despite the recognition that the capital reserves of a large number of housing providers are significantly underfunded.

Options will be influenced by the following factors:

- A need to provide a solution to the refinancing of projects held within MBS structures and by institutions in their on-balance sheet portfolios. These loans cannot be restructured or renegotiated without incurring prepayment penalties.
- Finding refinancing solutions requiring little or no increase in annual debt service costs.
- Examining options and potential facilities for aggregating financing requirements to facilitate efficient and cost effective access to capital markets.
- Providing options that can be applied to the various programs under which housing has been developed.
- Providing suggestions as to the administration of any refinancing program including underwriting and any third party evaluations such as cost consultant, engineering and building condition reports.
- Identifying approaches to risk mitigation for any increased debt load by affected parties.

Overview

One of the major challenges facing social housing stock in Ontario is the inadequacy of the capital reserves required to fund essential maintenance and capital replacements. One estimate places the shortfall at \$1.215 billion as at 2012. This estimated shortfall excludes the impact of recent Social Housing Renovation and Retrofit Program (SHRRP) funding. (The Canada-Ontario SHRRP, involving \$704 million in grant funding targeted to repair, regeneration and energy retrofit, was aimed at quick start project spending over a two year timeline. Its impact on the overall capital repair shortfall is difficult to assess. Most housing providers who successfully obtained SHRRP grants are able to leave reserve funds intact. Some Service Managers are requiring matching replacement reserve dollars).

This report will address the potential scale of the capital reserve problem and review the data and ideas published by Social Housing Services Corporation (SHSC), Focus Consulting Inc., and Trow Engineering. It is our opinion that the scale of the problem will become apparent when a much larger proportion of projects have been subjected to a standardized and thorough reserve study analysis. Given the cost of typical apartment renovation works, particularly of high rise structures, underground parking garages, poor insulation problems and deficient heating and electrical systems, the actual shortfall may exceed the \$1.215 billion estimate by a significant margin. This estimate translates into a shortfall of \$4,670 per social housing unit - an estimate we consider to be too conservative given the relatively low per unit reserve funding currently in place and the high cost of retrofitting the most basic of structural items.

This report is premised on the assumption that Service Managers, the Province and federal governments are unable to provide adequate new capital grants or operating subsidies to support the major capital repairs required by the social housing sector but will be prepared to extend existing operating agreements. In order to access the additional debt required to fund capital expenditures, housing providers need a refinancing structure that can rely on repayment levels available to them in servicing current mortgage debt.

Some argue that social housing projects build equity as mortgage loans are repaid and real estate values rise. While it is true that the underlying real estate asset has a value that can be determined through an appraisal process, the value is constrained by both the limitation of its use and the source and level of net operating income. The equity is essentially a "latent equity" that can only be fully realized when rents revert to market value and the assets themselves can be freely traded between investor owners. This latter point is essential to give liquidity to the real estate asset. This approach is not consistent with the purpose of social housing. Mortgage lenders are therefore more concerned with the long term durability of net operating cash flow and will underwrite lending values as if the projects will remain dedicated to their social purpose. Despite these limitations, we are experiencing an historically low level of interest rates that will assist in releasing more capital from the same level of net operating income.

The infrastructure programs introduced in Canada to counteract the impact of the global credit crisis and attendant recession were designed as short term fixes but nevertheless some good work has been done. The federal *Economic Action Plan* (Budget 2009) provided a series of housing related stimuli with a one-time investment of about \$2 billion over two years to build new and repair existing social housing. The Plan also provided low-cost loans of about \$2 billion to municipalities through CMHC to fund housing related municipal infrastructure projects.

Currently the federal government, through CMHC, provides annually about \$1.7 billion in support of some 620,000 households with low income through long-term agreements with the provinces. This style of operating subsidy has been abandoned in recent years in favour of capital grants that limit the commitment of government funds to specific programs for defined amounts. Housing providers are now required to demonstrate long term operating viability for new projects. Service Managers in Ontario have a direct interest in ensuring the long term viability of these new projects and are required under the *Social Housing Reform Act* to maintain appropriate housing standards for their portfolios.

Much of the data used in this report is based on the mortgage loans secured against 3,005 individual social housing projects in Ontario. Projects were not identified and therefore the comments are based on generic Ontario averages and program characteristics. Individual Service Managers may have portfolios that show different profiles, however with regard to the issue of reserve fund shortfall, program design seems to be the overriding factor.

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Financial Markets

Canada's capital markets weathered the global credit crisis well. Banking institutions in Canada had maintained a more conservative underwriting philosophy and had been rigorously regulated by OSFI. Canada avoided the sub-prime disaster which continues to affect US and European lending practices. Canadian institutions have relied more on retail deposits and while mortgage securitizations are a common funding source they typically use CMHC insured programs rather than uninsured loans.

The federal government's Insured Mortgage Purchase Program had an enormously positive impact on mortgage availability during the credit crisis. Introduced in October 2008, the program authorized the purchase of up to \$125 billion of NHA MBS. The program ended in March 2010 with \$69 billion purchased. The Canada Mortgage Bond (CMB) Program complements CMHC's long standing NHA MBS Program. It is considered to be more investor-friendly, duplicating a typical bond by converting the monthly and amortizing cash flows into semi-annual coupon payments and a final principal payment. Bonds are issued by the Canada Housing Trust which acquires mortgage assets and the bonds are in turn guaranteed by CMHC including timely payment. CMBs include multi-unit mortgages and are typically for 5-year and 10-year terms.

In the March 2010 Federal Budget the federal government announced its intention to introduce legislation governing covered bonds, "making it easier for Canadian financial institutions to access this low-cost source of funding." Bondholders have a claim against the issuing bank as well as enjoying a priority claim against the bond's dedicated collateral (e.g. insured or uninsured mortgages). These bonds are already part of the capital markets – as of January 2010 Canadian banks had about \$13 billion in covered bonds outstanding. Capital markets should find these assets more attractive than unsecured debenture financing as they are backed by specific collateral.

One of the lessons of the global financial crisis is that financial institutions need to have access to a variety of funding sources. The Government will help federally regulated financial institutions diversify their funding sources by introducing legislation setting out a framework for covered bonds. Covered bonds are debt instruments that are secured by high quality assets, such as residential mortgages. The legislation will increase legal certainty for investors in these debt instruments, thereby making it easier for Canadian financial institutions to access this low-cost source of funding.

- James M. Flaherty, Finance Minister – March 4, 2010.

On October 21, 2010 Scotiabank announced it was planning a \$2.5 billion covered bond issue backed by CMHC insured mortgages. Earlier in the same month CIBC announced an issue in Australian dollars backed by CMHC insured mortgages. These issues are rated AAA. Royal Bank and TD Bank have also participated in this market.

Total NHA MBS issuance for the year 2009 was \$55.1 billion, up \$19 billion from 2008. Total NHA MBS outstanding at year end (2009) was \$298.3 billion. Total CMB issuance was \$46.9 billion in 2009 up \$3.4 billion from 2008 for a total outstanding issuance of \$175.6 billion at year end (2009). CMHC estimates that total outstanding mortgage credit at the end of 2009 was \$965 billion up from \$903 billion in 2008.

Canadian mortgage loan arrears have remained low. The annual average rate in 2009 was 0.41% of residential mortgages, three months or more in arrears. This compares with the average of 0.43% for the period 1999-2009. Borrowers continue to benefit from historically low interest rates while investors can only earn minimal returns from short term AAA rated bonds and Treasury Bills. Mortgages on social housing projects have also performed equally well in terms of default ratios. This excellent result is also reflected in the commercial mortgage market where lenders have very few defaults. DBRS has reported August 2010 Canadian CMBS (Commercial Mortgage Backed Securities) default rates of 0.38% as compared with a US CMBS rate of 8.83%.

Government of Canada Benchmark Bond yields for October 22, 2010

Term	Yield
1 Year	1.180%
2 Year	1.389%
5 Year	1.909%
10 Year	2.742%
30 Year	3.441%

The most transparent source of mortgage market pricing data comes from the monthly tenders arranged by the Ontario Financing Authority (OFA) for social housing renewals. The OFA recently tendered a block of social housing renewals based on a 10-year term and achieved a bid at 3.401%. A previous 5-year bid in September secured a rate of 2.693%.

Social Housing Mortgage Renewals - CMHC Insured Tender Results

Date	Term	Estimated Spread over GOC bond
October 2010	10 Year	64 basis points (0.641%)
September 2010	5 Year	46 basis points (0.459%)
August 2010	5 Year	61 basis points (0.608%)

This positive history suggests that the capital markets would likely be receptive to any refinancing initiatives seeking to finance the capital shortfalls in social housing renovation and energy retrofitting. The capital markets will respond best to a straightforward structure with simplicity of design, good underlying collateral and credit enhancement provided by CMHC or the Province. This improves market acceptance, liquidity and ease of pricing.

Social Housing – Ontario

The Ontario universe of Limited Dividend, Section 95, 26, 27, Provincially Reformed, Urban Native and Public Housing portfolios is approximately 260,000 units. While replacement reserves are part of the Section 95 and Provincially Reformed programs none appear to relate to a building condition assessment or a reserve fund adequacy study. The shortfall estimate noted above (\$1.215 billion) was derived from 234,000 of the social housing stock where about 68% were deemed to have a reserve capital deficit. If we apply the shortfall to these deficit units only, the average allocation would be \$7,683 per unit, a relatively modest allocation given the cost, for example, of retrofitting building systems, replacing roofs and stabilizing underground parking garages. Work undertaken by the Asset Leveraging Working Group indicates that only 13% of all units have excess cash flow that could be assigned to reserves. (Section 26, 27 and 95 projects are not covered by the *Social Housing Reform Act 2000*).

