<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Stadium Neighbourhood Development Scenario Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBMITTED TO</td>
<td>Property Committee</td>
</tr>
<tr>
<td>MEETING DATE</td>
<td>September 9, 2020</td>
</tr>
<tr>
<td>SESSION CLASSIFICATION</td>
<td>Recommended session criteria from Board Meetings Policy:</td>
</tr>
<tr>
<td></td>
<td>OPEN</td>
</tr>
<tr>
<td>REQUEST</td>
<td>For information only - No action requested</td>
</tr>
<tr>
<td>LEAD EXECUTIVE</td>
<td>Robin Ciceri, Vice-President External Relations</td>
</tr>
<tr>
<td>SUPPORTED BY</td>
<td>Michael White, AVP Campus &amp; Community Planning (C&amp;CP)</td>
</tr>
<tr>
<td></td>
<td>Gerry McGeough, Director, Planning and Design, C&amp;CP</td>
</tr>
<tr>
<td></td>
<td>Chris Fay, Senior Manager, Strategic Policy, C&amp;CP</td>
</tr>
<tr>
<td></td>
<td>Joanne Proft, Associate Director, Community Planning, C&amp;CP</td>
</tr>
<tr>
<td></td>
<td>Tor Album, Associate Treasurer, UBC Treasury</td>
</tr>
<tr>
<td></td>
<td>Aubrey Kelly, President &amp; CEO, UBC Properties Trust</td>
</tr>
</tbody>
</table>

### PRIOR SUBMISSIONS

The subject matter of this submission has been considered previously by the Board of Governors Finance and Property Committee, and the Housing Action Plan Working Group on the following occasions:

1. **June 5, 2019** – Housing Action Plan Working Group (OPEN SESSION)
   Action/Follow up: Administration to return with analysis of alternative development scenarios.

2. **September 27, 2018** (OPEN SESSION)

3. **April 19, 2018** (OPEN SESSION)

4. **December 5, 2017** (OPEN SESSION)

5. **September 21, 2017** (OPEN SESSION)

6. **April 13, 2017** (OPEN SESSION)

The following Executive Summary assumes familiarity with the prior submissions and provides a status update from the date of the most recent submission.

### EXECUTIVE SUMMARY

In June 2019, the Administration presented the Stadium Neighbourhood Plan Concept to the Board of Governors’ Housing Action Plan Working Group. That version of the Plan Concept included:

- 1.55 million sq. ft. residential development
- 120,000 sq. ft. non-residential development
- 2/3 of housing units for UBC Housing (including 1/3 for below-market faculty-staff rental)
- New community amenities including a grocery store, Thunderbird Stadium and child care
- 5 towers from 20 to 32 storeys, plus podium buildings from 6 to 8 storeys
- Expansive new green space
The HAP Working Group requested that the Administration explore alternative development scenarios with lower residential densities and building heights to better understand economic, urban design and sustainability implications, as well as the implications on the proposed number of UBC community housing units.

The attached summarizes the results of this analysis, using the following three scenarios:

1) Original Plan Concept scenario: 1.55 million sq. ft. of residential density, tower heights of 22, 26, 32, 24, and 20 storeys and maximum podium height of 8 storeys
2) Alternative scenario: 1.46 million sq. ft. of residential density, tower heights of 22, 24, 28, 24 and 18 storeys and maximum podium height of 6 storeys
3) Current Land Use Plan scenario: 1.28 million sq. ft. of residential density, tower heights of 22, 22, 22, 20 and 18 storeys and maximum podium height of 6 storeys

The analysis shows that the original Stadium Neighbourhood Plan Concept's proposed increase of UBC community housing to 2/3 of the total already represents a significant financial commitment by the University to the important issue of affordable housing. Lower densities reduce the number of UBC housing units and increase financial risk to the university related to neighbourhood financial self-sufficiency and endowment revenue. At the same time, the alternative scenario provides a positive urban design and sustainability performance with a maximum tower height of 28 storeys and a podium height of 6 storeys, consistent with regional precedent for similar contexts. The final Plan must balance delivery of the highest number of UBC housing units while minimizing financial risk and maximizing urban design and sustainability performance.

In terms of next steps, the Stadium Neighbourhood Plan will be considered in the context of the Campus Vision 2050 process expected to commence in 2021 and informed by the deeper engagement that the University is undertaking with the Musqueam as part of a new Relationship Agreement between UBC and Musqueam. Staff will be reporting back to Board on the scope and process that is being proposed for Campus Vision 2050 this winter.

APPENDICES

1. Stadium Neighbourhood Development Scenario Analysis

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1 This analysis was completed in early 2020, prior to the outbreak of COVID-19. While the implications of the pandemic are still being understood, staff will continue to monitor rental demand during COVID and update the rental demand analysis as part of the Campus Vision 2050 process.
AGENDA

• Stadium Neighbourhood Plan process
• Plan Concept Recap and Analysis Framework
• Analysis
  • UBC Community Housing
  • Financial Self-Sufficiency
  • Urban Design, Sustainability, Livability
• Next Steps
**PROCESS**

**FALL 2017**
- SETTING THE STAGE

**SPRING 2018**
- KEY DIRECTIONS & SCENARIOS

**FALL 2018 – MID-2019**
- OPTIONS + EVALUATION

**JUNE 2019 HAPWG**
- Requested alternative development scenarios with:
  - Revised building heights
  - Revised built area
  - Current Land Use Plan limits as a scenario
  - Requested more detailed financial analysis

**MUSQUEAM RELATIONSHIP AGREEMENT**

**FINALIZE PLAN**

**PLAN CONCEPT**
(1.55m sq. ft. residential development)
- 1/3 faculty-staff below-market rental
- 1/3 UBC market rental
- 1/3 market leasehold

**WE ARE HERE**
PLAN CONCEPT RECAP (MID- 2019)

- 1.55m sq. ft. residential
  - 1/3 fac-staff, 1/3 UBC rental, 1/3 leasehold
- 120,000 ft² non-residential
- New Thunderbird Stadium
- Expansive new green space
- Technical and design analysis supports
  - Transportation network
  - Amenities (schools, grocer, childcare)
  - High quality public realm
  - Ecological / whole systems approach
KEY FEATURES

- New neighbourhood close to academic core
- Commitment to UBC Community Housing with emphasis on families
- Neighbourhood layout/configuration
- Community services and amenities
  - Mid-sized grocer
  - Child care
  - Shared community space
- Significant new green space
- Predominantly pedestrian-oriented for safety and comfort
- Whole systems approach to buildings, open space and infrastructure
ANALYSIS FRAMEWORK

