

## The Size of the College

July 20, 2012

Strategic Planning Group #1 was asked to consider these related questions:

- What are the academic and economic costs and benefits of having a larger (or even a smaller) student body?
- Is Carleton currently at the best size for its future success and distinction – or should we grow or shrink?

To respond to these questions, Strategic Planning Group #1 met several times to gather and discuss data on the past history of enrollments, infrastructure and program capacity, admissions, academic programs and an economic model of student body growth. We were greatly helped by staff in appropriate offices and by the leaders of other strategic planning groups.

We have concluded that the size of the student body should not shrink, nor should it grow greatly. The College is at or near capacity in several important areas and a budget analysis shows that responsible growth (with new infrastructure matching increased enrollments) will take at least twenty years to pay for itself at a cost of making Carleton more dependent on tuition in the meantime. The sections below outline our deliberations and reasoning. Footnotes refer to key pieces of information we used in our discussions.

Several of the guiding assumptions of the Strategic Planning process relate to these questions, particularly those highlighted below:

- Believing that a liberal arts education is both instrumentally and intrinsically valuable, our overarching goal is to provide an undergraduate liberal arts education that is among the best in the world.
- **We shall remain a principally residential campus.**
- We seek to make Carleton as affordable as possible, within our means.
- Carleton has a unique character...an “intense intellectual life, flavored with humanness, unpretentiousness, and democratic, even egalitarian ideals.”
- Personal interactions/connections between students and faculty/staff are one of our hallmarks; we want to nurture and strengthen such communal bonds.
- While the academic development of our students is paramount, we also care about their social, emotional, spiritual, physical, aesthetic, vocational and ethical development/growth.
- **Our economy should be self-sustaining over the long run.**
- Our competitors...will not stand still.

In addition, our group assumed that:

- Expansion in the size of the student body would be matched by corresponding increases in on-campus capacity, including additional faculty and staff.
- The current three-term calendar (and its effects on Off-Campus Study participation) will not change.

## History of Enrollment

Between 1980 and 1999, Carleton’s student enrollment fluctuated around a mean of 1832 students (range from 1791 to 1873). Since 1999, the number of students has grown slowly and steadily (“enrollment creep”), from 1818 in 1999 to 1956 students in FY2011, an increase of 6.8% (124 students) from the 1980-1999 mean. (This period was preceded by spurts in enrollment during the early 1970s and, before that, in the early 1960s).<sup>1</sup> Though fall term enrollment consistently lags behind the enrollment in winter and spring terms, a more sizeable

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<sup>1</sup> Office of Institutional Research and Assessment (hereafter IRA), Term-by-term enrollment at Carleton, 1980-2011; Carleton enrollments since 1870-71.

gap between fall and winter/spring develops around 2001 and persists through 2010.<sup>2</sup> Higher student enrollments in fall-term off-campus programs explains some of this gap in enrollment by terms, but not all of it, because the gap in off-campus program enrollment among terms extends all the way back to the 1980s.

Overall variation in enrollment from year to year has dampened since about 2003. The number of students in residence in Northfield is relatively constant at about 94 % of the total enrollment by year.

The most recent changes in enrollment are due to a) an addition of 30 students in 2008 (moving the budgeted student “base” from 1805 to 1835) and b) an additional 35 students to be added over the next few years and completed by 2014-15. This second increase will be largely accomplished through enrollment balancing among the three terms, an effort expected to be helped by scheduling more Carleton off-campus programs in summer, winter and spring (fewer in the fall trimester) and by the reconstruction of Evans Hall. Increasingly, students are choosing to graduate early (17% in the class of 2012) and this trend, if it continues, may also assist enrollment smoothing.<sup>3</sup> Also, additional faculty positions and student life operations money will be added along with the additional 35 students. From 2014-15, the budgeted student base will be 1870.<sup>4</sup>

With a few exceptions (such as Wesleyan), enrollment patterns at colleges comparable to Carleton mimic enrollment patterns here; that is, enrollment at many schools increased in the 1970s and has crept upward since 2000.<sup>5</sup>

## **Capacity of campus infrastructure, staff and services**

### *Capacity and occupancy of residence halls*

Because the Office of Residential Life has some flexibility in how rooms and common spaces are configured, it is much more difficult to pinpoint “capacity” than it is to pinpoint “occupancy.” However, occupancy has been at or above 95% of capacity (as well as we can measure it) since 1985, with the exception of a few fall terms.<sup>6</sup> Thus, at present there is little excess dormitory capacity, and a further increase in enrollment would require building new dormitory space or allowing more students to live in the Northfield community or both.