Types of Social Housing Providers by Units in Ontario per SHSC, December 2008

Private Non-Profit Corporations Included in this total are Supportive Housing (11,317 units) and Emergency/Transitional Housing (2,660 units)	83,227
Co-operative Non-Profit Corporations	44,003
Local Housing Corporations	37,415
Municipal Non-Profit Housing Corporations	13,624
Amalgamated LHCs and MNPs	89,619
Total	267,888

Another source of data (2008 Service Manager AIR Reports) gives the following overview by Social Housing project type:

Types of Social Housing Projects per 2008 Service Manager AIR Reports

Public Housing	100,037
Rent Supplement	18,454
Limited Dividend	3,876
Section 26	2,769
Section 27	11,966
Section 95 (PNP)	20,304
Section 95 (MNP)	10,038
Provincially Reformed	88,442
Pre 1986 Urban Native	551
Post 1985 Urban Native	1,430
Total	257,867

The schedule of operating agreement expiries reveals that the withdrawal of subsidies under the current programs will be completed by 2034. For the next four years to 2014, expiries will primarily affect public housing. In the period 2014-2023 the balance of public housing stock and most of the Section 56.1 (2% write-down) units will be affected. This represents 45% of social housing stock in Canada. From 2024-2034, agreements for 48% of current stock will expire.

As of November 1, 2010 the total outstanding mortgage balances for Section 56.1, F/P and the various unilateral programs overseen by the Ontario Ministry was \$7.191 billion. Of the 3,005 identified projects, the weighted average interest rate was 4.90%. Upon maturity of the current mortgage terms, the weighted average remaining amortization is only 112 months. The current portfolio commenced with a 9.3 year average term. Almost half of all mortgages mature in the next five years.

While current rates for CMHC insured 10-year term loans are much lower (on October 21, 2010 OFA secured a 10-year renewal bid for social housing renewals at 3.401%), the 4.9% average is considerably below interest rates that applied in the period 1980-2003.

Total Mortgages as at November 1, 2010 (MMAH Universe):	\$7,191,451,000
Average Loan per Project (as at November 1, 2010):	\$2,393,162
Average amortization at Last Renewal:	219 months
Weighted Average amortization remaining on November 1, 2010:	190 months
Average Interest Rate at last renewal:	4.5%
Weighted Interest Rate by Term to Maturity:	4.8%
Weighted Average Interest Rate at last renewal:	4.9%
Estimated Loan per unit (November 2010)	\$50,256 *
*this assumes a total number of CMHC insured units of 143,095 in the data pool	

Maturity Schedule as at November 2010

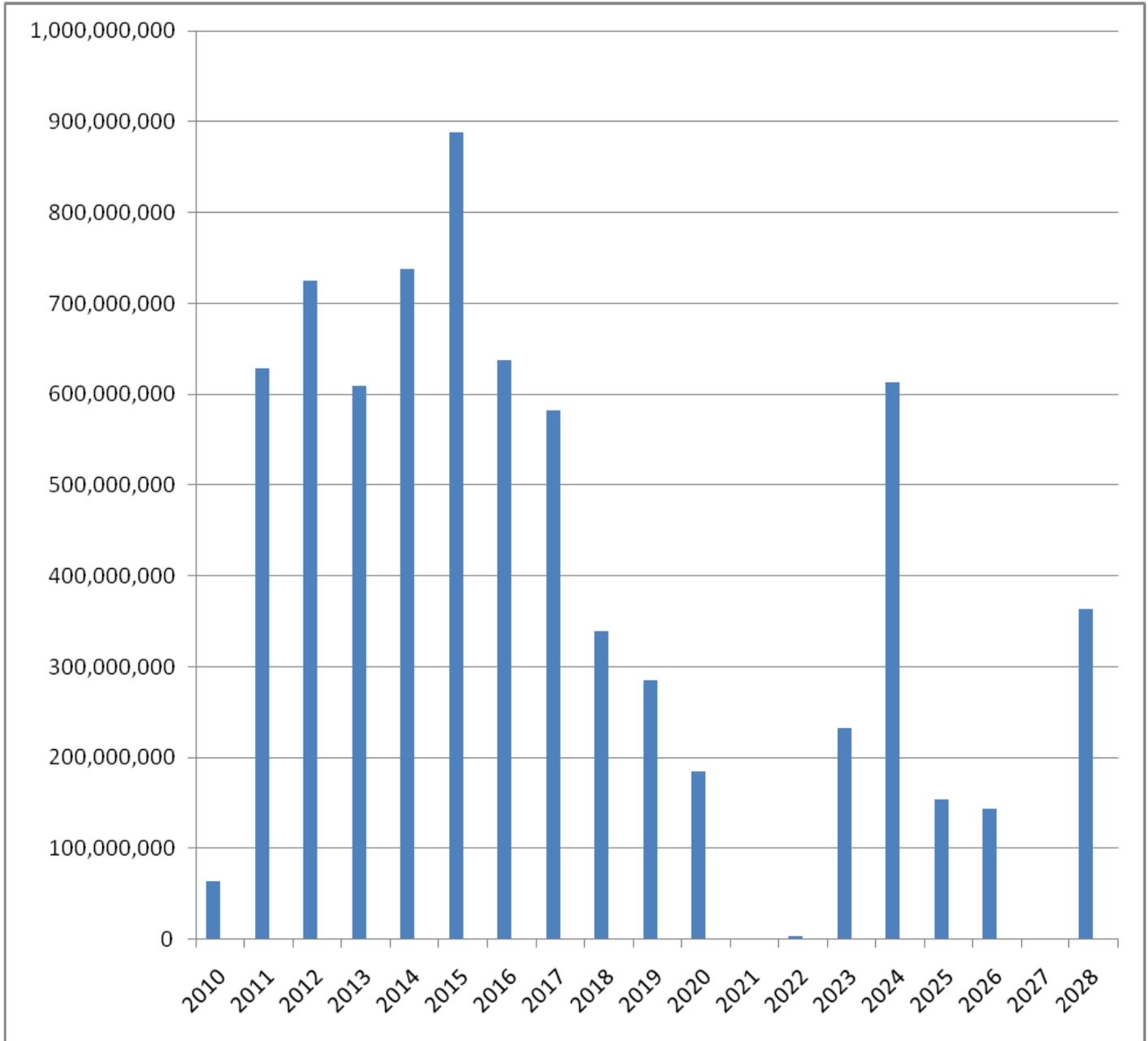
	Number Loans	Total Balance	Average Balance
*2010	21	63,774,634	3,036,887
2011	462	628,682,824	1,360,785
2012	385	725,426,560	1,884,225
2013	296	609,628,194	2,059,555
2014	404	737,329,077	1,825,072
2015	455	888,401,622	1,952,531
2016	260	637,313,904	2,451,207
2017	202	581,593,268	2,879,175
2018	106	339,414,746	3,202,026
2019	69	285,357,069	4,135,610
2020	32	184,652,425	5,770,388
2021			
2022	2	4,100,617	2,050,309
2023	82	232,034,088	2,829,684
2024	127	613,109,809	4,827,636
2025	25	153,804,281	6,152,171
2026	39	143,221,228	3,672,339
2027			
2028	38	363,607,375	9,568,615
Total	3,005	7,191,451,721	2,393,162

* remainder of 2010

Maturity Schedule as at November 2010

	Number Loans	%	Total Balance	%	Average Balance
Balance 2010	21	0.70%	63,774,634	0.89%	3,036,887
2011 - 2015	2,002	66.62%	3,589,468,277	49.91%	1,792,941
2016 - 2020	669	22.26%	2,028,331,412	28.20%	3,031,886
2021 - 2025	236	7.85%	1,003,048,795	13.95%	4,250,207
2026 - 2028	77	2.56%	506,828,603	7.05%	6,582,190
Total	3,005	100.00%	7,191,451,721	100.00%	2,393,162

Outstanding Mortgage Portfolio by Maturity Year (2010 balance from October 10)



The chart **Schedule of Remaining Amortization Term** is a proxy for the trend in operating agreement expirations. It should be remembered that the outstanding balance totals emphasizes the rapidly amortizing balances as the loans run off. The trend in the number of loans paying off is perhaps a more important statistic. Nearly 60% of loans run off within the next 15 years.

Schedule of Remaining Amortization Term
Proxy for Termination of Operating Agreements

# of Months from Nov. 2010	Loans		Cumulative	Current Balance (November 2010)		Cumulative		End Year
2 -36	36	1.00%	1.00%	\$3,694,307	0.05%	\$3,694,307	0.05%	3
37 - 60	60	4.29%	5.29%	\$32,878,933	0.46%	\$36,573,240	0.51%	5
61 - 84	84	6.42%	11.71%	\$141,043,949	1.96%	\$177,617,189	2.47%	7
85 - 108	108	6.39%	18.10%	\$251,889,539	3.50%	\$429,506,728	5.97%	9
109 - 132	132	8.55%	26.66%	\$266,844,834	3.71%	\$969,351,562	9.68%	11
133 - 156	156	13.44%	40.10%	\$541,966,646	7.54%	\$1,289,318,208	17.22%	13
157 - 180	180	18.50%	58.60%	\$873,494,570	12.15%	\$2,111,812,778	29.37%	15
181 - 204	204	22.10%	80.70%	\$2,146,885,878	29.85%	\$4,258,698,656	59.22%	17
205 - 228	228	13.34%	94.04%	\$1,898,744,813	26.40%	\$6,157,443,469	85.62%	19
229 - 252	252	5.26%	99.30%	\$876,949,786	12.19%	\$7,034,393,255	97.82%	21
253 - 271	271	0.70%	100.00%	\$157,058,466	2.18%	\$7,191,451,721	100.00%	22.6
Totals	3,005	100.00%		\$7,191,451,721	100.00%			

The following chart illustrates the interest rate coupons for the mortgages – the bulk of the portfolio is enjoying a low interest rate. The exceptions are the relatively few loans that were negotiated at inception with long term, fixed rate financing.