- Scenarios evaluated against key measurable principles, priorities and targets

**Key Guiding Principles**

- Create a community for and of UBC
- Prioritize affordable living
- Build long-term value
- Be a great neighbor

**Priorities**

- 2/3 UBC Community Housing
- Benefit to Academic Mission
- Urban Design

**Criteria**

- # of units for UBC families
- meet wait list demand
- $ to endowment
- cost recovery
- no external subsidy
- majority 6 storey podiums
- visual fit of skyline
THE VALUE OF UBC COMMUNITY HOUSING

• Housing affordability is a regional challenge
• Creates campus community close to academic core and reduces other costs, like travel and emissions
• Invaluable for faculty recruitment and retention
• Tool to manage reputational risk from losing potential or current faculty members
• Residents tend to be younger and have more children than other market housing residents
• Rental housing portfolio creates significant value for the university
• Demand for on-campus rental housing is very strong
• Staff to monitor rental demand in a post-COVID world

UBC Community Housing in 2020

• 31% of UBC’s neighbourhood residents are renters
• 840 non-market fac/staff units
• 796 market fac/staff/student units (including University Rental and Market Rental)
• 217 fac/staff ownership units (past co-development model)
UBC COMMUNITY HOUSING OVERVIEW

**LAND USE PLAN**
20% rental housing
(at least half faculty-staff)

**UNPRECEDENTED HOUSING MARKET PRESSURE**
3,625 faculty/staff rental waitlist
Near-zero regional rental vacancy rate
Significant ownership costs

**STADIUM NEIGHBOURHOOD PLAN CONCEPT**
Responds to changing housing needs with land use and policy changes, providing community housing options in an area close to the campus core

**HOUSING ACTION PLAN**
Up to 20% faculty-staff rental
Up to 10% more is market rental

**HAP Target**
20% faculty-staff + 10% market

30% rental

**67% rental**

Stadium Neighbourhood Plan Concept
33% faculty-staff + 33% market
UBC COMMUNITY HOUSING UNITS (SCENARIO COMPARISON)

Criteria
- # of units for UBC families
- meet wait list demand

* The faculty/staff rental waitlist is one measure of demand. The most recent faculty/staff building was offered to the entire waitlist and still has some vacancy, likely due to COVID-19.
UBC COMMUNITY HOUSING: FACULTY HOME OWNERSHIP

• Stadium Neighbourhood Plan will also accommodate future faculty home ownership options
• Real Estate Development and Marketing Act exemption
• Will allow UBC to:
  • Develop and market housing for sale to faculty
  • Provide another affordability tool across campus
  • Sell units below market (depending on ownership model)
• Will not:
  • Replace need for faculty/staff rental
  • Eliminate taxable benefits (depending on the model)
  • Substantially reduce (if any) the amount of leasehold housing needed for neighbourhood financial self-sufficiency

• Further work required to develop a faculty ownership model, including funding

Faculty Home Ownership Programs

• Down Payment Assistance
• Prescribed Interest Rate Loans
• REDMA exemption to allow UBC to develop faculty housing (currently pursuing)
FINANCIAL SELF SUFFICIENCY
FINANCIAL SELF-SUFFICIENCY OVERVIEW

• Existing neighbourhoods revenues are already committed

• Stadium Neighbourhood must generate revenue to fund:
  1. Infrastructure
  2. UBC community housing targets, and
  3. New Thunderbird Stadium

• Moving from 30% (current HAP) → 67% rental is a significant UBC financial commitment

• Reducing densities will further reduce the contribution to the endowment, and heighten UBC’s financial risk

• Faculty home ownership options may reduce rental demand, but revenue generation still required for other needs

Criteria

• $ to endowment
• cost recovery
• no external subsidy

Proposed target of 67% rental redirects ~$300 M from the Endowment to UBC housing*

^ This cost could be offset through donor contributions
* Based on economics of Plan Concept density at $460/s.f., NPV is further reduced with alternative scenarios
FINANCIAL SELF-SUFFICIENCY ANALYSIS - IMPACT ON THE ENDOWMENT (SCENARIO COMPARISON)

Housing Action Plan Policy

$300M FORGONE ENDOWMENT

Stadium Neighbourhood Concept Plan

Endowment Proceeds

Endowment Contribution

Draw from Central Academic Funding
POTENTIAL IMPACT ON ENDOWMENT (SCENARIO COMPARISON)
# FINANCIAL SELF-SUFFICIENCY ANALYSIS @ $460/SQ. FT.

<table>
<thead>
<tr>
<th></th>
<th>Current HAP (30%)</th>
<th>Proposed Target (67% rental)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Current Plan Concept</td>
<td>Scenario 1 Current Plan Concept</td>
</tr>
<tr>
<td>Res. GBA (Sq. Ft.)</td>
<td>1.55 Million</td>
<td>1.55 Million</td>
</tr>
<tr>
<td>Tower heights</td>
<td>22, 26, 32, 24, 20</td>
<td>22, 26, 32, 24, 20</td>
</tr>
<tr>
<td>Gross Leasehold Revenue/SF*</td>
<td>$460</td>
<td>$460</td>
</tr>
<tr>
<td>Gross Leasehold Revenue</td>
<td>$497.2 M</td>
<td>$237 M</td>
</tr>
<tr>
<td>Dev. Charges**</td>
<td>($89.2 M)</td>
<td>($68.8 M)</td>
</tr>
<tr>
<td>New Stadium</td>
<td>($50 M)</td>
<td>($50 M)</td>
</tr>
<tr>
<td>Equity for Rental</td>
<td>($44.5 M)</td>
<td>($97 M)</td>
</tr>
<tr>
<td>Net Proceeds to Endowment***</td>
<td>$313.5 M</td>
<td>$21.2 M</td>
</tr>
<tr>
<td>Net Present Value</td>
<td>$753.8 M</td>
<td>$205.8 M</td>
</tr>
</tbody>
</table>

* Slight variations in revenues are assumed given differences in tower heights and use of podium sites for Market Leasehold development in the different scenarios
** Development Charges also include charges (II/COS) collected/charged from rental development
*** Is assumed transferred to TREK endowment. Can also be viewed as a “buffer” in terms of having unforeseen capacity to handle additional site costs/relocation costs etc. (e.g. a risk management measure)
## FINANCIAL SELF-SUFFICIENCY ANALYSIS @ $375/SQ. FT.

