EXHIBIT C-1
2-4-14

Report of Findings and Recommendations
Belmont Public Schools
Enrollment Modeling Group
January 31, 2014

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Following the substantial work of a class size advisory group commissioned by the Belmont Superintendent of Schools in the fall of 2012, the current Enrollment Modeling Group has been meeting since November 2013 to attempt further fine-grain analyses of trends and issues in order to inform the overall long-range financial planning currently taking place under the auspices of the Belmont Select Board. The Enrollment Modeling Group has explored two fundamental questions: Why has the Town seen such a surge in student population, and what are the implications of that surge for the future? The group reviewed the projections the School Department has historically used from the New England School Development Council, the record of student arrivals and departures into and out of the system, the projections of student populations likely to emerge from major development projects, the actual nature of the growing student populations, the reasons families seem to be moving to Belmont and whence they come.

The Enrollment Modeling Group voiced issues of interest and concern and recommended means to explore the issues. The conversations and reports that emerged have informed the set of considerations that make up the second part of this report. However, the considerations and recommendations are those solely of the school administration and do not necessarily represent a consensus or formally approved body of recommendations. The school department is immensely grateful for the insights and experiences brought to the discussions by the individual volunteer members of the group.

Findings

Over the past two school years, the enrollment of the Belmont Public Schools has grown markedly at rates of 2.4% and 3.6%, respectively, as measured against the official October 1 enrollments of 2012 and 2013. The fixed date under state regulation determines the number of students calibrated for the school funding reimbursement formula the state uses to determine the annual state grant under Chapter 70 of the Massachusetts General Laws. However, the measuring of student population from October to October masks the "churn" within the Belmont

Public Schools—the extent to which students enter and leave the district during the school year. As well, the percentage of year-to-year growth does not indicate the nature of the student population growth, in particular these past two years, the significant addition of students who are learners of English as a second language.

As of January 2014, the actual full student enrollment of 4,305 includes 27 students in addition to the 142 students indicated as a net gain in student population on October 1, 2013, including special education students in special placements outside the district. If the average yearly per pupil expenditure for students in the Belmont Public Schools approximates $12,250, then the addition of 169 students from one year to the next could be presumed to impact the school department budget by requiring an addition of $2,112,500 over the prior year's funding just to maintain the same programs and services. The major financial impact of significant student population growth is obvious.

The current student population projections from the New England School Development Council (NESDEC) estimate that the district will see a net increase of 83 students in 2014-2015. However, NESDEC projected 103 new students for 2012-2013. Because the full enrollment increase was 142, the NESDEC projection was off by 38%. Based on the actual January 2014 population of 169 students, the projection erred by 64%. Over the past five school years, NESDEC projections have varied as follows:

2009-2010	Prediction = + 54	Actual = + 115	Difference = 53%
2010-2011	Prediction = + 48	Actual = (28)	Difference = 158%
2011-2012	Prediction = + 49	Actual = + 23	Difference = 53%
2012-2013	Prediction = + 102	Actual = + 94	Difference = 8%
2013-2014	Prediction = + 103	Actual = + 142	Difference = 38%

Representing the projection differences between predictions and actuals by a percentage is misleading, but the discrepancies demonstrate that a predictive algorithm based in significant part on a suburban town's birth rates is not altogether reliable. Furthermore, in suburban school systems, population trends often depend upon exogenous variables, which, by definition, are difficult to predict with any precision. (To be fair to NESDEC, the Superintendent of Schools in defense of the FY 2014 school budget publically declared that he thought the prediction of 103 to be too high!)

If the NESDEC projections are viewed somewhat differently, and if the predictions are compared to the total student population, the projections actually only vary within a range of 98% to 102%. However, a variation of 2% for a population of 4,000 students represents 80 students. If the average per pupil expenditure is $12,250, eighty students might have a presumptive budgetary impact of $980,000. The NESDEC projections cannot be ignored, but they have to be weighed against actual trends.

The historical enrollment data indicate that from the fall of 2002 on, each student cohort that began as kindergartners has increased in size as it has progressed up the grades. In 2004, the kindergarten cohort of 248 children grew to 290 students by Grade 4. That cohort entered Belmont High School as freshmen in the fall of 2013 with 314 students, an increase in the cohort

population of 27% over ten years. Prior to 2002, student cohorts actually decreased in size as they progressed through the grades. This eleven-year trend again suggests that the town's birth rate is much less a factor for predicting growth than is the rate of families who move into Belmont with school-age children.