Rate Range	Number of Loans	Average Term to Maturity	Outstanding November 2010 Balance	Loan Average Balance
<2.5%	99	38	\$119,792,326	\$1,210,023
2.50% - 2.99%	280	49	\$395,961,488	\$1,414,148
3.00% - 3.49%	307	66	\$660,234,816	\$2,150,602
3.50% - 3.99%	139	79.5	\$310,338,095	\$2,232,648
4.00% - 4.49%	791	55.2	\$1,713,135,690	\$2,165,785
4.50% - 4.99%	642	55.2	\$1,536,171,881	\$2,392,791
5.00% - 5.49%	230	35.2	\$549,858,967	\$2,390,691
5.50% - 5.99%	193	143.2	\$612,727,522	\$3,174,754
6.00% - 6.49%	217	129.1	\$891,132,886	\$4,106,603
6.50% - 6.99%	42	173	\$251,119,558	\$5,979,037
7.00% - 9.99%	24	150.3	\$65,297,736	\$2,720,739
10.00% - 13.30%	41	68	\$85,679,754	\$2,089,750
Totals	3,005		\$7,191,450,719	\$2,393,162

Projects by Program

Program	Number of Projects	Outstanding Debt 01-Nov-10	Average Loan	%
FP	870	\$2,355,663,572	\$2,707,659	32.75%
Homes Now 1	366	\$1,803,863,193	\$4,928,588	25.08%
56.1 NP	1,004	\$762,635,042	\$759,597	10.60%
P 10000	181	\$740,736,173	\$4,092,460	10.30%
Quick Start	64	\$379,553,196	\$5,930,519	5.28%
Homes Now 2	89	\$321,894,715	\$3,616,795	4.47%
P 3000	78	\$234,647,697	\$3,008,304	3.26%
Jobs Homes	53	\$208,292,317	\$3,930,044	2.90%
Jobs Ready	28	\$198,998,799	\$7,107,100	2.77%
P 3600	244	\$144,224,176	\$591,083	2.00%
RGI	8	\$35,569,153	\$4,446,144	0.49%
Assisted Housing	19	\$7,344,613	\$386,559	0.10%
MNP	1	\$30,074	\$30,074	0.00%
Totals	3,005	\$7,193,451,720	\$2,393,828	100.00%

Measuring the Scale of the Capital Reserve Problem

The scale of the refinancing challenge has been measured by the Asset Leveraging Working Group which estimated that over 83% of units do not have available cash flow to qualify for additional debt. The remaining 17% of units have some excess cash flow but most cannot demonstrate its long term durability.

Impediments to the refinancing of social housing projects are set out in a later part of the report but the convergence of these obstacles has created inertia of will in finding solutions to the problem. There is no doubt that additional capital must be raised and that delaying a solution will exacerbate the problem of building renovation and repair.

Shortly after devolution in 2002, IBI Group identified a lack of capital reserves for social housing – it was stated that the Federal portfolio required an average of 2.23 times the then contribution. This translated into \$1,250 per unit per annum compared to an average of \$560 per unit. It should be noted that the IBI study assumed that the reserves would run down to zero at the end of the operating agreement term (typically 35 years).

In its January 2008 submission to the Ontario pre-budget consultation process, Toronto Community Housing placed its own capital repair deficit at \$300 million based on its portfolio of 58,000 units. This equates to \$5,172 per unit which comes on top of \$550 million already spent in the previous six years (\$9,403 per unit).

The capital repair deficit in Toronto Community Housing is now \$300 million and continues to grow through inflation and deferral. We have, with the City of Toronto, already invested \$550 million in capital and building renewal through borrowing, revenue generation and reinvestment of energy savings since 2002. Ottawa Community Housing's backlog is now \$200 million. Windsor and Hamilton are facing similar challenges, with others close behind.

- Dr. Mitchell Kosny, Chair, Toronto Community Housing, January 21, 2008

Although the need for major capital improvements and repairs can affect projects during the earlier stages of their lifecycle, aging housing stock obviously provides the greatest and most predictable challenge. Even projects that were well constructed at the outset and have been well maintained throughout typically require substantial refurbishment after 20-25 years. Most buildings will also benefit from renewed mechanical and energy systems that reduce operating expenses and improve building safety by using new technology. In addition, capital expenditures may be required to ensure accessibility to units by residents with special needs.

Mature projects are also moving closer to full mortgage amortization and the termination of program operating agreements. The financial impact on Service Managers, following the termination of these financial supports from senior government, is uncertain. Similarly the status and future direction of non-profit corporations following the termination of operating agreements is also unclear. In Ontario the SHRA currently requires Service Managers to maintain service level standards for downloaded projects even after the mortgage is fully repaid. Service Managers are however free to move rent geared to income units to other buildings.

It seems inevitable that legislation and extended subsidy arrangements will be necessary to ensure that social housing projects remain dedicated to their original purpose once the operating agreements expire.

In a 2006 study commissioned by CHRA, Focus Consulting Inc. ("Focus") estimated that 6% of operating agreements for all units (Canada) expire in 2004-2013, 45% from 2014-2023 and 48% from 2023-2034. Focus pointed out that the expiry of the agreements should save federal, provincial and municipal governments at least \$1.4 billion a year. It was suggested that government had the financial resources from these program savings to reinvest in projects where financial viability is an issue. Municipal governments however will continue to incur costs. By the time the agreements end most of the transfer subsidy cost for the municipalities will be in the form of rent geared to income subsidy which does not end at the termination of the operating agreements. This increased pressure on municipal governments will compound the issue of capital reserve shortfall.

The key points in the study were project operating viability after expiry and the adequacy of capital reserves. The adequacy of capital reserves was identified as being the more challenging of the two issues.

Focus adopted a proxy measure for the adequacy of capital reserves being "the ability to spend \$750/unit annually until the mortgage is paid off." If the current total subsidy is greater than the current annual debt service for the mortgage the project was deemed, based on a rule of thumb, to end up with negative operating income. The \$750 per unit per annum estimate approximates the high end of the underwriting estimate assumed by many lenders to cover annual repairs and maintenance requirements for privately owned apartment projects.

An earlier study by Trow Engineering (1997) recommended for projects in Ontario an annual allocation to capital reserves in the order of \$470 per unit per year. More recent assessments indicate that something in the order of \$550 is required. It is assumed that these funds remain on deposit earning a return and are not withdrawn to pay for capital items until the capital replacement cycle commences. Once capital replacements are required the new contributions are offset by withdrawals.

None of these rules of thumb is very helpful in addressing project specific needs and risk. Each Service Manager has a unique portfolio of social housing assets that reflect a variety of programs, building and construction types, average project size and market factors. Until a reserve fund study is completed for each project the capital demands are purely speculative. Similarly until the costs of energy, water and mechanical systems can be measured against cost savings from capital upgrades, cost-benefit analysis is also speculative.

The financial pay back in reduced operating expenses forms the source of operating revenue with which to finance these improvements in the event that capital grants are unavailable.

In the Focus analysis a proxy benchmark was employed to create an "ideal project" that would have allocated \$450 per unit annually since the beginning of the operating agreement. The study however

recognized that housing providers typically made much lower contributions in the early years. Focus also assumed that there were no withdrawals for the first 10 years and that beginning in the eleventh year withdrawals would commence at a rate that would exhaust the reserve capital at the termination of the operating agreement. A project's capital needs are ongoing once the building reaches maturity so this approach is bound to result in an understatement of capital needs.

Focus sought to fund an average of \$750 per unit on capital replacement each year for the remainder of the term (assumed to be an additional 25-years): "This is the annual amount required to meet average capital expenditures and is likely a low estimate of necessary capital."

A more recent assessment undertaken by the Social Housing Services Corporation (SHSC) in 2006 determined that current annual allocations in the order of \$1,200 are needed to meet required replacement. This amount reflected the inadequacy of most reserve funds and the difficulty in catching up within a significant increase in annual reserve allocations.

SHSC called for an increase of \$600 to \$800 per unit per annum (plus inflation) to prevent a deficit in capital reserves.

The first chart below basically reflects the Trow/Focus estimate. By Year 10 there is adequate capital to fund \$750 per unit per year (this includes the addition of the regular annual payment of \$450 used by Focus all at a 3% investment return).

The second chart below is a more aggressive funding approach that would support funding of \$1,244 per unit per year, including the regular payment of \$750 per year. Given the current level of building costs for renovation and remedial work, this latter figure would seem to a closer estimate of need.

If the commencement in the withdrawal of funds is delayed until Year 15 with 20 years to fund, the numbers would be \$1,013 and \$1,688 per unit per year, respectively.

Finally, if the commencement in the withdrawal of funds is delayed until Year 20 with 15 years to fund, the numbers would be \$1,461 and \$2,438 per unit per year, respectively.

Average Annual Contribution per Unit	\$450.00 (Trow/Focus)
Average Annual Investment Yield	3.00% average return
Accumulation Assuming No Withdrawals	
Year 10	\$5,159 (25yr at 296+450=\$746)
Year 15	\$8,370 (20yr at 563+450=\$1,013)
Year 20	\$12,092 (15yr at 1013+450=\$1,463)

Average Annual Contribution per Unit	\$750.00 (Typical Lender Assessment)
Average Annual Investment Yield	3.00% average return
Accumulation Assuming No Withdrawals	
Year 10	\$8,598 (25yr at 494+750=\$1,244)
Year 15	\$13,949 (20yr at 938+750=\$1,688)
Year 20	\$20,153 (15yr at 1688+750=\$2,438)

These estimates (in the absence of a definitive reserve fund study) are important as a measure of possible need. Project viability following the expiry of operating agreements only partially depends on the relationship between debt service and subsidy payments. The ticking time bomb of deferred maintenance, capital reinvestment and mechanical systems upgrades must also be addressed.

Public Housing and Urban Native projects have been identified as being most at risk. Section 95 (2% mortgage rate pay-down), are also vulnerable if they have high levels of RGI units. Pre 86 non-profits will enjoy a greater chance of viability given the higher ratio of market units versus RGI.