The number of students living in (mostly) rental housing in Northfield (“Northfield Option”) reached a peak of 225 in spring term 2008 and has now dropped to about 100 students.<sup>7</sup> Building Cassatt and Memorial Halls was part of an intentional strategy to reduce the number of students living in Northfield and to fulfill Carleton’s mission as a primarily residential college (in spring term 2008, 12% of students resident in Northfield lived in non-college housing). Northfield’s relatively new rental ordinance (which restricts conversion of one-family homes to rentals) and, to a lesser extent, its social host ordinance (which makes hosts liable for underage drinking) both make it more difficult for the community to absorb more students. The renovations to Evans Hall will add about 39 more beds; this increase will both help whatever part of the student body increase cannot be managed by balancing enrollments across the three terms and will allow Residential Life to bring more students onto campus from the “Northfield Option.”

<sup>2</sup> IRA: Term-by-term enrollment at Carleton, 1980-2011

<sup>3</sup> Jim Ferguson, Office of Institutional Research and Assessment, provided this figure. Since the percent of early graduates is approaching 1/5 of the class, it is a trend (and potential opportunity) that should be considered in the next stages of strategic planning.

<sup>4</sup> Thanks to Patricia Langer, Office of the VP and Treasurer, for providing the information and numbers about enrollment changes since 2008.

<sup>5</sup> IRA: Carleton and peer schools changes in enrollment, 1970-2011

<sup>6</sup> IRA, Residence Hall capacity and Occupancy Trends, table

<sup>7</sup> IRA, Northfield Option Housing

Other Strategic Planning groups are discussing the possibility of reducing housing capacity in college-owned off-campus houses. Should the College sell or re-purpose some of these houses, the residential capacity on campus may be further reduced, presenting another opportunity to examine enrollment.

#### *Capacity of dining halls, classrooms, library, etc.*

According to Dan Bergeson, “both East and Burton dining halls are operating at full capacity. Simply adding more dining hours is not feasible because the popular meal hours are already at capacity.”<sup>8</sup> Similarly, classroom space (for mid- and large- size classrooms, seating between ~20 and ~60 students) is at or above capacity on Monday through Friday for classes meeting between 9:45 a.m. and 3 p.m.<sup>9</sup> Because of conflicts with athletic practice, late afternoon class periods can only be used for second sections of courses that also meet earlier in the day (not including labs). Many specific departments (Math, Computer Science, languages, Music, lab sciences) currently have trouble scheduling spaces, despite using all available time periods. Gould Library has seen an increase in the usage of its public and group study spaces, to the point that it is at capacity much of the time.<sup>10</sup>

Student Health and Counseling (SHAC) is at capacity in their current facility, with no room to add additional providers; counseling and psychiatric care is at or over capacity for present enrollments. Student support facilities such as the Write Place and the Math Skills Center are at capacity, as is the second-language writing consultant.<sup>11</sup>

The buildings and services that are at or above capacity are very close to tipping points: small increases in enrollment ( $\leq 50$ , say) would affect campus life noticeably and larger increases would require major infrastructure additions, such as new dormitories, dining halls and classrooms.

Not all campus facilities are at capacity. For instance, the Recreation Center could accommodate a student body increase.<sup>12</sup> We have chiller capacity in Facilities to add one to two more medium size buildings.<sup>13</sup>

#### *Faculty capacity*

The Carleton regular faculty (tenured + tenure-track + PEAR) has increased in size at a more-or-less steady rate of about 1.8 positions/year since 1980.<sup>14</sup> During this time period, the student/faculty ratio has decreased from 13.3 in 1980 to 9.6 in 2011. However, this headcount does not correspond with FTE. For instance, note that a 9.6 student/faculty ratio with a student body size of 1956 students predicts a 2011 faculty size (FTE, not head count) of 204, 12 positions more than the ostensible size of the faculty.

One of the major goals of the recently concluded comprehensive campaign was addition of 15 new faculty positions. This hiring was done over four years (~2006-2009). Graphs of faculty size show that these additions barely affect the long-term trend.

#### *Academic program capacity*

<sup>8</sup> Personal communication, Dan Bergeson to John Mathews

<sup>9</sup> Personal communication, Roger Lasley. Roger reports that 70% occupancy is an optimum usage pattern in the industry; our large classrooms are 86%-87% occupied during key hours.

