TO: Board of Governors  
FROM: Christopher Manfredi, Provost and Vice-Principal (Academic)  
SUBJECT: McGill University Revenue Forecasting Methodologies  
DATE: February 15, 2018  
DOCUMENT #: GD17-39  
ACTION REQUIRED: ☒ INFORMATION ☐ APPROVAL/DECISION

**ISSUE & EXPECTED OUTCOME**  
A presentation on McGill University Revenue Forecasting Methodologies is presented to the Board of Governors for information. The presentation outlines the University’s sources for operating revenue and new forecasting methodologies for estimating revenue from enrolment-based grants and tuition.

**BACKGROUND & RATIONALE**  
New methodologies for forecasting revenue have been developed by the Analysis, Planning & Budget team in order to demonstrate their robustness with a view toward modifying the way McGill books such revenue. The methodology was presented to the Financial Services leadership of the University in March 2017 and the method has since been put into effect. The Audit Committee received the presentation at its September 25, 2017 meeting.

The new method consists of booking estimates for the current fiscal year and upcoming budget year to allow for greater convergence between planning and budget, and to provide for a more accurate view of revenues available for academic initiatives. Before March 2017, the University was booking *calculs définitifs*, which are based on enrolment from two years prior, and were adjusted with Ministry estimates. This older method had proven to be highly inaccurate, with results coming only in July after the end of the fiscal year.

**ALIGNMENT WITH MISSION AND STRATEGIC PRIORITIES**  
A new forecasting methodology is consistent with the Principal’s My Workplace priority to empower staff to use their knowledge to increase agility and effectiveness. It is also consistent with the mission of the Office of the Provost and Vice-Principal (Academic) to ensure alignment of the University’s resources with academic priorities.

The methodology takes enrolment plans, converts these to full-time equivalent students, and turns these into estimates of anticipated revenues. The refinements in the methodology include taking into account differences between McGill’s billing practice and the Ministry’s funding practice. These differences impact grant and tuition calculations. The new methodology also
looks at graduate student enrolment by term, and includes reverse validation to ensure that the forecast methodology, applied to previous years, results in the previous years’ actuals, or falls within an acceptable margin of error.

<table>
<thead>
<tr>
<th>COMPLIANCE WITH UNIVERSITY POLICY</th>
<th>Forecasting enrolment and tuition revenues is a key part of creating the annual five-year budget book, as mandated by the Board of Governors.</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPLIANCE WITH LEGISLATION/EXTERNAL REGULATIONS</td>
<td>Forecasts must be consistent with the <em>Règles budgétaires et calcul des subventions de fonctionnement aux universités du Québec</em>. Nearly 70% of McGill’s operating revenues stem from enrolment-based grants and tuition.</td>
</tr>
<tr>
<td>RISK FACTORS</td>
<td>Inaccurate estimates can lead to long-term commitments that are liable to putting the university’s borrowing position at risk.</td>
</tr>
<tr>
<td>SUSTAINABILITY CONSIDERATIONS</td>
<td>The new methodology has put in place a sustainable framework for forecasting revenues.</td>
</tr>
<tr>
<td>IMPACT OF DECISION AND NEXT STEPS</td>
<td>N/A</td>
</tr>
<tr>
<td>MOTION OR RESOLUTION FOR APPROVAL</td>
<td>N/A</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>Appendix A: Presentation on Revenue Forecasting</td>
</tr>
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</table>
McGill University Revenue Forecasting Methodologies

Presentation to the Board of Governors
February 15th, 2018

Christopher Manfredi, Provost and Vice-Principal (Academic)

Analysis, Planning, and Budget
March 16, 2017
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*Forecasting process:*

- p.10  How is the enrolment plan used to forecast FTEs?
- p.12  How are the FTEs converted to Weighted FTEs (WFTEs)?
- p.14  How are revenue forecasts calculated from the FTE & WFTE forecasts?
McGill’s Operating Revenue

2015-2016 Sources of Revenue¹

- **$781M** (unrestricted) fund
- **$337M** (43.1%) Ministère de l'Éducation et de l'Enseignement Supérieur (Ministry) operating grant
- **$274M** (35.1%) Tuition & fees
- **$170M** (21.8%) Other revenue sources (incl. sales of goods and services, gifts & bequests, etc.)