<table>
<thead>
<tr>
<th>Current Plan Concept</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Res. GBA (Sq. Ft.)</strong></td>
<td>1.55 Million</td>
<td>1.55 Million</td>
<td>1.46 Million</td>
</tr>
<tr>
<td><strong>Tower heights</strong></td>
<td>22, 26, 32, 24, 20</td>
<td>22, 26, 32, 24, 20</td>
<td>22, 24, 28, 24, 18</td>
</tr>
<tr>
<td><strong>Gross Leasehold Revenue/SF</strong></td>
<td>$375</td>
<td>$375</td>
<td>$363</td>
</tr>
<tr>
<td><strong>Gross Leasehold Revenue</strong></td>
<td>$405.4 M</td>
<td>$193.2 M</td>
<td>$207.1 M</td>
</tr>
<tr>
<td>• Dev. Charges**</td>
<td>($89.2 M)</td>
<td>($68.8 M)</td>
<td>($67 M)</td>
</tr>
<tr>
<td>• New Stadium</td>
<td>($50 M)</td>
<td>($50 M)</td>
<td>($50 M)</td>
</tr>
<tr>
<td>• Equity for Rental</td>
<td>($44.5 M)</td>
<td>($97 M)</td>
<td>($92 M)</td>
</tr>
<tr>
<td><strong>Net Proceeds to Endowment</strong>*</td>
<td>$221.7 M</td>
<td>($22.6 M)</td>
<td>($31.9 M)</td>
</tr>
<tr>
<td><strong>Net Present Value</strong></td>
<td>$551.28 M</td>
<td>$136.5 M</td>
<td>$119 M</td>
</tr>
</tbody>
</table>

* Slight variations in revenues are assumed given differences in tower heights and use of podium sites for Market Leasehold development in the different scenarios
** Development Charges also include charges (IIC/COS) collected/charged from rental development
*** Is assumed transferred to TREK endowment. Can also be viewed as a "buffer" in terms of having unforeseen capacity to handle additional site costs/relocation costs etc (e.g. a risk management measure)
URBAN DESIGN
URBAN DESIGN OVERVIEW

• Human-scale podiums (6 storey max. ideal) achieve positive street experience and affordability (i.e., wood frame construction)
• Higher towers enable lower podiums and maximize housing delivery
• Regional trends show height and density increases to support more rental and community amenities
• Tower spacing and slender footprints minimize shadows, visual impacts
• Compact development uses land more efficiently and supports transit and other sustainability objectives

Criteria

• majority 6 storey podiums
• visual fit of skyline

Increased tower height allows lower podiums*

* Assuming building siting and density are constants
**URBAN DESIGN ANALYSIS**

<table>
<thead>
<tr>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Res. GBA (Sq. Ft.)</strong></td>
<td>1.55 Million</td>
<td>1.46 Million</td>
</tr>
<tr>
<td><strong>Gross Density (FSR)</strong></td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Max Height</strong></td>
<td>32 storeys</td>
<td>28 storeys</td>
</tr>
</tbody>
</table>

**Skyline**
- Scenario 1 - Varied, sculpted
- Scenario 2 - Varied, sculpted
- Scenario 3 - Slightly varied

**Street level experience**
- Scenario 1 - Max 8 storey podiums (predominantly 6)
- Scenario 2 - Max 6 storey podiums
- Scenario 3 - Max 6 storey podiums (predominantly 4-5)
## Scenario Analysis Summary

<table>
<thead>
<tr>
<th></th>
<th>Scenario 1: Current Plan Concept</th>
<th>Scenario 2: Alternative</th>
<th>Scenario 3: Current LUP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Res. GBA (Sq. Ft.)</strong></td>
<td>1.55m</td>
<td>1.46m</td>
<td>1.28m</td>
</tr>
<tr>
<td><strong>Total Units</strong></td>
<td>1548</td>
<td>1460</td>
<td>1278</td>
</tr>
<tr>
<td><strong>UBC Housing Units (2/3 total)</strong></td>
<td>1032</td>
<td>973</td>
<td>852</td>
</tr>
<tr>
<td><strong>Max Height</strong></td>
<td>32 storeys</td>
<td>4 storeys ↓ than scenario 1</td>
<td>10 storeys ↓ than scenario 1</td>
</tr>
<tr>
<td><strong>Street Level Experience</strong></td>
<td>Predominantly 6 storeys</td>
<td>Superior to Scenario 1 (2 storeys ↓ than scenario 1)</td>
<td>Superior to Scenario 1 (2 storeys ↓ than scenario 1)</td>
</tr>
<tr>
<td><strong>NPV</strong></td>
<td>$136.5M to $205.8M</td>
<td>$119M to $172.1M 17% ↓</td>
<td>$91.4M to $127.6M 55% ↓</td>
</tr>
<tr>
<td><strong>Initial endowment contribution</strong></td>
<td>($22.6M) to $21.2M</td>
<td>($31.9 M) to $9.6M</td>
<td>($40.3M) to ($4.1M)</td>
</tr>
<tr>
<td><strong>UBC Housing (2/3 total)</strong></td>
<td>1032 units</td>
<td>973 units 6% ↓</td>
<td>852 21% ↓</td>
</tr>
</tbody>
</table>
SUMMARY:

UBC Community Housing and Financial Self-Sufficiency Considerations

- Higher residential densities provide more UBC community housing while managing the financial risk that results from more non-market staff/faculty rental, market rental, and potentially faculty ownership units.

- Analysis shows only Scenario 1 (1.55M sq. ft.; 1032 UBC community units) and Scenario 2 (1.46M sq. ft.; 973 units) are financially self-sufficient at a rate of $460/sq. ft. At $375/sq. ft. none of the scenarios are financially self-sufficient.

- Moving HAP targets from 30% → 67% rental is already a significant UBC financial commitment of ~$300 million.

- Lower resultant leasehold revenues are balanced by the long time horizon, recruitment and retention benefits of affordable housing, and inherent flexibility of rental development.
SUMMARY:

Urban Design, Sustainability and Livability Considerations

• Reducing density and building heights achieves a max. 6-storey podium experience and consistency with Vancouver’s emerging taller building heights of 28 storeys in lower density neighbourhoods and urban design best practice.

• More compact development allows for a significant park space, services and amenities within walking distance, an outstanding experience of place and sustainable stewardship of the land.