Focus noted that the Post 85 projects that were downloaded to Service Managers will also have a mixed prospect of viability depending on the strength of the rental market for market units and the ratio of RGI to low end of market units. The projects are also required to return 50% of any operating subsidy after taking a \$300 per unit reserve once. If the housing provider falls below that level after once achieving it, it is still required to share 50% of the surplus.

The new Canada-Ontario Affordable Housing Initiative does not require a return of any portion of the excess operating income. CMHC requires the lender to take and hold an annual reserve of 4% of gross revenue including the provincial affordability payment (a 20-year cash flow). Based on three sample projects, this requirement equates to about \$563 per unit per annum for a project with about 100 units. (Funds may be drawn down at any time to meet reasonable capital replacement expenditures). Another 85 unit example requires a reserve of \$536 per unit. Another smaller project came in at \$396 per unit.

Focus quoted data provided by SHSC (2006) on the average level of reserves per unit based on geographical location but this data is not helpful unless the lifecycle of the projects and program make-up is known. The data also excludes larger Service Managers (Toronto, Ottawa and Peel) who account for a large numbers of units.

Northern Ontario	\$7,016 per unit
South/South West	\$6,088 per unit
Central Region	\$5,213 per unit
Eastern	\$4,941 per unit
Toronto	\$3,040 per unit

Other data provided by SHSC Financial Inc. (SHSCFI) for Q2 2010 analyzes the capital reserve funds invested by housing providers in Social Housing Investment Funds (SHIF) managed by SHSCFI.

The median reserve per unit is \$5,225 with the average at \$4,668. More than half of the housing providers have in excess of \$4,000 per unit invested in SHIF. Another observation made by SHSCFI is the difference in reserves per unit depending upon the number of units owned by individual providers. **The average in reserves per unit declines as the number of units owned by housing providers increases.**

Investment in SHIF per Housing Unit

Investment per Unit	Percentage of Housing Providers
Less than \$1,000	12.5%
\$1,000 to \$1,999	11.0%
\$2,000 to \$3,999	20.7%
\$4,000 to \$7,999	35.9%
\$8,000 or more	19.9%

Investment Amounts per Unit by Size of Provider Portfolio

Number of Units per Housing Provider	Investment per Unit
Less than 50	\$6,401
51 to 100	\$4,604
101 to 250	\$4,569
251 to 500	\$3,703
More than 500	\$3,465

In a presentation made to the Canadian Apartment Investment Conference in September 2010, consulting engineers Carson Dunlop Weldon & Associates Ltd., listed the top ten capital expenditure issues affecting high rise apartments.

Cost Item	Life Span Average	Estimated Cost to Repair
Roof Membrane	15 - 30 years	\$8 - 20 per sq ft
Exterior Wall Sealants	5 - 15 years	\$4 - 5 per linear ft
Balcony Repairs	20 - 30 years	\$1,500 - \$5,00 per unit
Parking Garage Membranes	Exposed 15 - 20 years	\$6 - 9 per sq ft
	Under Land 20 - 30 years	\$20 - 30 per sq ft
Garage Concrete Repairs	Exposed 25 - 40 years	\$25 - 50 per sq ft
	Under Land 20 - 30 years	\$25 - \$50 per sq ft
Boilers - Domestic Hot Water and Heating	20 - 30 years	\$100,000 to \$300,000 per high rise building
Supply Piping	Copper 20 - 40 years	\$100,000 to \$300,000 per high rise building
Windows and Doors	25 - 40 years	\$25 - \$50 per sq ft
Kitchens and Bathrooms	20 - 30 years	\$7,500 plus, per unit
Asphalt Paving	20 - 30 years	\$2.50 - 3.50 per sq ft

Although the above cost numbers are ballpark figures, it is clear that the measurements of capital inadequacy are inadequate.

The *2009 Annual Report of the Office of the Auditor General of Ontario* noted that "there has been no provincial strategy to help ensure long-term sustainability of sufficient numbers of well-maintained social housing units...the Ministry collects little information on how well the \$40 billion in social housing stock is being maintained or whether there is an adequate supply to meet local needs."

The following has been abstracted from the Report:

Notwithstanding the reasonably good condition of the social housing stock at the time of devolution a decade ago, social housing stock has deteriorated since that time, particularly those properties within the public-housing portfolio. This has been a significant and growing concern to municipalities because the average property in the public-housing portfolio is close to 40 years old and capital maintenance costs are rising more quickly.

While this concern has been identified by various stakeholders, there was a lack of up-to-date and reliable information on the province-wide condition of housing stock. Currently, such information would only be available if housing providers carried out their own building-

condition assessments, which provide estimates of the cost and time frames for repairing or replacing various building elements. The results could then be used, for instance, to create a capital-reserve fund to cover replacement costs. For example, the Toronto Community Housing Corporation, which owns 60,000 social housing units accounting for two-thirds of Toronto's social housing stock, carried out such an assessment in 2006 and estimated that \$300 million was needed for immediate capital repairs. However, the Ministry did not have any information on how this estimate was determined or the magnitude of this issue on a province-wide basis.

The average age of the non-profit housing portfolio was lower than that of public housing. Many non-profit projects were built in the late 1980s to early 1990s, resulting in an average age of about 18 years. In addition, the non-profit housing providers' agreements with Service Managers were structured to require reserve funds for future capital repairs. As of 2007, the Social Housing Services Corporation [sic SHSCFI] invested and administered approximately \$400 million [sic \$375 million] in capital reserves on behalf of non-profit housing providers. Nevertheless, the Corporation indicated that some non-profit providers were in crisis and most of the properties were just reaching the stage in their life cycle where major repairs would be necessary. However, on an overall basis, the non-profit housing portfolio was in better condition and should be better able to address its capital requirements than should public housing.

Service Managers indicated that, as the housing stock continues to age, access to suitable financing to help pay for maintenance and repairs was emerging as a major issue. One potential source of financing, for example, would be to re-mortgage properties. However, the province had generally not agreed to housing providers' proposals to refinance, citing the province's potential liability under the Social Housing Agreement that requires Ontario to compensate CMHC for any costs arising from the default of housing providers. In the opinion of some Service Managers it is they, and not the province, who are responsible for the costs of such defaults. The Ministry should re-assess the implications of the Service Managers' refinancing proposal to determine if it may be a viable solution.

Asset Management

Good asset-management practices, including regular preventive maintenance, are essential to prolong the life of housing assets and avoid costly repairs in future. In addition to lacking information on the condition of the social housing stock, the Ministry had no information about whether Service Managers have established good asset-management practices and whether housing providers were following them. The poor condition of some properties could be due to delays in carrying out the regular maintenance required to prolong the life of the assets. Due to increasing operating costs, we understand that some housing providers may be redirecting funds away from regular maintenance to fund more urgent day-to-day operations.

Energy-efficiency upgrades could also help free up some funds for maintenance. Older public-housing projects, for example, were built using less modern technology. Upgrading these

buildings to contemporary energy-efficiency standards would generate operating-cost savings that could be used for other required capital-maintenance projects.

The Ministry has recently initiated the development of an asset-management strategy with the Social Housing Services Corporation to help housing providers improve their practices in this area. Although it was in the early stages of development, this is a much-needed initiative.

Recommendation

To ensure that the housing stock is safe and of acceptable quality and that it will achieve its expected service life, the Ministry of Municipal Affairs and Housing should work with Consolidated Municipal Service Managers to:

- carry out periodic building-condition assessments and ensure that such information is summarized on a province-wide basis; and
- develop an effective funding and financing strategy for raising the capital investment required to reduce the capital maintenance backlog and sustain proper maintenance of housing stock, including consideration of requirements that a capital reserve be established for public-housing stock.

The Ministry should also continue to work with the Social Housing Services Corporation to assess the cost/benefit of implementing modern energy-efficient measures, and facilitate adoption of such measures by housing providers.

The Auditor General's 2009 report also made the following reference to a May 2006 report prepared by KPMG, *Evaluation of the housing programs included in the Social Housing Agreement* as follows:

The need for a provincial strategy was underscored in May 2006, when a consultant engaged by the Ministry to conduct an evaluation of its social housing programs noted a number of issues similar to the ones we observed. The consultant's evaluation, required under the Canada–Ontario Social Housing Agreement, noted, among others, the following issues:

- a lack of strategic performance measurement across Ontario's social housing programs;
- the absence of province-wide benchmarks, metrics, and objectives for social housing; and
- a lack of strategic-planning initiatives to address issues, including emerging capital requirements, increasing operating costs, and demographic and economic changes that may affect long-term sustainability.

It has been three years since these issues were identified but little action has been taken to date to address them. In this regard, a number of municipalities had developed a local strategic plan to address the issues within their communities. Our review indicated some of these plans were comprehensive and could be useful to the Ministry in developing a strategic plan.

The Impediments

The impediments to the refinancing of social housing projects that require the injection of new capital are as follows:

- The constrictions placed on housing providers to increase rental revenue
- The inflationary pressure on operating costs (especially energy)
- The subsequent limitations on increasing net operating income (before debt service)
- The restrictions of program operating agreements and parameters
- The complexity of renegotiating existing subsidy agreements
- The process of obtaining Ministerial Consent for changes in financing structure
- The uncertainty of negotiating new CMHC insurance for refinanced projects
- The perceived unwillingness of governments to provide credit enhancement to debt
- The aversion to contingent liability in the event of future loan default
- The impracticable nature of disturbing existing closed financing arrangements
- The cost of prepaying an existing mortgage with an onerous penalty
- The disruption to capital markets if NHA MBS pools were prepaid
- The need for liaison, administration and oversight to protect Service Managers
- The need to attract competitively priced capital for the required terms

The primary objective is to work within existing net operating income and to find less disruptive structures in the event that prepayment or defeasance is either not feasible or uneconomic. (Defeasance of a securitized NHA MBS mortgage is the substitution of other collateral for real property to allow the removal of an existing mortgage without paying down the pool. Government of Canada bonds are the only collateral acceptable for this type of substitution given the AAA rating of the CMHC insured mortgage). Public housing is primarily financed through closed CMHC 50-year debentures. Limited dividend, Section 26 and 27 projects are financed with long term CMHC mortgages.