For the fifteen-year period from school year 1998-99 through the current school year of 2013-2014, the official kindergarten through grade 12 enrollment in Belmont has grown by 599 students, from 3,537 to 4,146, a total enrollment growth of 16.9%. (Note that the data exclude pre-kindergarten enrollments and special education outplacements.) During the first seven years of that span, enrollment was relatively stable, growing only by 46 students, a cumulative 1.3% increase with four years of decreased enrollments and three years of increased enrollments. During the most recent eight school years, the official K-12 enrollment has grown by 553 students, a cumulative growth rate of 15.4%. During this span, there was only one year of declining enrollment. The average annual enrollment growth was 1.9%; thus, the average *annual* rates of growth exceeded the preceding full seven-year rate of 1.3%. The 2013 enrollment projections from NESDEC indicate a continued growth of over 300 students during the next five years through school year 2018-2019 with an additional projected growth of 370 students for the following five years. However, these projections do not take into account major developments such as the Cushing Square project or potential Uplands development. Over the next decade Belmont might well acquire more than 600 new students. Certainly, it is essential to note that projections for the out years (beyond five years) are less reliable for the variety of reason that NESDEC notes in the prefaces to the reports.

Also important to note is that official figures on the Department of Elementary and Secondary Education's website will not correlate neatly with figures the district maintains, at least not without some substantial further analysis. The Department counts special education outplacement figures in a different manner as well as the pre-kindergarten population. Furthermore, the Department's figures are always a point in time (October 1) and often eighteen months old. The Belmont School Department tracks population figures for all Belmont students regardless of profile monthly. "All Belmont students" means individuals for whom the Belmont Public Schools are fiscally as well as educationally accountable.

A factor further complicating planning and budgeting is that the enrollment of students is a rolling affair. While, as might be expected, the highest number of new students enroll during the month of August, significant numbers enroll in April, July, May, September, and March, in that order. New enrollments after May are necessarily excluded from firmer numbers that go to Town Meeting for approval of the budget.

The Town of Belmont has become an exceptionally attractive community, especially for young families. Anecdotally, we believe there is a trend in Belmont common to several suburbs: Older residents who are downsizing or retiring are selling their properties to younger families. As well, up until a year-long freeze imposed by the Town Meeting of 2013, several older single-family units were being torn down and replaced with new multi-family dwellings.

To determine reasons for the migration into Belmont, the group asked families of students new to the Belmont Public Schools in the 2013-2014 school year to complete a brief, open-ended

questionnaire about their reasons for the move. Over fifty percent of the new families responded—a response sufficiently high to give the results considerable credibility. Parents were simply asked to write the reasons why they chose to move to Belmont and from where they moved. Most respondents gave multiple reasons for moving. The most common reasons were

1) the quality of the schools (84%);
2) proximity to Cambridge, Harvard, or MIT (28%);
3) the quality of the neighborhood and community (16%);
4) proximity to work or job (11%);
5) good public transportation (8%);
6) and 15 others responses with one or two tallies.

In short, and not surprisingly given that the responses were from parents of school-aged children, a major factor underlying the choice these families made to move to Belmont was the quality of the schools. A caveat to acknowledge is that the questionnaire did not go to new Belmont residents who do not have children in the schools, and the results must be interpreted in that context.

What is of particular interest is whence new school-age families came:

1) from another Massachusetts town (37%) with Watertown at 8% and Cambridge at 7% highest among the 14 towns and cities represented;
2) from another state (32%);
3) from a country outside the United States (26%) with 14% coming from Asia (China, Korea, and Japan, in that order).
4) Only 6% of the new students were already residents in Belmont who moved into the public system from private schools.

Noteworthy is that many of the international families (as well as some of those families from out-of-state) have indicated that they are here for a short duration to serve on fellowships or as visiting professionals at Boston area universities and corporations. The attraction to Belmont for international families underlies a phenomenon that pertains to some of the families who move in from out-of-state as well—an anticipated one or two year temporary residency for professional reasons. That phenomenon certainly accounts for part of the "churn" factor in the Belmont Public Schools. That fully a third of Belmont residences are rental properties is a likely contributing factor as well.