• Reducing building heights and densities even further would result in:
  • fewer UBC community housing units
  • lower (or negative) contribution to the endowment
  • high financial risk
  • poor response on Climate Action through inefficient use of land
NEXT STEPS

- Relieve short term housing pressure through the delivery of up to 500 units of faculty/staff rental in Wesbrook Place, based on the Board of Governors’ April 2020 direction.
- Finalize Musqueam Relationship Agreement.
- Further development of a faculty home ownership program.
- Consideration of the Stadium Neighbourhood Plan in the context of the Campus Vision 2050 process expected to commence in 2021, including updated rental demand analysis.
- Land Use Plan amendments, either Stadium Neighbourhood specific, or as part of the overall Land Use Plan update coming through the Campus Vision 2050 process, referred to an official public hearing then to the Province for approval.
i. GENERAL FINANCIAL IMPLICATIONS
GENERAL FINANCIAL IMPLICATIONS – OVERVIEW

• The first section is illustrative and highlights different business models and financial characteristics of different campus development types
  • Three hypothetical scenarios: “All Market Leasehold”, “All Market Rental” and “All Faculty/Staff Rental”
  • These scenarios use the same assumptions as the specific SN development scenarios which are presented later and the 1.55m sq. ft. of residential development as suggested by the current plan concept

• The objectives are to:
  1. Present different approaches/methods of analyzing/evaluating the financial implications
  2. Show high level financial implications for different types of development
  3. Help inform the evaluation of the specific development scenarios for SN

• In later sections the current Housing Action Plan (“HAP”) targets scenario is introduced, which is then compared to the hypothetical scenarios, before the current plan concept and alternative development scenarios for SN are compared to the HAP targets.
<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated cash flows</td>
<td>Looking at the pure cash flow generation of an asset</td>
<td>Is most relevant when the asset has already been written off or paid down</td>
<td>Does not take into account the initial investment needed to generate the cash flows or time value of money</td>
</tr>
<tr>
<td>Accumulated cash flows – including initial investment/ contribution</td>
<td>Initial investment/contribution + cash flow generation</td>
<td>Is the most common way of modeling a capital investment</td>
<td>Does not take into account the time value of money aspect of an investment per se (although model is usually ready for NPV calculation)</td>
</tr>
<tr>
<td>Payback period (simplified)</td>
<td>When accumulated cash flows exceed the initial investment</td>
<td>Relatively easy to model. Does not require a discount rate (WACC)</td>
<td>Not particularly accurate when compared to NPV analysis.</td>
</tr>
<tr>
<td>Internal rate of return (IRR)</td>
<td>The rate of return at which a project would have zero net present value</td>
<td>Does take into account the time value of money. Does not require a discount rate (WACC)</td>
<td>Does not have a risk-adjusted discount rate to compare to IRR analysis does not work for all cash flow analysis</td>
</tr>
<tr>
<td>Net Present Value</td>
<td>Estimates a Net Present Value of a series of cash flows using a defined discount rate (WACC)</td>
<td>Is the most commonly used method for assessing the financial performance of a capital project.</td>
<td>Assumes that the time value of money principle applies equally to everyone.</td>
</tr>
</tbody>
</table>
• From a pure cash flow generation point of view, “All Market Rental” appears to be the most attractive form of development, followed by “All Faculty/Staff Rental” and “All Market Leasehold”.

• However, this method does not take into account the initial investment/contribution required to generate these cash flows (or where the funding of these investment would come from – if not from leasehold) and the timing of the cash flows generated.

*The line for Market Leasehold shows the accumulated expendable cash flow (spend allocation – 4%) over time.*
ACCUMULATED CASH FLOW W/ INITIAL INVESTMENT - 99 YEARS

- Taking the initial investment* /contribution into account, All Market Rental is still the most attractive type of development, whereas All Market Leasehold** and All Faculty/Staff Rental appear to converge over 99 years.

- However, it will take approx. 57 years before the accumulated cash flows from All Market Rental will pass the All Market Leasehold.

- A key aspect that is missing from this method is the time value of money aspect when evaluating the accumulated cash flows.

---

*Initial investment also includes any shortfall in revenues/capital required to fund the relocation of Stadium for the "all rental scenarios"

**The line for Market Leasehold shows the accumulated expendable cash flow (spend allocation – 4%) over time
ACCUMULATED CASH FLOWS - SIMPLIFIED PAYBACK PERIOD

- When accumulated cash flows (including the initial investment**) turn positive, it is often referred to as a simplified “payback period” for an investment.
- A shorter payback period is preferred over a longer payback period, because it typically suggests lower financial risk (and a higher internal rate of return).
- All Market Leasehold* will have a payback period of zero, because it begins with a net positive contribution to the endowment.
- All Market Rental would have a payback period of ~17 years, whereas “All Faculty/Staff Rental” would have a payback period of ~26 years.
- This method still does not properly take into account the time value of money when comparing the different scenarios.

*The line for Market Leasehold shows the accumulated expendable cash flow (spend allocation – 4%) over time.
**Initial investment also includes any shortfall in revenues required to fund the relocation of Stadium for the “all rental scenarios”
**Net Present Value (NPV) (@ $460/SQ.FT.)**

**WACC = 6%**

<table>
<thead>
<tr>
<th>Type of Development</th>
<th>Initial Investment / Contribution -</th>
<th>Net Investment</th>
<th>NPV - Type of Development*</th>
<th>Total NPV</th>
<th>Internal Rate of Return (IRR)</th>
</tr>
</thead>
</table>
| **All Market Leasehold** | Leasehold 100%  
Market Rental 0%  
F/S Rental 0% | Leasehold $ 556.4 M  
Market Rental $ 0  
F/S Rental $ 0 | Leasehold $ 1,222.8 M  
Market Rental $ 0  
F/S Rental $ 0 | **$1,222.8 M** | **N/A*** |
| **All Market Rental** | Leasehold 0%  
Market Rental 100%  
F/S Rental 0% | Leasehold ($ 50.0 M)  
Market Rental ($ 135.9 M)  
F/S Rental $ 0 | Leasehold ($ 50.0 M)  
Market Rental $ 0  
F/S Rental ($ 154.4 M) | **$281.5 M** | 9.9% |
| **All F/S Rental** | Leasehold 0%  
Market Rental 0%  
F/S Rental 100% | Leasehold ($ 50.0 M)  
Market Rental $ 0  
F/S Rental ($ 154.4 M) | Leasehold ($ 50.0 M)  
Market Rental $ 0  
F/S Rental ($ 145.8 M) | **$95.8 M** | 7.2% |

- The All Market Leasehold scenario generates a **vastly higher NPV** than the all rental scenarios.
- This is because “shorter-term” cash flows are worth significantly more than “longer term” cash flows.
- The NPVs for the all rental scenarios also include a “cash shortfall” from not having generated funds to relocate the stadium.

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*Positive NPVs for Leasehold is the NPV of all cash flows generated by the endowment (e.g. including the 2% recapitalization). This is different from the expendable cash flow (spend allocation shown in graphs earlier)*

*Negative Investments / NPVs for Leasehold in the “All” rental scenarios show the shortfall in expenses to cover the relocating of the Stadium.