Ministry Involvement in Mortgage Financing and Renewals

Before proceeding to discuss alternative mortgage financing structures or any new process of administering a refinancing program, it is important to examine the current approach adopted by the province and review the history of its involvement in the financing of social housing projects. It is also important to address the risk management concerns that provide an important background to the Ministry's actions.

Implementation of the SHRA resulted in the downloading of virtually all the functions which formerly resided with the Ministry of Municipal Affairs and Housing. One responsibility not delegated to the Service Managers was the negotiation of renewal financing at the maturity of each project mortgage. In April 2002, the Capital Funding Unit relinquished management of the renewal process in favour of the Ontario Financing Authority which continued with an identical tendering process.

The principal reason for retaining management of the renewal process is set out in the *Mortgage Financing and Administration section of the Implementation Guidelines* dated July 17, 2000.

The mortgage renewal process will be handled by the province to protect its risk exposure to contingent liability

Ontario's non-profit housing projects were primarily financed by private sector financial institutions through CMHC insured mortgages that provided for 100% financing of project costs. Lenders viewed the provision of CMHC loan insurance and the existence of non-profit housing programs that ensured on-going subsidy payments to the housing providers, as adequate security for making mortgage loans available to the sector.

The Province of Ontario instituted a number of unilateral non-profit housing programs from 1986 onwards that utilized CMHC loan insurance at no real cost to the housing provider. The Province was required to indemnify CMHC in the event that a claim was ever made by a lender against a loan insurance policy issued to a particular project.

In 1988, the ministry became involved in the funding and refinancing of non-profit housing projects. Before that, individual non-profit groups made their own financing arrangements, with inconsistent results. Over the last decade, the ministry has implemented several strategies designed to achieve consistent cost savings through a centralized process. One key strategy is a monthly tendering process, whereby all upcoming mortgage renewals are pooled and offered up for competitive bids from institutional investors

The tenders therefore include the mortgage loan renewals of many different housing providers located throughout the province and the results, in terms of lending spreads, have been good. Most of the mortgage tenders have been won by the chartered banks and their related investment dealers. The assets are usually funded through a subsequent securitization of the pool.

CMHC insured loans are also sought by portfolio investors who assign an "AAA" rating to these assets as they qualified for a zero capital reserve (for those lending institutions regulated by OSFI and other

agencies). The implementation of IFRS and new Basel regulations may adversely affect this zero capital reserve as reserves will have to be taken under the currently contemplated regime. Grandfathering of existing securitizations of NHA mortgages was only good until March 2010.

Interest rate spreads (over similar term Government of Canada bonds) have been low and there is no doubt that the centralized tendering process has achieved significant cost savings in comparison to the system that permitted individual non-profit corporations to seek project financing independently.

Portfolio lenders do occasionally succeed in bidding for the tenders. Canadian life insurance companies, pension funds and investment fund managers have been active in bidding in past years. Pool size has been a problem from time to time but the Ministry and OFA have often provided sub-pools within the tender that encourage greater participation and allow for a variety of loan renewal terms. One tender for loans involved a single pool of \$165 million and resulted in only two bids being received. Notwithstanding that, the winning bid was at a very competitive spread.

In recent times (2010), there have typically only been four bidders for each pool with one bidder repeatedly offering an unrealistically high rate. While it is true that some bidders are discouraged because of the very tight spreads, others are unfamiliar or uncertain about the process and prefer to sit on the sidelines.

The future outlook for NHA insured mortgages remains very favourable. The corporate debt market, which has been steadily expanding in importance as the federal government's share recedes, cannot offer the security provided by CMHC MBS or other bond structures utilizing CMHC mortgages. Portfolio investors can often have large appetites for CMHC insured assets – in past years Great-West, Sun, Maritime-Manulife, and Desjardins Group have each invested considerable funds into this sector.

In terms of results the Ministry overstates estimates of interest rate savings achieved through its tender system:

The consistent, centralized process of competitive bidding and tendering in bulk has reduced mortgage rates by an estimated 1.0 to 1.5 per cent, on average, when compared with interest rates that individual housing providers would have obtained on their own.

Prior to the 2007-2008 credit crisis, private sector borrowers were able to negotiate spreads in the range of 45-55 basis points for individual 5 and 10-year renewals secured by good quality NHA insured multi-unit apartment projects - this without the comfort of an operating subsidy to ensure the long term viability of the project. A typical social housing tender during this period (for example in January 2005) was a bid of 32.30 basis points over the Government of Canada benchmark bond for the 5-year and 40 basis points for the 10-year term pool.

During the credit crisis even spreads for NHA insured mortgages rose dramatically. These have now returned closer to the 2006 levels. The most recent OFA tender achieved a 5-year spread of 46 basis points over the Government of Canada benchmark bond (mortgage rate of 2.693%). For some time OFA has not sought longer term quotes but in October 2010 it tendered a 10-year pool of social housing renewals which achieved a spread of 64 basis points (mortgage rate of 3.401%).

The Ministry also advocates the centralized process because it “facilitates a portfolio approach to managing mortgage maturities and the risks associated with interest rates.” The Province does acknowledge that Service Managers do make representations from time to time about their term preferences for loan renewals, however the decision to seek a specific renewal term (say 5, 10 or 25-year) or mix of terms, appears to be more influenced by the feedback received from the investment dealers as to market receptiveness, the current outlook for interest rates or to the steepness of the yield curve. The portfolio approach therefore does not directly accommodate the needs of individual Service Managers or housing providers or assist in applying a risk management strategy to a specific mortgage portfolio.

OFA does not appear to consult with or accommodate the term preferences of individual housing providers or the Service Managers. If an individual housing provider wishes to become directly involved in term selection in order to fulfil its own business plan or its mission of prudent financial management, how is it to justify its position? If the scale of operation is the key criterion to effect risk management, what is the optimum size of portfolio? If the existing term profile of a housing provider’s portfolio is a criterion, what constitutes a well planned and considered debt strategy? These are the questions that need to be addressed by Service Managers who wish to play an active role in risk management. Similarly, an individual Service Manager may have concerns about the term structure of its portfolio and may wish to actively manage mortgage renewal risk based on its own business criteria.

If a comprehensive program for project refurbishment can be developed, SHSC may be better placed to work with Service Managers in addressing these important issues.

Risk of Default and Subsequent Claim on CMHC Mortgage Insurance

In addition to the cost savings attributed to the centralized tendering of mortgage renewals by the province, the second primary reason for the Ministry retaining the mortgage renewal function is a concern for the contingent liability retained by the Province particularly in the unilateral non-profit programs (e.g. Homes Now, P3000, P3600 and JobsOntarioHomes). A claim made on CMHC insurance by mortgage lenders (where a provincial contingency was involved) following the default on a specific project by a housing provider would require payment by the Province.

Contingent liability means that should a mortgage payment on a public or social housing building not be paid, the responsibility falls on Canada Mortgage and Housing Corporation (CMHC) to make good on the mortgage insurance payments. CMHC in return, will bill the province for any monies paid

- Guide to Risk Management for Projects in Difficulty (Release 19: April 8, 2002)

Given the existence of subsidy agreements under the various programs, there appear to have been no reported default claims made under these programs involving Ontario.

While individual housing providers in Ontario have faced financial difficulties that have involved intervention by the Ministry, there appears to be no evidence of claims being made against CMHC insurance coverage by mortgage lenders under the non-profit housing programs. In sharp contrast, private sector rental apartment, retirement home and long term care facility mortgages insured through CMHC (to a maximum of 85% of appraised value) have provided many instances of loan default in the past 20-years, resulting in the tightening by CMHC of underwriting criteria and on-going credit and project monitoring requirements by CMHC Approved Lenders.

For the larger Service Managers such as Toronto, Ottawa, Peel and York Region, the track record, municipal sponsorship, sources of funding and scale of operations give mortgage lenders confidence when evaluating the likelihood of mortgage default. (In the past, a predecessor corporation of TCHC was able to dispense with CMHC insurance in the development of a social housing project by providing the covenant of the City of Toronto, thus eliminating a sizeable CMHC insurance premium. These projects were not developed under specific non-profit programs but were fulfilling the mandate to develop affordable rental housing).

There is no evidence that a Service Manager has compromised the contingent liability retained by the Province in connection with CMHC insurance provided in connection with unilateral non-profit housing programs. Interest rates are now at levels which are significantly below the rates originally obtained for the bulk of social housing projects. This has resulted in significant program savings.

Cost Effective Tendering Systems

This leaves the issue of cost effectiveness of the centralized tendering system. It is clear that the competitive tendering system is cost efficient and has saved the tax-payers a significant amount of money. The process has been greatly assisted by the demand for AAA rated assets, the Federal government's CMB purchase program, the NHA Insured Mortgage Backed Security program permitting investment dealers/banks to regularly distribute MBS to clients, the "flight to quality" especially in periods of difficult corporate debt markets and the administrative ease in acquiring social housing mortgages through the assignment of relatively standard security documentation.

If we compare BC Housing Corporation, which carries out a very similar mortgage tender process in BC for social housing providers, we see similar investment market acceptance of the process and the investment product. The key difference is that BC Housing in the past has requested a much wider range of term bids (often 1-year through 25 years) for very much smaller pool sizes. The point is that to be successful, bulk tendering need not be organized in monthly blocks averaging \$100 million or contain loans spread geographically across the Province.

Service Managers and Social Housing Costs

Unlike profit oriented real estate investors, who (subject to market forces) may pass through increased operating costs to tenants based on regulated procedures or through market related rent increases permitted by rent review legislation, non-profit housing corporations are limited in their ability to increase revenues from residents. As a result of devolution, the municipalities remain obligated to maintain the social housing inventory and support the social policy objectives set by the Province and CMHC. Management of these financial risks is effectively limited to prudent management of financing costs and improvements in operating expense ratios. Investment in new energy systems, insulation and water treatment technology offers great potential for improving operating costs.