<sup>10</sup> Personal communications, John Mathews, Andrea Nixon

<sup>11</sup> Personal communication, Andrea Nixon (who polled the offices in question)

<sup>12</sup> Personal communication, Mikki Showers to John Mathews

<sup>13</sup> Personal communication, John Mathews

<sup>14</sup> IRA, Carleton staffing by functions

The challenges of assessing academic program capacity exceed those of assessing residential and faculty capacity. This is because course enrollments and the numbers of majors going through departments vary from year to year. For example, the number of senior majors over recent years in the three departments represented by faculty on this working group are quite variable<sup>15</sup>:

Department:	2014	2013	2012	2011	2010	2009	2008
Art History	6	8	10	13	6	10	5
Geology	21	12	17	17	26	14	21
Philosophy	7	9	11	8	7	13	12

In a study of art history, geology, and philosophy departments at institutions comparable to Carleton, there is wide variance in the numbers of faculty and courses offered. Most likely, historical patterns account for these differences; some schools have special programs or museums, for instance.

Within the last ten years, Carleton has added majors in Cinema and Media Studies, Linguistics and Environmental Studies and has added a program in Arabic. In addition to new faculty in these four programs, faculty positions have been added in 11 other departments.<sup>16</sup> These additions represent real gains in capacity for some of these programs (e.g. Linguistics, which has gone from 1 FTE plus visitors to 3 FTE). In other cases, additional positions help balance large major enrollments.

### **Economic modeling of student body growth**

The strategic plan working group was fortunate to have access to a recent economic model of student body growth, completed in the summer of 2009 by Associate Dean Nathan Grawe and others.<sup>17</sup> This EXCEL-based model compares student body increases of 200, 400, and 600 students with Carleton's present size and with a decrease of 200 students. It assumes that infrastructure, staffing, and other capacities increase proportionately to the increased student body size.

Analysis of the model results indicates that reducing the student body size would likely reduce income more than it would reduce costs, primarily because of the fixed costs associated with recent construction of Memorial and Cassatt residence halls and the Weitz Center. The model analysis also shows that under any of the modeled increases in student body size, the College would take more than 20 years to break even on capacity and staff increases. In addition, these increases would have negative effects on Carleton's financing. Carleton's budget would become more dependent on tuition because of a lower ratio of endowment per student. In 2009, tuition represented 60% of the annual budget; this percentage would increase to 66% with an addition of 600 students. As the report says, "Even an increase of 200 students would noticeably reduce endowment per student by over \$25,000 or 9%. An aggressive increase of 600 students would cut endowment per student by \$64,000 or 23%."<sup>18</sup>

Nathan Grawe and his partners also modeled the economic costs and benefits of moving Carleton to a year-round calendar, with some fraction of the student body on campus each summer.<sup>19</sup> The year-round model shows similar times to pay-back as does the three-trimester model (19 years for an increase in enrollment of 200 students and longer pay-back times for larger increases), thus increasing tuition dependence in the same way. In

<sup>15</sup> Numbers from the on-line campus directory; because a few students choose not to be listed, these numbers are minima.

<sup>16</sup> Information from Peggy Pfister, Dean of the College Office

<sup>17</sup> Grawe and others, Financial Impacts of Changes to Enrollment Levels; Summer 2009 enrollment model

<sup>18</sup> Ibid.

<sup>19</sup> Grawe and others, Financial Impacts of Changes to Enrollment Levels and Year-Round Operation. During the 2009 discussion of the models, early results showed no positive gain to moving to year round operations and so more attention was paid to the possible increase in students with a (continuing) trimester system.

addition, their analysis concludes that moving to a year-round operation would have large transition costs in additional staff and faculty. Moreover, year-round operations would cut into recent and continuing summer programs for high-school students that are generating revenue for the College and are powerful recruiting tools. These economic models do not include the possibility of increasing the number of summer off-campus programs (such as the annual Cambridge Economics program), which may be one avenue to achieving the 35-student increase by balancing.

### **Academic programs**

Our strategic planning group was asked to think about whether additional academic programs needed to be added at Carleton, a step that might influence our thinking about student body size, because most programs need a certain number of participating faculty and students to be successful. We consulted with the strategic planning group, chaired by Louis Newman, which is examining curricular issues. To date, this group's conclusions focus on bolstering and connecting programs that already exist at Carleton, including global engagement and academic civic engagement. The group has not uncovered any new academic program that Carleton must start and that would need an increased number of students to be successful. In its deliberations, Strategic Planning Group #1 has concluded that no matter what the size of the student body, there will always be some potentially attractive academic program that is "just out of reach" because we need some number of additional students to make it viable.