*** The internal rate of return is defined as the rate of discount at which a project would have zero net present value. The All Market Leasehold will always be NPV positive and will therefore not have an IRR.*
i. SUMMARY OF OBSERVATIONS

• **Net Present Value is the most commonly used** method for analyzing/evaluating the financial implications of a potential capital project over the life of the asset
  • However, the other methods shown can also provide useful information to help validate a business case or project and their assumptions

• With that in mind, “**All Market Leasehold**” is by far the **most optimal form of development** (from a financial point of view)

• **All Market Rental is a relatively attractive option**, and should generate the highest (nominal) cash flows over a 99 year period.
  • However, the NPV is significantly lower than All Market Leasehold due to the timing of those cash flows.

• **Faculty/Staff rental** development is **not an optimal** form of development from a financial perspective
  • The faculty/staff model is designed to perform a little above “NPV break even” (to satisfy lenders and other stakeholders) while offering more affordable housing for faculty and staff
ii. HOUSING ACTION PLAN

TARGETS
HOUSING ACTION PLAN

The Housing Action Plan is a long range (30 year) strategic umbrella plan, first approved in September 2012, to set out the University’s long range policies and targets to support improved housing choice and affordability for students, faculty and staff, for recruitment and retention purposes.

The Housing Action Plan targets*:

- 70% Market Leasehold
- 10% Market Rental
- 20% Faculty/Staff Rental

* Applicable to future development on campus from when HAP targets were approved (September 2012)
**ACCUMULATED CASH FLOW W/ INITIAL INVESTMENT - 99 YEARS**

- The “HAP targets” generate lower accumulated cash flows (nominal) than the hypothetical scenarios over 99 years.
- However, it will take approx. **42 years** before the accumulated cash flows from All Market Rental will pass the HAP Targets scenario and **85 years** before they pass the All Faculty/Staff Rental.

*Initial investment also includes any shortfall in revenues/capital required to fund the relocation of Stadium for the “all rental scenarios”

**The line for Market Leasehold shows the accumulated expendable cash flow (spend allocation – 4%) over time**
NET PRESENT VALUE (NPV) (@ $460/SQ.FT.)

**WACC = 6%**

<table>
<thead>
<tr>
<th>TYPE OF DEVELOPMENT</th>
<th>INITIAL INVESTMENT / CONTRIBUTION -</th>
<th>NET INVESTMENT</th>
<th>NPV - TYPE OF DEVELOPMENT*</th>
<th>TOTAL NPV</th>
<th>INTERNAL RATE OF RETURN (IRR)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALL MARKET LEASEHOLD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leasehold 100%</td>
<td>Leasehold $ 556.4 M</td>
<td>Leasehold 70%</td>
<td>Leasehold $ 313.5 M</td>
<td>Leasehold $ 1,222.8 M</td>
<td>N/A***</td>
</tr>
<tr>
<td>Market Rental 0%</td>
<td>Leasehold ($ 50.0 M)</td>
<td>Market Rental 10%</td>
<td>Market Rental ($ 13.6 M)</td>
<td>Leasehold ($ 50.0 M)</td>
<td>9.9%</td>
</tr>
<tr>
<td>F/S Rental 0%</td>
<td>Leasehold ($ 135.9 M)</td>
<td>F/S Rental 20%</td>
<td>F/S Rental ($ 30.9 M)</td>
<td>Market Rental ($ 33.1 M)</td>
<td>N/A***</td>
</tr>
</tbody>
</table>

| **ALL MARKET RENTAL** | | | | | |
| Leasehold 0% | Leasehold ($ 50.0 M) | Leasehold $ 331.5 M | Leasehold $ 281.5 M | Market Rental ($ 135.9 M) | 9.9% |
| Market Rental 100% | Leasehold ($ 50.0 M) | Leasehold ($ 331.5 M) | Market Rental ($ 33.1 M) | F/S Rental ($ 29.2 M) | N/A*** |
| F/S Rental 0% | Leasehold ($ 135.9 M) | F/S Rental 20% | F/S Rental ($ 29.2 M) | Market Rental ($ 33.1 M) | N/A*** |

| **HAP TARGETS** | | | | | |
| Leasehold 70% | Leasehold $ 691.5 M | Leasehold $ 691.5 M | Leasehold $ 691.5 M | F/S Rental ($ 29.2 M) | N/A*** |
| Market Rental 10% | Leasehold ($ 331.5 M) | Leasehold ($ 331.5 M) | Leasehold ($ 331.5 M) | Market Rental ($ 33.1 M) | N/A*** |
| F/S Rental 20% | Leasehold ($ 29.2 M) | Leasehold ($ 29.2 M) | Leasehold ($ 29.2 M) | Market Rental ($ 33.1 M) | N/A*** |

* Positive NPVs for Leasehold is the NPV of all cash flows generated by the endowment (e.g. including the 2% recapitalization). This is different from the expendable cash flow (spend allocation shown in graphs earlier).
* Negative Investments / NPVs for Leasehold in the “All” rental scenarios show the shortfall in expenses to cover the relocating of the Stadium.
* The internal rate of return is defined as the rate of discount at which a project would have zero net present value. The All Market Leasehold and HAP Targets scenarios will always be NPV positive and will therefore not have an IRR.

- The HAP Targets will generate a significantly lower NPV than All Market Leasehold, but significantly higher than the “all rental” scenarios.
- This is because a higher allocation to the endowment generates “shorter-term” cash flows that are worth significantly more than the “longer term” rental cash flows.
ii. SUMMARY OF OBSERVATIONS

• The decision to adopt the Housing Action Plan targets, foregoing proceeds to the endowment (when compared to an “all market leasehold” scenario), in order to provide more affordable housing on campus, comes at a cost
  • With current assumptions, the NPV for the HAP Targets is $469 million lower than the All Market Leasehold scenario if applied to SN

• The currently proposed development mix for SN differs significantly from the HAP targets (1/3 Market Leasehold, 1/3 Market/University Rental and 1/3 Faculty/Staff Rental).