In addition to mortgage debt service and escalating operating expenses, individual properties have to contend with the need for planned capital expenses to maintain the properties in good repair. Service Managers therefore have to monitor not only financial operating results and the ability to meet mortgage payments but also the future need for capital expenditures.

Service Managers have social housing portfolios that vary in scale. The mortgage loans financing these portfolios have their own term and coupon rate profiles but most follow the general pattern of the overall portfolio. (The average remaining amortization of the typical mortgage is about 112 months and 48.75% of current mortgage terms mature in the next five years).

The process of obtaining provincial ministerial consent needs to be revisited so that Service Managers can proceed with greater certainty in areas relating to the financing of existing housing stock. CMHC also has a vested interest in maintaining the integrity of the terms of loan insurance and it is recognized that considerable work will have to be done to facilitate extensions to operating agreements and amortization terms.

Creativity in Mortgage Structures

The typical social housing mortgage is based on a standard CMHC form of mortgage charge which establishes an amortization term (predominantly 35-years), initial term, fixed rate of interest compounded semi-annually, and blended monthly payments of principal and interest. At the end of the initial term the loan can be renewed for a new term with payments based on the remaining amortization period and the renewal rate. CMHC's Certificate of Insurance, issued for the benefit of the lender, runs for the full amortization term. As noted below, any extensions to the amortization term or advances of additional funds can impair or void the policy without CMHC's approval. Average interest rates for the entire mortgage portfolio have trended lower over the past several years and this has had a major impact on lowering debt servicing costs for those loans renewed within the past 10 years.

A number of innovative financing ideas have been considered over the years but very few involved any fundamental change in the standard mortgage structure. The only truly innovative structures being the Index Linked Mortgage (ILM) program; which applied exclusively to a federal co-operative housing initiative, and the Graduated Payment Mortgage (GPM), which reduced mortgage payments over the first few years but required increasing payments in later years to recover the accrual of interest and

added to the original principal sum. The GPM was used by both home owners and rental property owners. The high interest rate environment of the early 1980s led to an extremely high default rate and the cancellation of the program. Other ideas developed in Canada over the past thirty years in support of affordable housing (prioritizing private rental and home ownership) are AHOP, ARP and MURB programs but these were not innovative mortgages. They simply relied on the availability of NHA Insurance and upon CMHC for program development and design. Tax and cash flow incentives were also an important part of private rental programs.

Apart from these limited government related initiatives, there are very few examples of institutional lenders using or developing alternative mortgage payment plans for conventional (non-insured) loans. Innovation in the conventional market has been focused primarily on the management of interest rate risk (for both borrower and lender), in capping construction financing costs and in committing to rate fixing for future financing needs. Credit enhancement has also been used in support of affordable housing developments that have lacked project equity but have received sponsorship from a municipality, charitable foundation or creditworthy guarantor.

A number of these variations (GPM, ARP etc) attempted to reduce the initial carrying cost of mortgage debt and were predicated on future increases in property values or net rental income. Inflationary assumptions were critical to the underwriting of project viability and to default risk management. The elimination of inflation as a significant force in the economy has effectively discredited these vehicles. In the 1990s, mortgage lenders and CMHC both suffered significant losses on privately-owned projects or were forced to restructure existing loans to ensure ongoing project viability as a result of a collapse in property values and project cash flows. The lessons learned in Canada stood us in good stead during the 2008-2009 credit crisis.

None of the above structures provide any significant leverage in improving the supply of affordable housing. The ILM and GPM were relatively short term experiments created in a more inflationary period. The Graduated Rate Mortgage model was only used once in the context of a social housing project and requires a very high level of guarantee. The GRM is ineffective in a low interest rate environment.

While inflationary pressures may eventually re-emerge, governments are expected to resist them through proactive fiscal and monetary policy rendering any revival of future value lending practices a non-starter.

In addition, institutional investors suffered major losses in their real estate and mortgage portfolios during the real estate recession (1990 to 1995) and the current climate is not conducive to any underwriting approach seeking to avoid the fundamentals of current cash flow, the reliability of future cash flow and the reasonable expectation of principal recovery through property sale and borrower covenants. Lenders are concerned about the ongoing viability of affordable housing projects and support subsidies or capital grants that provide positive debt coverage after operating expenses and debt service payments are deducted from revenue.

The underwriting applied by CMHC to the new Canada-Ontario Affordable Housing Initiative maintains this cautious stance and requires proponents to demonstrate long-term project viability without the safety net of operating subsidy. This approach obviously necessitates the injection of massive capital subsidies from federal and provincial governments with municipal government often foregoing local charges and taxes

and occasionally donating land. In the most recent extension of the program in Ontario, the capital grant has typically been as high as \$120,000 per unit for new construction. The pro quid quo is a rental rate at 75-80% of CMHC's average market rental for the location.

Types of Mortgage	Attributes
Equal Payment Mortgage	Traditional mortgage amortization with blended equal payments
Graduated Payment Mortgage	Payments ramped, requiring initial increase in principal outstanding
Index Linked Mortgage	Rate annually adjusted to CPI plus agreed fixed Real Rate of Interest
Graduated Rate Mortgage	Fixed rate mortgage restructured to give rising coupon over time
Bullet Loan	Interest only, due in full at maturity with no periodic loan reduction
Other Variations	Adjust Rate, Shared Appreciation, Reverse and Split Rate Mortgages

Although interest rates are still historically low and appear stable, the supply of mortgage capital has been more volatile over the past three years. Currently, the supply of funds is good and growing but there is no pressure on lenders to deviate from the current conservative approach to mortgage underwriting risk. There is little interest in innovative structures without CMHC insurance or similar credit enhancement, good asset liquidity and demonstrable future project viability. CMHC maintains a high level of vigilance in its underwriting criteria for affordable housing projects and seeks to mitigate risk as thoroughly as possible.

The fundamental economics of residential rental construction are not conducive to low end of market rent projects without significant concessions from municipalities (e.g. realty taxes, development charges, and city land), interest free mortgage debt or outright grants.

Reserve Fund Approach to Future Capital Expenditures

Government has an interest in preserving affordable rental stock and in maintaining its interest in social housing given its long term investment in operating and or capital subsidies. At final loan amortization the original mortgage debt will be retired and the need for associated debt service support terminated. In reality, aging housing stock requires the reinjection of capital to maintain a standard quality of accommodation and to take advantage of technology that reduces energy and water consumption.

The ability to accurately estimate the shortfall in capital reserves is limited. Condominium corporations typically prepare their annual budgets with reference to the Reserve Fund Study ("RFS") mandated by *section 94 of the Condominium Act (Ontario)*. The RFS helps ensure adequate funding for the major repair and replacement of common elements. The study can employ a sinking fund method of computing future replacement costs and will factor in interest that is collected on the reserve fund as contributions are made each year. The Act requires reserve funds to be fully funded by 2014:

The corporation shall conduct periodic studies to determine whether the amount of money in the reserve fund and the amount of contributions collected by the corporation are adequate to provide for the expected costs of major repair and replacement of the common elements and assets of the corporation.

The approach used in the current Affordable Housing Initiative projects employs a flat annual reserve of 4% of gross income (including the provincial affordability payment) and is not tied to on-going need or anticipated future requirements. Funds can be withdrawn based on fairly flexible criteria.

In order to manage the need for a coordinated program to address the shortfall in immediate and longer term replacement and capital improvements, all social housing providers need to undertake uniform reserve fund assessment studies that can marry advice from independent third party engineers and cost consultants with the housing provider's own financing capacity. The study should also address the issue of site specific energy efficiency and adequacy of mechanical and safety systems. A standardized reporting system would improve program planning for Service Managers, the Province and the federal governments. The collection and evaluation of energy and water utility operating costs by project would feed in to any proposed energy retrofit program. Following the downloading of social housing to Service Managers a number of the larger managers (Toronto, Ottawa, Peel and York) instituted building condition reports as a way of gauging capital liability. Toronto undertook a sampling of its large portfolio while some Service Managers reviewed all of the housing stock. It is estimated that up to 55% of the unilateral units were captured. Going forward a standardized template for all projects is essential in order to quantify capital needs and provide a valuable planning and risk assessment tool for Service Managers. The Asset Management Centre is currently addressing this issue.

Project refinancing for existing social housing mortgages in Ontario has been monitored and directed by the Province. Certain programs (Section 95 and F/P programs) have been financed through CMHC's direct lender program. CMHC rates have been based on very narrow spreads over Government of Canada bonds. CMHC typically accesses the market four times a year but can respond to individual renewals, adjusting loan term to achieve a similarity in loan maturity dates. These funds have been made available for 5-year and 10-year terms. The Ontario Financing Authority arranges monthly tenders of social housing renewals which are open to NHA approved lenders. In recent times the number of bidders has been limited to four, with the primary bidders being Scotia, Royal and TD. In most cases the mortgages are securitized.

Basel III leverage rules use a very restrictive definition of capital and an overly expansive definition of risk assets. The net result of doing so optically increases the leverage and would encourage banks to get rid of low risk assets (such as insured mortgages) and replace them with higher risk assets - hardly a way to reduce risk. Rational investment decisions made based on existing capital rules are, in some cases, now inconsistent with the proposed rules. And specific capital deductions in a host of areas will push banks to restructure in a way that could increase their risk profile.

- Gordon Nixon President & CEO, RBC, July 13, 2010

Options for the Future

Accessing new capital requires the renegotiation of CMHC loan insurance or its replacement by another form of rated guarantee (e.g. provincial covenant). Existing policies could be voided if the outstanding balance is increased or amortization term extended. The terms of CMHC's Certificates of Insurance and the mortgage charges registered as security are quite clear in restricting such changes. CMHC Approved Lenders are bound to follow these restrictions.