Another perspective from Paul Thiboutot, Vice-President and Dean of Admissions and Financial Aid, suggests that the appeal of Carleton for most prospective students is the high-quality nature of the liberal arts education here, and more specifically the real and perceived strength in the sciences, as measured, for instance, by graduate fellowships and Ph.D. degrees, rather than presence of a particular program. Having said that, he points out that Carleton currently has some programs (and assets like the Arb and the wind turbines) that are unusual for liberal-arts colleges and help distinguish it from others; however, adding new programs (and adding students to enroll in those programs) would probably not further enhance Carleton's distinctive appeal.<sup>20</sup>

### **Admissions**

The economic modeling of student body increases also shows that unless numbers of applications increase, "admitting more students would markedly increase our acceptance rate which is currently around 28%. Given a yield rate of 25%, increasing the student body by 200, 400, and 600 students would result in acceptance rates of 32%, 36%, and 40% respectively."<sup>21</sup> Further, Paul Thiboutot estimates that admitting more than an additional 25 students per class for four years (a total increase of 100 students) will make it difficult both to maintain the quality of entering classes and to maintain their socio-economic status range.<sup>22</sup>

### **Intangibles**

Early on in our discussions, one of our members, Margaret Simms, captured a key point: she said, "the student body should be small enough to have a richness and intimacy within majors." We were heartened to hear from

<sup>20</sup> Paul Thiboutot, personal communication

<sup>21</sup> Ibid. "Other schools with acceptance rates between 38% and 40% include Kenyon, Macalester, Lafayette, Spelman, Washington & Jefferson, and Oberlin. By contrast, Swarthmore, Amherst, and Pomona have acceptance rates just over 15%." (See <http://colleges.usnews.rankingsandreviews.com/best-colleges/lowest-acceptance-rate>) Note that applications did rise to 5860 for the class of 2016 and the acceptance rate fell to 25.5%. However, it is not clear if this level of applications can be maintained, given the demographic trend of smaller numbers in the target group of 17-18 year olds (cf. <http://www.nacacnet.org/research/briefing/Projections/Pages/summary.aspx>; this item cites the DOE in projecting a 3% drop in high school graduates between 2008-09 and 2020-21).

<sup>22</sup> Paul Thiboutot, personal communication

our student member, Seth Althaus, that he felt his major department, Economics, had such characteristics.<sup>23</sup> We also think Carleton should continue to be small enough so that everyone in the community has a good sense of what is going on. However, it is hard to predict possible changes in institutional culture that might come with a larger student body, including where psychological tipping points might be. In the absence of compelling reasons for growing and some already-identified risks discussed earlier in this report, the risk of losing “richness and intimacy” might not be necessary to take.

### **Signals of success (or problems)**

We have identified a few signals that can be monitored to determine how well the campus responds to the new base of 1870 students:

- a. The number of students in “Northfield Option”: If this number increases greatly or creeps upward, it indicates that the number of enrolled students exceeds the dormitory capacity.
- b. The student:faculty ratio: If this figure increases (absent a deliberate decision), it indicates that the number of enrolled students is probably too high.
- c. The gender, socio-economic, geographic, race/ethnicity (for example) balance of incoming students: If these figure changes (in either direction of imbalance) over a period of a few years, it may indicate a need to examine student body size, campus culture and admissions.
- d. First-year registration, especially for winter and spring terms: If first-year students cannot find enough course openings to create a balanced schedule, it may indicate that on-campus enrollment is too high.

### **Game-changers**

Our analysis is based on the assumptions underlying the strategic planning process and our best guesses about what the academic landscape might look like through the next 10-15 years. We have identified a few “game-changers,” that is, major structural features that might alter those assumptions. These include major changes to the calendar, such as adding evening classes, incorporating a summer term, or changing away from the trimester system.<sup>24</sup> They also include decisions to pursue distance learning (broadly defined) as an adjunct to the primarily residential education delivered at Carleton. Such effects of technology might include sharing classes among ACM schools using Skype and other technologies. It is outside our purview to assess the possible effect of such changes; however, we note that each of the ones listed here would create serious, overlapping ramifications.

### **Conclusions**

Given the assumptions we are working with and the data we've examined, Strategic Planning Group #1 concludes that:

1. We probably should not reduce the number of students, although the possibility of doing so in conjunction with taking off-campus houses off-line should be considered.
2. There are no compelling arguments to increase the size of the student body greatly (by more than 100 students within the next ten years).
3. If we continue any incremental growth in student body size, we should do so deliberately with attention to the short- and long-term consequences.

<sup>23</sup> The average number of majors in Economics graduating each year from 2012-2014 is 38; by current numbers of majors per year, it is the fourth largest department at Carleton after Biology, Political Science/International Relations, and Psychology.

<sup>24</sup> Though, as noted previously, incorporating a summer term will have probable negative effects on summer academic programs (for high school students, primarily) and will not provide an economic gain.

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