Nearly 70% of operating revenue is driven by student full-time equivalents (FTEs)

¹Source: 2015-16 McGill Financial Statement Analysis

Prepared by Analysis, Planning & Budget – March 2017
McGill’s Operating Revenue: Ministry Operating Grant

2015-2016 Sources of Revenue

$781M
McGill’s operating (unrestricted) fund

$337M (43.1%)
Ministère de l'Éducation et de l'Enseignement supérieur (Ministry) operating grant

$396M
Operating (permanent) grant

($85M)
Ministry recoveries

$23M
Specific (temporary) grants

$2M
Student services

Source: 2015-16 McGill Financial Statement Analysis

Prepared by Analysis, Planning & Budget – March 2017
McGill’s Operating Revenue: Ministry Operating Grant (Cont’d)

2015-2016 Sources of Revenue\(^1\)

- **$781M**
  - McGill’s operating (unrestricted) fund

- **$337M** (43.1%)
  - Ministère de l’Éducation et de l’Enseignement supérieur (Ministry) operating grant

- **$396M**
  - Operating (permanent) grant
    - $$85M$$
      - Ministry recoveries
    - $$23M$$
      - Specific (temporary) grants
    - $$2M$$
      - Student services

- **$278M** (70%)
  - Ministry teaching grant (based on FTEs weighted by discipline)

- **$51M** (13%)
  - Ministry support grant (based on FTEs)

- **$67M** (17%)
  - Other funding (incl. facilities and buildings, general fixed costs, etc.)

\(^1\)Source: 2015-16 McGill Financial Statement Analysis

Prepared by Analysis, Planning & Budget – March 2017
McGill’s Operating Revenue: Ministry Operating Grant (Cont’d)

2015-2016 Sources of Revenue¹

- $337M (43.1%) Ministry de l’Éducation et de l’Enseignement supérieur (Ministry) operating grant
- $396M Operating (permanent) grant
- ($85M) Ministry recoveries
- ($38M) (45%) International fee supplement recovery
- ({$9M} (11%) Contribution to student aid
- $23M Specific (temporary) grants
- $2M Student services

¹Source: 2015-16 McGill Financial Statement Analysis

Prepared by Analysis, Planning & Budget – March 2017
McGill’s Operating Revenue: Tuition & Fees

2015-2016 Sources of Revenue¹

$781M
McGill’s operating (unrestricted) fund

$274M (35.1%)
Tuition & fees

$156M (57%)
Regulated tuition & fees:
- Quebec base tuition
- Tuition supplements from Canadian non-resident QC, French, and International students
- Additional 10% international supplement

$54M (20%)
Deregulated tuition

$9M (3%)
Tuition for self-funded programs (e.g. M.B.A.)

$55M (20%)
Administrative and student fees:
- $33M Core
- $32M Non-core

¹Source: 2015-16 McGill Financial Statement Analysis
What is an FTE?

An FTE represents **30 credit hours** of course or program-based student activity:

The average B. Arts student represents **0.86 FTEs** (25.9 credits/year)

The average M.D., C.M. student represents **1.72 FTEs** (51.5 credits/year)
What is a weighted FTE (WFTE)?

Each activity, or program, is associated with one of 23 Ministry “funding families”; each of which has associated weighting factors:

The average B. Arts student... represents 0.86 FTEs (25.9 credits/year)... and takes activities (i.e. courses) with an average weighting factor of 1.25

\[ \text{The average B. Arts student therefore represents } 1.08 \text{ WFTEs} \]

The average M.D., C.M. student ... represents 1.72 FTEs (51.5 credits/year)... and takes activities (i.e. courses) with an average weighting factor of 4.07

\[ \text{The average M.D., C.M. student therefore represents } 6.97 \text{ WFTEs} \]
### How is the enrolment plan used to forecast FTEs?