A new CMHC insurance application has to be supported by all the basic underwriting criteria unless the Province is prepared to negotiate a similar arrangement to the unilateral programs, backstopping the insurance and making good any claims. Given the urgency of the reserve fund shortfall and the rapid amortization of social housing mortgages, the strategy of unilateral action offers the optimum solution. Loan underwriting would need to ensure the viability of increasing mortgage balances for renovation and energy related expenditures but if annual debt service can be maintained at approximately the same levels as the current financing, risk of default will be limited. Energy-related expenditures may also be justified in terms of reduced operating costs – increases in net operating income resulting from lower energy costs can be directed to supporting increases in debt service. Were the province to facilitate the provision of CMHC insurance (as provided under the unilateral programs), a cumbersome and time-consuming underwriting process would be short circuited.

Extend and Blend (An Innovative but Limited Approach)

In the period 1990-2002 MMAH (Capital Funding Unit) occasionally used a form of extend and blend to access cheaper funding from existing lenders to manage risk and reduce debt service costs. This represented a pro-active portfolio management approach to program costs. The lender was kept whole by receiving a new rate on the extended mortgage that compensated for the existing coupon to the original maturity. The borrower benefitted by obtaining extended loan terms that captured a lower interest rate at the time of negotiation. Essentially the "prepayment penalty" was worked into the new blended interest rate without increasing the loan balance or extending the amortization term. This was necessary in order to comply with the terms of the existing CMHC insurance policy.

This approach was only effective in blending existing long term mortgages that had high coupon rates compared to the then current market levels. In this context, Extend and Blend only refers to the extension of the loan term, not the existing amortization term. All refinancing is done within the amortization term established by the original CMHC Certificate of Insurance.

Given the current profile of the portfolio this approach has little relevance. Average interest rates are already low and savings that can be eked out within the current amortization envelope are small. Only by extending the amortization term (requiring new CMHC insurance coverage) can this concept be effective.

Extend and Blend Traditional Structure (Term and Amortization in Months)

Mortgage Loan

\$1,000,000,000

Extend and Blend Strategy	Balance	Term	Amortization	Coupon
Existing Debt Assumed 7%	\$1,000,000.00	24	180	\$7.00%
Value to Lender at 4%	\$1,054,183.49			4.00%
New Loan	\$1,000,000.00	120	180	4.89%
Value to Lender at 4%	\$1,054,244.63			4.00%

Traditional Prepayment Strategy

Once a mortgage secured by a social housing project has been negotiated and the mortgage asset securitized or held on a balance sheet by the lender, it is generally assumed that prepayment is an onerous option to be ruled out as part of a project specific refinancing strategy. Investors seek to replace the NHA insured asset with a similar AAA rated asset offering appropriate liquidity and market acceptance or require a penalty which, together with the outstanding balance of the mortgage, keeps the investor whole. Government of Canada bonds ("GOCs") of similar term to maturity are viewed by investors as a satisfactory proxy for the NHA insured mortgage.

The spread in market yield between the GOC and the mortgage will vary depending upon market forces. During the recent credit crisis, spreads widened dramatically as investors sought the certainty of the direct Government of Canada guarantee and the greater liquidity offered. In recent months spreads between GOCs and NHA Insured mortgages have narrowed considerably and are close to pre-crisis levels. The evidence for this is provided by the monthly OFA tender results. Until very recently the OFA has concentrated on 5-year issues only but the tender call for November 1, 2010 funding requested 10-year term bids.

The prepayment option requires a penalty based on the spread to maturity of the mortgage loan. As mortgage amortization reaches the 10-15 years remaining mark, the portion of loan principal increases significantly and the cost of prepayment starts to tail off in relative terms.

The following tables illustrate the cost of prepayment for sample terms (60 months and 30 months remaining respectively) with amortization periods for 35, 30, 25, 20, 15, 10 and 5 years. Prepayment as a percentage of loan balance in these examples varies from a high of 9.07% to a low of 5.01% for the 5-year term remaining mortgages and 4.73% to 3.74% for loans with an average of 2.5-years remaining. The impact of the penalties can be softened by re-amortizing the cost in the refinancing process.

The projects that require additional capital will likely have 5 to 15-years of remaining amortization. Prepayment at this point has a cost but it is very manageable from a cash flow viewpoint when reamortized. If we apply this calculation to the example below, the amount of new debt after payment of the penalty is \$2,832,448 with the annual debt service payments remaining the same for a new 10-year term and 30-year amortization. Justification for the extended amortization lies in the project's ability to fund extensive renovations and improvements with the newly released capital.

Prepayment Impact	Principal	Term	Amortization	Coupon	Monthly	Yearly
Existing Debt 4% Coupon	\$1,000,000.00	30	60	4.00%	\$18,401.66	\$220,819.97
Prepayment based on GOC substitution	\$37,361.26	30	60	2.00%	\$18,401.66	\$220,819.97
Current Government of Canada Yield	2.00%					
Premium as Percentage of Loan Balance	3.74%					
Existing Debt plus Penalty	\$1,037,361.26	120	360	4.00%	\$4,932.85	\$59,194.16
Additional Debt at Same Payment	\$2,832,447.57	120	360	4.00%	\$13,468.82	\$161,625.81
Totals	\$3,869,808.83				\$18,401.66	\$220,819.97

Given the low average coupon rate on the social housing portfolio and the short amortization of many projects that require inputs of new capital, outright prepayment provides a manageable strategy if the entire debt and new funds can be reamortized over 25-30 years.

Alternative to Prepayment of Existing Mortgages

An alternative to the outright prepayment of the mortgage involves an investor assuming the existing payment obligations of the borrower and entering into a new subordinated mortgage contract with the borrower usually for the purpose of advancing additional funds. The assumption of the first mortgage and registration of the second mortgage necessarily require the acknowledgment and consent of the existing lender. This form of mortgage is typically described as a *wrap-around mortgage* and permits the re-amortization of the existing debt, the release of additional debt and the blending of financing costs. The wrap-around mortgage has also been used to avoid disturbing an existing mortgage with low rate financing compared to the then current rate. Excess net cash flow is available to service the new debt.

The wrap-around mortgage has been rarely used in recent years. Commercial mortgage financing is based on durable net operating income, adequate debt coverage (typically 1.20 times or better) and lenders require higher levels of equity. Secondary mortgage financing is more effective in resolving financing requirements and better outcomes can be achieved through negotiation. Existing CMHC insured mortgages however can be challenging to restructure as the underwriting outcomes are often uncertain and new premium charges apply.

Amended Wrap-Around Mortgage Vehicle – Social Housing

A new structure can be created to provide an alternative to the prepayment of existing debt, adapted to solve situations where existing debt cannot be prepaid or it is uneconomic to do so, and most importantly maintain mortgage payments at the same level. This amended version of the wrap-around mortgage has the following characteristics:

- Payments for the existing mortgage are assumed by the new lender;
- A new loan agreement is registered to accommodate new terms;
- New terms involve the advancing of renovation funds at an agreed rate;
- Interest due on the new funds is not paid but accrued to the maturity of the existing first mortgage (i.e. zero payments);
- The new lender is also required to fund the outstanding renewal balance;
- At the maturity date of the existing mortgage, the total outstanding funds are reamortized based on a continuation of the same mortgage payment.

Loan proceeds have to be adjusted ahead of time to ensure that the debt service payments remain level.

Example with Assumptions:

In the example in the following table, the mortgage was renewed at \$1,000,000 for 5-years at 5% with a remaining 10-year amortization. Monthly payments are \$10,581.49. We are assuming that all refinancing will proceed at the same interest rate (5.00%) although this rate is actually higher than current long-term mortgage rates.

If we assume a restructuring to provide additional new capital at month 30 (2.5 years), the balance outstanding after the 30th payment is \$794,229.83. The balance at maturity is \$561,419.76.

The new lender assumes the payments currently being made under the existing first mortgage. (These payments continue to be remitted to the existing first mortgagee).

Upon renewal in a further thirty months, the first mortgage balance is refinanced at an assumed 5% with an extended amortization term of 330 months (360-30).

The payments on the existing first mortgage renewal balance will be \$3,116.71 per month. This provides \$7,464.78 (of the original \$10,581.49) to service debt from month 30 onwards. Based on a 330 month amortization (360-30) this services a loan of \$1,344,646 at 5%. Assuming zero payments for the first 30 months, the proceeds available for immediate advance are reduced to \$1,188,472 based on accrued interest at 5%.

The new lender achieves an overall rate of 5% despite receiving no payments on the new funds for the first 30 months of the term.

Existing Mortgage \$1,000,000; 5% rate; 5-year term; 10-year amortization Monthly Payment - \$10,581.49	
Balance after 30th month	\$794,229.83
Balance at Maturity at 60th month	\$561,419.76
Extended Amortization 360 from new Mortgage	
Mortgage Payments on First at Renewal (330 months)	\$3,116.71
Available for New Debt from Renewal	\$7,464.78
New Proceeds at 30th month after zero payments	\$1,344,646
New Proceeds at inception (PV at 5%)	\$1,188,472

Recommended Financing Process for Capital Investment

Ideally, the financing facility being offered by Infrastructure Ontario (Ontario Infrastructure Projects Corporation) should be adapted to assist in the raising of funds required to meet these housing needs. IO has the mandate and experience in raising large capital sums through issuance of debentures and commercial paper and has a high credit rating to ensure aggressive loan pricing from the capital markets. Changes in 2008 extended the Infrastructure Ontario program to housing providers with the exception of federally funded co-operatives. IO's mandate would need to be expanded (see below).

Infrastructure Ontario loans can be used for:

- Construction or renovation of facilities
- Energy efficiency projects (windows, doors, lighting, appliances etc.)
- Water, hydro, HVAC and communications systems
- Accessibility improvements

IO is well placed to provide fully amortizing long term debt as well as "below market" construction funding. The interest rate for 35-year term money is currently 4.69% (November 9, 2010) and is competitive with private institutional funding for long-term CMHC insured mortgages. IO creates "amortizer debentures" and if the loans are made to municipalities, rather than housing providers, the rate structure is currently 20 basis points lower on all terms.