• The following section looks at the specific development scenarios for SN, including the current plan concept, and compares them to the HAP Targets.
iii. SN SCENARIOS

(Baseline - $460/SQFT)
DEVELOPMENT SCENARIOS - RECAP

- All scenarios assume 2/3 rental and 1/3 leasehold
- Small differences in density and tower heights
- Small differences in expected leasehold prices (“floor premiums”)
- Expected average leasehold price ($460/sq.ft.) consistent with recent leasehold transactions

<table>
<thead>
<tr>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Plan Concept</td>
<td>Current Land Use Plan</td>
<td>HAP Targets</td>
<td></td>
</tr>
<tr>
<td>Res. GBA (mSqft)</td>
<td>1.55</td>
<td>1.46</td>
<td>1.28</td>
</tr>
<tr>
<td>Max Tower height (Storeys)</td>
<td>32</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>Market Leasehold</td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Market Rental</td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td>F/S Rental</td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Average leasehold price</td>
<td>460</td>
<td>448</td>
<td>446</td>
</tr>
</tbody>
</table>

Tower heights

- SCENARIO 1
  - 32
  - 26
  - 24
  - 22
  - 20

- SCENARIO 2
  - 28
  - 24
  - 22
  - 22
  - 20

- SCENARIO 3
  - 22
  - 22
  - 22
  - 20
  - 18
• The HAP targets generate the highest accumulated cash flows compared to any of the proposed SN scenarios*

• Remember that, compared to the earlier hypothetical scenarios, the HAP targets generated the lowest accumulated cash flows

• Differences in cash flow generation for the SN scenarios are largely due to the differences in density

• All proposed SN scenarios, will begin with a net negative investment, compared to the initial net positive contribution from the HAP targets scenario

*Initial investment is the sum of the net contribution to the endowment (including cost of relocating Stadium) less the equity required for rental development.

**The line for Market Leasehold shows the accumulated expendable cash flow (spend allocation – 4%) over time
ACCUMULATED CASH FLOWS - SIMPLIFIED PAYBACK PERIOD

- The HAP Targets scenario will have a payback period of zero, because it begins with a net positive contribution to the endowment.

- The current plan concept will have the shortest payback period (~13 years), whereas the other development scenarios range from 15-17 years.

- The higher density scenarios have slightly shorter payback periods than the lower density scenarios.

*The line for Market Leasehold shows the accumulated expendable cash flow (spend allocation – 4%) over time.
** Initial investment is the sum of the net contribution to the endowment (including cost of relocating Stadium) less the equity required for rental development.
### NET PRESENT VALUE (NPV) (@ $460/SQ.FT.)

**WACC = 6%**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Leasehold</th>
<th>Market Rental</th>
<th>F/S Rental</th>
<th>NET INVESTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>$21.2 M</td>
<td>$(45.3 M)</td>
<td>$(51.5 M)</td>
<td>$75.6 M</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>$9.6 M</td>
<td>$(42.9 M)</td>
<td>$(48.8 M)</td>
<td>$82.1 M</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>$(4.1 M)</td>
<td>$(37.5 M)</td>
<td>$(42.6 M)</td>
<td>$84.1 M</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>$313.5 M</td>
<td>$(13.8 M)</td>
<td>$(30.9 M)</td>
<td>$269.1 M</td>
</tr>
</tbody>
</table>

**NET INVESTMENT**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Leasehold</th>
<th>Market Rental</th>
<th>F/S Rental</th>
<th>NET INVESTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>$46.7 M</td>
<td>$110.5 M</td>
<td>$48.6 M</td>
<td>$75.6 M</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>$21.2 M</td>
<td>$104.8 M</td>
<td>$46.1 M</td>
<td>$82.1 M</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>$(4.1 M)</td>
<td>$91.4 M</td>
<td>$40.2 M</td>
<td>$84.1 M</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>$691.5 M</td>
<td>$33.1 M</td>
<td>$29.2 M</td>
<td>$269.1 M</td>
</tr>
</tbody>
</table>

**NPV - TYPE OF DEVELOPMENT**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Leasehold</th>
<th>Market Rental</th>
<th>F/S Rental</th>
<th>TOTAL NPV*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>$205.8 M</td>
<td>$172.1 M</td>
<td>$127.6 M</td>
<td>$205.8 M</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>$14.1 M</td>
<td>$172.1 M</td>
<td>$127.6 M</td>
<td>$172.1 M</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>$22.6 M</td>
<td>$172.1 M</td>
<td>$127.6 M</td>
<td>$127.6 M</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>$753.8 M</td>
<td>$313.5 M</td>
<td>$313.5 M</td>
<td>$753.8 M</td>
</tr>
</tbody>
</table>

**INTERNAL RATE OF RETURN (IRR)**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Leasehold</th>
<th>Market Rental</th>
<th>F/S Rental</th>
<th>TOTAL NPV*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>11.9%</td>
<td>10.7%</td>
<td>9.6%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>10.7%</td>
<td>9.6%</td>
<td>9.6%</td>
<td>10.7%</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>9.6%</td>
<td>9.6%</td>
<td>9.6%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

- The SN scenarios generate significantly lower NPVs than the HAP Targets.
- This is due to the high proportion of rental development in each scenario, combined with moderate (or negative) net proceeds to the endowment.

---

*Positive NPVs for Leasehold is the NPV of all cash flows generated by the endowment (e.g. including the 2% recapitalization). This is different from the expendable cash flow (spend allocation shown in graphs earlier). Negative NPV for leasehold/NPV represent the cash shortfall (e.g. not able to fund all the development) in a scenario.

** The internal rate of return is defined as the rate of discount at which a project would have zero net present value. The HAP Targets scenarios will always be NPV positive and will therefore not have an IRR.
iii. SUMMARY OF OBSERVATIONS

- The decision to pursue 2/3 rental in Stadium, to provide significantly more affordable housing to faculty, staff and students than the current Housing Action Plan targets, comes at a price
  - With current assumptions, the NPV for the Current Plan Concept is $548 million lower than the current HAP targets, and over $1 billion lower if compared to a hypothetical “All Market Leasehold” scenario
- This is important to highlight when evaluating the relatively small differences in Net Present Value between the SN development scenarios.
  - E.g. the “most expensive” decision has already been endorsed by the BoG.
- However at $460/sqft, Scenarios 1 and 2 do return positive NPVs with relatively healthy internal rates of return.
  - The higher density scenarios generate higher NPVs than the lower density scenarios
  - The main differences in NPVs stem from the size of (if any) the net contribution to the endowment
  - Scenario 3 (current LUP) is the only scenario that will not generate sufficient leasehold revenue to make SN self-funded (cash shortfall of $4m)
- The last section explores the sensitivities and robustness of the scenarios should the average leasehold price fall below current expectations (@375/sq.ft.).
iv. SN SCENARIOS

(Market Correction - $375/SQFT)
DEVELOPMENT SCENARIOS (@$375/SQ.FT.)