<table>
<thead>
<tr>
<th>Course-based programs</th>
<th>FY16 FTE-to-headcount ratio</th>
<th>FY18 enrolment targets (Fall 2017 headcount)</th>
<th>FY18 FTE projections</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Arts</td>
<td>0.86</td>
<td>*</td>
<td>7,412</td>
</tr>
<tr>
<td>B. Engineering</td>
<td>0.94</td>
<td>*</td>
<td>2,849</td>
</tr>
<tr>
<td>B. Science</td>
<td>0.93</td>
<td>*</td>
<td>4,278</td>
</tr>
<tr>
<td>M.D., C.M.</td>
<td>1.72</td>
<td>*</td>
<td>746</td>
</tr>
</tbody>
</table>
### How is the enrollment plan used to forecast FTEs? (Cont’d)

| Thesis-based programs: | FY17 | FY18 | FY19 | FY20...
|------------------------|------|------|------|------
|                       | Summer 2016 | Fall 2016 | Winter 2017 | Summer 2017 | Fall 2017 | Winter 2018 | Summer 2018 | Fall 2018 | Winter 2019 | Summer 2019 |
| PhD Arts student (Returning) | 11.25 credits | 11.25 credits | 11.25 credits | 11.25 credits | 0 credits | 0 credits | (---GRADUATED----) |
| PhD Eng. student (Returning) | 11.25 credits | 11.25 credits | 11.25 credits | 11.25 credits | 11.25 credits | 0 credits | 0 credits | 0 credits | 0 credits |
| PhD Science student (Newly admitted) | 11.25 credits | 11.25 credits | 11.25 credits | 11.25 credits | 11.25 credits | 11.25 credits | 11.25 credits | 0 credits | 0 credits | 0 credits |

**FY17 projected FTEs:**

90 credits / 30 = 3 FTEs

**FY18 projected FTEs:**

78.75 credits / 30 = 2.6 FTEs

**FY19 projected FTEs:**

33.75 credits / 30 = 1.1 FTEs
### How are FTEs converted to Weighted FTEs (WFTEs)?

<table>
<thead>
<tr>
<th>Course-based programs</th>
<th>FY16 FTE-to-headcount ratio (i.e. student’s average course load in a given program)</th>
<th>FY18 enrolment targets (Fall 2017 headcount)</th>
<th>FY18 FTE projections</th>
<th>FY16 WFTE-to-FTE ratio (i.e. average weighting factor for given program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Arts</td>
<td>0.86</td>
<td>7,412</td>
<td>6390.6</td>
<td>1.25</td>
</tr>
<tr>
<td>B. Engineering</td>
<td>0.94</td>
<td>2,849</td>
<td>2666.3</td>
<td>1.88</td>
</tr>
<tr>
<td>B. Science</td>
<td>0.93</td>
<td>4,278</td>
<td>3993.8</td>
<td>1.90</td>
</tr>
<tr>
<td>M.D., C.M.</td>
<td>1.72</td>
<td>746</td>
<td>1279.6</td>
<td>4.07</td>
</tr>
</tbody>
</table>

Course-based programs:
**How are FTEs converted to Weighted FTEs (WFTEs)? (Cont’d)**

<table>
<thead>
<tr>
<th>Thesis-based programs:</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
<th>FY20…</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Summer 2016</td>
<td>Fall 2016</td>
<td>Winter 2017</td>
<td>Summer 2017</td>
</tr>
<tr>
<td><strong>PhD Arts student</strong></td>
<td>6.40</td>
<td>11.25 * 6.40</td>
<td>11.25 * 6.40</td>
<td>11.25 * 6.40</td>
</tr>
<tr>
<td><strong>(Returning)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(Returning)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(Newly admitted)</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**FY17 projected WFTEs:** 744.4 credits / 30 = **24.8 WFTEs**

**FY18 projected WFTEs:** 709.9 credits / 30 = **23.7 WFTEs**

**FY19 projected WFTEs:** 328.3 credits / 30 = **10.9 WFTEs**

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How are revenue forecasts calculated from the FTE and WFTE forecasts?