IO's mandate would need to be expanded to include the refinancing of the remaining debt secured against social housing projects as well as the "new" money dedicated to renovation and capital improvement which falls within IO's frame of reference. Service Managers will also require input and approval of the process given their liability.

Each housing provider will have differing requirements for capital – including loan amount, the timing of draws and uses. A reserve fund study and building condition report will enable the provider to create a plan for capital improvements based on priorities and an optimum timeline for implementation. Once additional capital is secured the disbursement of funds will ideally follow the timeline for the implementation of the plan.

Drawing down funds in a lump sum at the outset of a capital program may be a satisfactory strategy if unused funds can be invested to recoup most of the interest expense and if principal repayments can be deferred until completion of the plan. SHSCFI would be able to assist in the short term investment of unused funds through SHIF but the spread between the cost of new debt and the yield paid on invested funds (at current market rates) is a significant cost (loss). The preferred alternative would be a line of credit secured by a mortgage charge. The charge would be for an upside amount (providing overcollateralization) to accommodate maximum financing and to reduce the need for legal work in the event that future increases can be warranted. The housing provider would pay interest only on the funds actually advanced.

SHSC is in an excellent position to coordinate the applications from housing providers upon initial approval by the Service Manager. Capital requests can be aggregated for maximum funding flexibility, most competitive pricing and terms. Assuming participation by IO, SHSC would provide much of the administrative support and contact with Service Managers.

In order to identify and promote the facility, the funding vehicle should have its own branding, e.g. **Social Housing Capital Fund**. The fund would comprise a series of bonds/debentures secured by individual mortgages and any funding support agreements provided by Service Managers and the Province. The bonds would aggregate the capital needs for various terms and purposes. Interest rates will vary by the time of issuance.

Plan B: SHSC Assumes the Lead

In the event that a funding relationship with IO is not possible, and given the regulatory issues, SHSC could provide the branding and administration functions and take the lead with the participation of a chartered bank/investment bank dealer to ensure legal compliance and to lead capital market access and marketing.

Capital market acceptance can be assured with the provision of CMHC insurance coverage as underlying security. Projects would need to pass an underwriting test and provide a verifiable business plan budget based on a building condition and replacement reserve study undertaken by a third party engineer/cost consultant. The success of a non CMHC-insured issue will depend upon risk rating considerations reflecting the quality of covenants and support agreements, diversification of the portfolio and the scale and duration

of the program. A non CMHC-insured program would add to the cost (perhaps between 20 and 40 basis points) and would require the direct guarantee of the Province to ensure equal access. Capital markets may also need to see a certain scale and continuance of any program issuance. Given the capital needs of the sector, a commitment to a 5-year program of issuance should be possible.

Total issuance would likely exceed the \$1.2 billion shortfall estimated by SHSC. This estimate is a conservative one given the age of existing stock and the opportunity to introduce cost-saving technology and systems.

If desired, the concept of a **Social Housing Capital Fund** could complement a sister Fund (**Social Housing Energy Fund**) that would raise capital to fund energy, water and accessibility improvements, all to be based on pay-back from operating efficiencies and income derived from net power contributions. Capital for these purposes might be repaid over a shorter period than building retrofitting if the savings are in line with published data. IO is well placed to offer loans with matching term and amortization.

The Funds would provide the following sources of capital:

- Floating Interest Only Series (primarily to fund construction programs)
- Variable Interest with Principal Reduction Schedule (Permanent Financing)
- Fixed Interest Rate Amortized Mortgage – Term 5 – 35 years (Permanent)

SHSC would direct funding issuance, provide risk management assistance to providers and Service Managers, and execute the strategies. SHSC would lead negotiations with the provincial and federal government, and CMHC, on behalf of Service Managers.

SHSC would marry current reserve fund savings activities directed by SHSCFI with estimates for future capital works requirements. The Service Managers will remain involved in the portfolio review process and sign off on all applications for funding made by their housing providers. The current work being undertaken by the Asset Management Centre will finalize a template for reserve fund studies and energy retrofit cost-benefit analysis, creating a standard to be followed by every cost consultant and engineering firm engaged by Service Managers.

SHSC will also be able to create a database that brings together all of the capital reserve estimates, providing a clear road map for capital needs and the benchmarking of specific repair costs. This will support Service Managers in planning their capital needs and in managing financial risk.

Potential Loan Proceeds

The following chart provides an estimate of additional debt that could be raised assuming the current debt service level for the 3,005 mortgages comprising our portfolio.

The chart is stressed at various interest rate levels and amortization terms from 3.5% to 5.00% and from 240 months (20-years) to 360 months (30-years).

Current Debt: \$7,191,450,719
Current Monthly: \$56,792,746.87

Renewal Rate	Revised Amortization	New Debt	New Money
3.50%	240	\$9,814,476,964.45	\$2,623,025,242.99
4.00%	240	\$9,398,937,383.92	\$2,207,485,662.45
4.50%	240	\$9,008,928,045.45	\$1,871,476,323.99
5.00%	240	\$8,642,608,955.85	\$1,451,157,234.38
3.50%	300	\$11,375,149,531.06	\$4,183,697,809.60
4.00%	300	\$10,796,685,430.73	\$3,605,233,709.26
4.50%	300	\$10,261,160,266.08	\$3,069,708,544.62
5.00%	300	\$9,764,931,514.88	\$2,573,379,793.41
3.50%	360	\$12,687,251,591.49	\$5,495,799,870.02
4.00%	360	\$11,943,325,664.56	\$4,751,873,943.09
4.50%	360	\$11,263,584,846.49	\$4,072,133,125.03
5.00%	360	\$10,641,509,984.38	\$3,450,058,262.91

The new money raised varies from a low of \$1.45 billion to a high of \$5.5 billion depending on the interest rate and amortization term.

The extension of the amortization term for a social housing project is readily justified when the building fabric is substantially renovated, extending the useful life of the physical asset. The capital improvements that cause Service Managers the greatest concern are those structural and mechanical items that are fundamental to the building's integrity. Improvements that improve energy and water use efficiency are equally important in stemming increases in utility operating costs. Less critical items such as upgraded kitchens, bathrooms and amenity areas are also important factors in maintaining living standards and the marketability of units.

The following chart highlights the key steps in the application process.

Application Process - Overview
Following Sign Off by Service Manager

Completion of Updated Reserve Study
(Building Condition Report)
Business Plan

Five years of Financial Statements
Pro-forma Financial Based on New Advance
Credit Report and Applicant CV and Overview

Supporting Evidence for Construction Costs
Timeline for Completion
Cost Consultant Report Analyzing the Plan

Property Appraisal (if required)
Value of Any Excess Lands (if required)
Phase I Environmental Report (if required)

Copies of all Operating Agreements, Program Details, Corporation Documents
Property Management Expertise and Plan

Copies of Existing Mortgages with Statements of Account
CHMC Certificate of Insurance

Initial Underwriting Analysis by SHSC to Ensure Compliance with Program
Requirements
Final Underwriting by Funding Lender (IO etc)

And Now For Something Completely Different Ideas from England – “Equitisation”

The potential for raising debt for social housing units has been the focus of the report.

As an addendum, we are providing details of a new idea proposed in report published in England. While not applicable to our Canadian environment, these ideas illustrate the thinking that is being applied to the development of affordable housing in a country retrenching its public spending to an extent never seen before.

Other jurisdictions have been wrestling with similar issues. In a recent report by Natalie Elphicke *Housing People; Financing Housing* (UK Policy Exchange), the funding challenges confronting England’s affordable housing sector are addressed. As recently announced by the newly installed coalition government, Britain faces draconian cuts in public spending over the next few years and the ideas developed in Ms Elphicke’s report seek to find alternative sources of funds based on raising equity (“equitisation”) given the asset values, debt levels and the surplus net revenue generated by housing associations. In England these associations own or manage about 2.4 million homes representing 10% of the available housing stock in that country.

In addition to repayable debt, the housing associations have various degrees of grant funding totaling about \$71 billion (2009). These funds are normally treated as quasi equity, however the report identifies the need for clarity in repayment or forgiveness in the event of additional equity financing mechanisms.

Housing Association Equity (Average 2009 at \$1.78 per GBP)

Total Assets (Book)	\$171 billion
Debt	\$71 billion
Equity Before Grant	\$100 billion
Less Grant	\$66 billion
Total Equity After Grant	\$34 billion
Total Assets (Estimated Value at \$153,000 per unit)	\$365 billion
Adjusted Total Equity After Grant and Debt	\$228 billion
Housing Association Annual Operating Surplus	\$2.93 billion

Although the sector has additional debt-carrying capacity, the report stresses the value of equity financing rather than debt. Dividend income, based on the ability to pay, protects tenants and does not lead to a default by the housing association in the event of a variance in net operating income. The three models of “social enterprise” corporations that are examined in the report to hold the assets have no adverse effect on existing social housing tenants with rental operations continuing to be regulated in the same way.

One of the structures contemplates a cooperative style of social enterprise suitable for municipally-owned housing, allowing a broad access to equity and debt options. The report estimates that about \$98 billion could be raised in equity based on these various criteria assuming a 3% dividend rate. This rate of return seems overly optimistic. A more conservative assessment might be \$80 billion, still a formidable amount.

In the future, equity financing could replace the grant and allow housing associations to build more units and undertake capital repairs without increasing debt. Investors are assumed to be pension funds, municipalities and private investment funds and well as individual investors.

An interesting observation in the report relates to operational efficiency. The housing regulator (Tenant Services Authority) identified a strong need for greater operating efficiencies. The largest housing associations actually perform poorly in terms of management and maintenance costs and quality. In 2009, housing associations with over 10,000 units spent the equivalent of \$1,814 per unit in repair costs and \$1,784 per unit in management costs. The averages of these costs for all housing associations were \$1,698 and \$1,696 respectively. Economies of scale appear to reverse themselves in very large portfolios. It is possible that these very large portfolios are located in major centres such as London, Manchester and Birmingham, which may have special challenges in terms of project age and type of construction as well as the level of poverty among residents.



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