<table>
<thead>
<tr>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Res. GBA (mSqft)</strong></td>
<td>1.55</td>
<td>1.46</td>
<td>1.28</td>
</tr>
<tr>
<td><strong>Max Tower height (Storeys)</strong></td>
<td>32</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td><strong>Market Leasehold</strong></td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td><strong>Market Rental</strong></td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td><strong>F/S Rental</strong></td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td><strong>Average leasehold price</strong></td>
<td>375</td>
<td>363</td>
<td>361</td>
</tr>
</tbody>
</table>

**Tower heights**

- **SCENARIO 1**
  - 32
  - 24
  - 20
  - 20
  - 18
  - 18

- **SCENARIO 2**
  - 22
  - 22
  - 22
  - 22
  - 22
  - 18

- **SCENARIO 3**
  - 22
  - 22
  - 22
  - 22
  - 20
  - 18

- **Scenario 4**
  - All scenarios assume 2/3 rental and 1/3 leasehold
  - Small differences in density and tower heights
  - Small differences in expected leasehold prices ("floor premiums")
  - Expected average leasehold price ($375/sq.ft.) consistent with average leasehold prices obtained in period 2011-2015
Previously shown, at $460/sq. ft., the HAP targets would generate significantly higher accumulated cash flows compared to the current plan concept.

With lower leasehold prices ($375/sq.ft.) the current plan concept would generate the highest accumulated cash flows, given the higher exposure to rental development.

However, it will still take a long time (~84 years) before the accumulated cash flows from the current plan concept will pass the HAP Targets.

*Initial investment is the sum of the net contribution to the endowment (including cost of relocating Stadium) less the equity required for rental development.

**The line for Market Leasehold shows the accumulated expendable cash flow (spend allocation – 4%) over time.
• The HAP Targets scenario will still have a payback period of zero, because it begins with a net positive contribution to the endowment (although lower than before).

• The payback period for the current plan concept and the other development scenarios range will extend to 19-22 years.

• With the lower leasehold price assumption, all development scenarios (including the current plan concept) will have a cash shortfall (no contribution to the endowment). The payback periods will therefore converge.

*The line for Market Leasehold shows the accumulated expendable cash flow (spend allocation – 4%) over time
** Initial investment is the sum of the net contribution to the endowment (including cost of relocating Stadium) less the equity required for rental development.
**NET PRESENT VALUE (NPV) (@ $375/SQ.FT.)**

**WACC = 6%**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Leasehold</th>
<th>Market Rental</th>
<th>F/S Rental</th>
<th>NPV</th>
<th>TOTAL NPV*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario 1</strong></td>
<td>($22.6 M)</td>
<td>($45.3 M)</td>
<td>($51.5 M)</td>
<td>$119.3 M</td>
<td><strong>$136.5 M</strong></td>
</tr>
<tr>
<td><strong>Scenario 2</strong></td>
<td>($31.9 M)</td>
<td>($42.9 M)</td>
<td>($48.8 M)</td>
<td>$123.6 M</td>
<td><strong>$119.0 M</strong></td>
</tr>
<tr>
<td><strong>Scenario 3</strong></td>
<td>($40.3 M)</td>
<td>($37.5 M)</td>
<td>($42.6 M)</td>
<td>$120.4 M</td>
<td><strong>$91.4 M</strong></td>
</tr>
<tr>
<td><strong>Scenario 4</strong></td>
<td>($22.6 M)</td>
<td>($31.9 M)</td>
<td>($22.6 M)</td>
<td>$177.2 M</td>
<td><strong>$551.2 M</strong></td>
</tr>
</tbody>
</table>

**NET INVESTMENT**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Leasehold</th>
<th>Market Rental</th>
<th>F/S Rental</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario 1</strong></td>
<td>$110.5 M</td>
<td>$104.8 M</td>
<td>$48.6 M</td>
</tr>
<tr>
<td><strong>Scenario 2</strong></td>
<td>$110.5 M</td>
<td>$104.8 M</td>
<td>$48.6 M</td>
</tr>
<tr>
<td><strong>Scenario 3</strong></td>
<td>$110.5 M</td>
<td>$104.8 M</td>
<td>$48.6 M</td>
</tr>
<tr>
<td><strong>Scenario 4</strong></td>
<td>$177.2 M</td>
<td>$177.2 M</td>
<td>$177.2 M</td>
</tr>
</tbody>
</table>

**NPV - TYPE OF DEVELOPMENT**

- **All scenarios, including the HAP Targets, would be significantly impacted by lower leasehold prices**
- **Note that all SN scenarios will generate a “cash shortfall” (e.g. will require additional funding or higher proportion of leasehold to become “self-funded”)**
- **The HAP targets are also sensitive to lower leasehold prices, but are still generating vastly higher NPVs than the proposed plan concept and the other SN scenarios**

**INTERNAL RATE OF RETURN (IRR)**

- Scenario 1: 8.9%
- Scenario 2: 8.5%
- Scenario 3: 8.0%
- Scenario 4: N/A

*Positive NPVs for Leasehold is the NPV of all cash flows generated by the endowment (e.g including the 2% recapitalization). This is different from the expendable cash flow (spend allocation shown in graphs earlier). Negative NPV for leasehold/NPV represent the cash shortfall (e.g not able to fund all the development) in a scenario.

**The internal rate of return is defined as the rate of discount at which a project would have zero net present value. The HAP Targets scenarios will always be NPV positive and will therefore not have an IRR.**
iv.  SUMMARY OF OBSERVATIONS

- Current assumptions suggest that -$200 million of leasehold revenue is required to make SN a “self-funded” neighbourhood
  
  - At $375/sq.ft., none of the scenarios will generate the required leasehold revenue
  
  - At $460/sq.ft., all scenarios except scenario 3 (1.28 million sq. ft.) will generate the required leasehold revenue

- The development scenarios are therefore sensitive to lower leasehold prices and would require current levels of leasehold prices to retain the 2/3 rental commitment without outside funding (or a higher proportion of leasehold development)

- The higher density scenarios appear slightly more robust with regards to upholding the 2/3 rental development commitment without additional support/funding and would provide a little more “buffer” against possible adverse market conditions and/or other unforeseen factors

- The HAP targets are also sensitive to lower leasehold prices, but are still generating vastly higher NPVs than the proposed plan concept and the other SN scenarios
v. FINANCIAL ASSUMPTIONS
DEVELOPMENT SCENARIOS – ASSUMPTIONS - LEASEHOLD

Scenario 1

• The model now includes “view premiums” by differentiating leasehold revenues per floor.
• It is assumed that the market value of a unit increases by $10/sq.ft. per floor (UBCPT), with the associated land value (leasehold revenue) increasing by $5/sq.ft. per floor.
• The assumption of $460/sq.ft. is retained as the average for Scenario 1, and is used as the baseline for calculating leasehold revenues for the other scenarios.
• The model therefore assumes slightly different gross leasehold revenues per sq.ft. for each scenario depending on the composition of leasehold development and differences in tower heights.
• For Mixed Tenure buildings it is assumed that partial Market Leasehold development is allocated to the top floors of a building whereas partial Market Rental is allocated to the bottom floors of a building.