**Ministry Support Grant FY17 forecast**

*All FTEs*

- 2016-2017 Ministry grant amount per FTE: $1,659

**Ministry Teaching Grant FY17 forecast**

*WFTEs in regulated disciplines*

- 2016-2017 Ministry grant amount per WFTE: $3,508

* Certain adjustments are made to WFTE numbers; detailed on upcoming slides
How are revenue forecasts calculated from the FTE and WFTE forecasts? (Cont’d)

➢ **Tuition & Fees**

- The *Director, Financial Services* prepares breakdown of tuition (and supplement) amounts & tuition FTEs
- Breakdown is a forecast for the current year only
- To forecast beyond 2016-2017, 2016-2017 APB FTE forecasts are adjusted relative to the tuition FTE forecasts
- **Tuition FTEs ≠ grant funded FTEs:**
  - Thesis students: Pay tuition 15 credit hours fall/winter; Ministry funds 11.25 credits fall/winter/summer
  - Bilateral exchange students: Incoming/outgoing generate grant funding; only outgoing generate tuition
- 2016-2017: tuition amounts from *Director, Financial Services* are used
- Beyond 2016-2017: tuition indexation applied to adjusted APB FTE forecasts
How are revenue forecasts calculated from the FTE and WFTE forecasts? (Cont’d)

**FY17 Contribution to QC student aid forecast (part of recovery amount)**

**FY17 Tuition supplements forecast (part of recovery amount)**

All FTEs

* 2016-2017 Ministry student aid contribution amount per FTE:

($292)

2016-2017 breakdown of tuition FTEs*:

- Quebec
- Canadian Non-Resident QC
- French
- International regulated
- International exempt
- International deregulated

2016-2017 Ministry supplement amounts per FTE:

- Canadian Non-Resident QC
- French
- International regulated

* Breakdown prepared by Director, Financial Services

Prepared by Analysis, Planning & Budget – March 2017
How are revenue forecasts calculated from the FTE and WFTE forecasts? (Cont’d)

- Adjustments to the International supplement recovery forecasts & teaching grant forecasts

Ministry (funding) perspective: Activity-based

<table>
<thead>
<tr>
<th></th>
<th>Regulated Activity</th>
<th>Deregulated Activity</th>
<th>Exempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTEs</td>
<td>72%</td>
<td>24%</td>
<td>4%</td>
</tr>
<tr>
<td>WFTEs</td>
<td>72%</td>
<td>26%</td>
<td>2%</td>
</tr>
</tbody>
</table>

University (tuition) perspective: Program-based

<table>
<thead>
<tr>
<th></th>
<th>Regulated Activity</th>
<th>Deregulated Activity</th>
<th>Exempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTEs</td>
<td>13%</td>
<td>85%</td>
<td>2%</td>
</tr>
<tr>
<td>WFTEs</td>
<td>12%</td>
<td>87%</td>
<td>1%</td>
</tr>
</tbody>
</table>

IMPACT:
- Int’l fee paying students in a regulated program, taking deregulated activities
  - Supplement (collected) is not recovered
  - Teaching grant not awarded
- Int’l fee paying students in a deregulated program, taking regulated activities
  - Supplement (not collected) is recovered
  - Teaching grant is awarded

NOTE: Bar chart has been scaled according to volume of FTEs/WFTEs

Prepared by Analysis, Planning & Budget – March 2017
How are revenue forecasts calculated from the FTE and WFTE forecasts? (Cont’d)

➢ Other adjustments to the International supplement recovery forecasts
  • McGill internally allocates *more* (65-75 per year) differential fee waivers (DFWs) than maximum number allocated by Ministry
    • Ministry recovers international supplement associated with this overage

➢ Adjustments to the Canadian supplement recovery forecasts
  • As of fall 2015, McGill collects the Canadian supplement on behalf of Ministry for French citizens entering undergraduate programs
  • Canadian supplement forecasts adjusted to reflect this growth
Thank you!