Scenario 2

Development Charges (IIC/CAC/COS)

• It is assumed that all development charges are included in the gross leasehold revenue per sq.ft. as shown above.
• Current IIC/CAC charges are used ($39.39/$3.25 per sq.ft.).
• For Cost of Sales a slightly higher charge than current is assumed ($30/sq.ft. up from $26.5/sq.ft.)
• It is assumed that $40 million in Cost of Sales is required to service the neighbourhood (across all scenarios)

Scenario 3

Net Leasehold Revenue

• The Net Leasehold Revenue (after development charges) are assumed used to:
  1. Fund the Relocation of the Stadium ($50 million)
  2. Provide equity for Market Rental and Faculty/Staff Rental and
  3. Remaining net leasehold revenue is assumed transferred to the TREK endowment.

Scenario 4
“VIEW PREMIUMS” FOR HIGHER FLOORS

$460/sq.ft. is assumed as the average for Scenario 1, and is used as the baseline for the other scenarios

- $5 per square foot is added/reduced to floors above/below the “average” floor in Scenario 1
- The “average floor” is then carried throughout the scenarios

The scenarios with the higher towers generate slight premiums to the scenarios with lower towers

Market leasehold development and/or Market Rental development is moved to/from towers to fully adhere to the 1/3-1/3-1/3 assumption

- It is assumed that market leasehold moved into a market rental tower would be on the top floors
- It is assumed that market rental development moved into a leasehold tower would be on the bottom floors
### DEVELOPMENT SCENARIOS - ASSUMPTIONS - RENTAL

The following assumptions are used for Rental Development in all Scenarios:

<table>
<thead>
<tr>
<th>Assumption</th>
<th>Market Rental</th>
<th>Faculty/Staff Rental</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Development Cost</td>
<td>$440 /sqft</td>
<td>$400 /sq.ft.</td>
<td>Includes IIC/COS of $36.7 per sq.ft. ($6.69/$30). Assumes wood construction for F/S rental and concrete (or mixed) construction for Market Rental</td>
</tr>
<tr>
<td>Equity Requirement</td>
<td>20%</td>
<td>25%</td>
<td>Given below market rental income for F/S Rental development, the debt service ratio covenant (typically 1.2) reduces borrowing capacity (and increases equity requirement) for F/S Rental development compared to Market Rental Development</td>
</tr>
<tr>
<td>Debt financing</td>
<td>80%</td>
<td>75%</td>
<td>25 years / 4.25%</td>
</tr>
<tr>
<td>Revenue per sqft</td>
<td>$3.40</td>
<td>$2.55</td>
<td>Current benchmark rate / 75% of Current Benchmark rate for F/S rental</td>
</tr>
<tr>
<td>Efficiency Factor</td>
<td>88%</td>
<td>88%</td>
<td>% of gross development than can be charged rent</td>
</tr>
<tr>
<td>Operating Expenses</td>
<td>22%</td>
<td>22%</td>
<td>Of Revenues</td>
</tr>
<tr>
<td>Investment Required in Year 50</td>
<td>40%</td>
<td>40%</td>
<td>It is assumed that 40% of inflation adjusted replacement value is invested in the rental development after 50 year to extend the useful life to 99 years and to match the duration of the land leases. This re-investment is assumed 100% debt financed.</td>
</tr>
</tbody>
</table>
vi. RECENT NEIGHBOURHOOD PLANS & REZONINGS
## RECENT NEIGHBOURHOOD PLAN COMPARISONS

<table>
<thead>
<tr>
<th>Neighbourhood</th>
<th>Year of Plan</th>
<th>Gross FSR</th>
<th>Max Height (# of storeys)</th>
<th>Housing Mix</th>
</tr>
</thead>
</table>
| Lelem               | 2018         | 1.3       | 18                        | • 4% below-market rental  
                      |              |           |                           | • 7% rental  
                      |              |           |                           | • 89% traditional market housing |
| Heather Lands       | 2018         | 2.5       | 24                        | • 20% affordable (50% 2-3 bedrooms)  
                      |              |           |                           | • 20% attainable home ownership (leasehold strata targeted to moderate-income)  
                      |              |           |                           | • 35% market units 2-3 bedrooms  
                      |              |           |                           | • 25% traditional market housing |
| Pearson Dogwood     | 2014         | 2.8       | 28 (under revision, up to 30 being considered) | • 20% affordable (50% 2-3 bedrooms)  
                      |              |           |                           | • 35% market units 2-3 bedrooms  
                      |              |           |                           | • 45% traditional market housing |
| Langara Gardens     | 2018         | 2.8       | 28                        | • 20% affordable (50% 2-3 bedrooms)  
                      |              |           |                           | • 35% market units 2-3 bedrooms  
                      |              |           |                           | • 45% traditional market housing |
| Oakridge Centre     | 2018         | 3.71      | 45                        | • 10% non-market (mix of senior, family)  
                      |              |           |                           | • 13% rental  
                      |              |           |                           | • 3% affordable  
                      |              |           |                           | • 47% sustainable transit oriented market  
                      |              |           |                           | • 26% traditional market housing |
vii. SCENARIO URBAN DESIGN ANALYSIS
SCENARIO 1 – 1.55M SQ FT (PLAN CONCEPT)

Tower heights: 20 - 32 storeys
Podium height: 4-8 storeys (majority at 6 storeys)

SCENARIO 2 – 1.46M SQ FT

Tower heights: 18 - 28 storeys
Podium height: 4 - 6 storeys

SCENARIO 3 – 1.28M SQ FT (LAND USE PLAN DENSITY)

Tower heights: 18 - 28 storeys
Podium height: 4 - 6 storeys (majority 4-5)

- Sculpted skyline creates variability of tower heights, minimizing cumulative visual impact
- Signature tower at terminus of Main Mall stepping down to lower heights = legibility / identity
- Lower podiums along south face of parcels
- Majority of podiums 6 storeys

- Sculpted skyline creates variability of tower heights, minimizing cumulative visual impact
- Signature tower at terminus of Main Mall stepping down to lower heights = legibility / identity
- Majority of podiums 6 storeys (some 4)
- Highest podium facing East Mall, limited shade impact

- Consistent with Land Use Plan height limits
- Majority of podiums 4 - 5 storeys
- Static skyline, little variability or hierarchy, more cumulative visual impact of towers
- Little / no flexibility to distribute density among parcels