Based upon calendar year 2013 data, for every three new students to the Belmont public schools, one student leaves the district. Therefore, a net gain of 169 students as of January 2014 actually disguises the fact that there are actually 233 new students because 64 students have left the district. The Massachusetts Department of Elementary and Secondary Education now determines for each district a "churn" factor, a percentage of student population turnover. The official churn rate for Belmont based upon the 2011-2012 school year (the most recent official data set available) is a modest 4.4%. However, for English language learners, the churn rate is 30.6%, a datum reflecting the mobility of international families.

Belmont has seen marked growth in the numbers of students classified as English language learners. Such students, much like students in special education programs, require additional direct services to support their acquisition of English. Many international families move to towns like Belmont because of the quality of the ESL programs (English as a Second Language Programs). In school year 2011-2012, Belmont supported 106 English language learners. In 2012-2013 the number increased to 113. In the current school year (2013-2014) the number is 182, an increase of 72% over the three years. The official number of English language learners is based upon the October 1 school enrollment. In Belmont, as of January 31, 2014, there are actually 187 designated English language learners—the number consistently tends to grow during the school year with new arrivals and students newly identified as ELLs.

Town census data for calendar year 2013 reveal a very active realty market. A total transfer of 428 residential units (homes and apartments) was recorded by the Town clerk. Of the total, 35.28% were rental properties. The most relevant datum is that occupying those new homes are 821 individuals listed as minors.

Since school year 2010-11, when there was an actual decline in the student population of 0.7% from the preceding school year, there has been a steady percentage increase of 0.6% to 2.4% to 3.6% for the current school year. The chart of historical percentage changes shows considerable variation over the past ten years from a -0.7% to the current +3.5%. The algorithms to project student populations as employed by the New England School Development Council (NESDEC) are useful but hardly definitive or infallible. Historical trends alone cannot predict the future because of the host of exogenous variables that impact student populations. We do anticipate gaining approximately 33 new students once the Cushing Square development has been completed. Should the Uplands project see fruition, we estimate gaining approximately 73 new students, based upon the best projections available. The addition of 96 students over the next three to five years seems modest, but it would be in addition to normal growth of the kind seen over the past several years.

The current projection from NESDEC suggests that the district should anticipate 83 new students for 2014-2015, 82 for 2015-2016, 49 for 2016-2017, 55 for 2017-2018, and 36 for 2018-2019. Adding to those numbers 96 students from Cushing Square and the Uplands that are not included in the NESDEC projections, a new estimate would suggest gaining 401 students by school year 2018-2019, five years hence. That figure represents a 9% increase over the next five years. The caveat is to recognize that such a projection is guesswork; but with some major housing developments under way and despite the temporary freeze on tear-downs and rebuilds, the Town should anticipate real growth in student population over the next five years. A round estimate of 600 new students over the next ten years may not be far off, but only if the current enrollment trend continues unabated.

The Belmont school district is a major attraction for families who highly value education. Student performance as measured by state testing places the district at Level I, the highest performance tier in the Massachusetts accountability system. Less than 10% of school districts perform at the top level. The implications of substantial growth in student population impact long-range financial planning, programmatic innovation, staffing, and the infrastructure to support education. Current classrooms currently are at or exceed class size guidelines

established by the Belmont School Committee. Furthermore, in the current and past school year, new students have been reassigned from their neighborhood elementary school to another school outside their district to maintain equity among elementary classrooms.

Considerations

Because the Modeling Group was not designed for, and did not strive for a set of consensual recommendations, the school administration has taken the conversations that did occur and from them would suggest issues for leaders and citizens of the Town of Belmont to consider as central to long-range planning efforts.

1) The January 2013 *Report from the Class Size Advisory Group* is worth reviewing. That advisory body made several recommendations. It recommended that two additional 2nd grade classrooms be added to the FY 14 budget to accommodate the first grade "bubble." Although a 15th 2nd grade was added for FY 2014, a 16th 2nd grade was not. Instead, the administration registered students new to the Wellington 2nd grade at one of the three other elementary schools. In consequence, all 2nd grades have now hit the guideline ceiling for class size or exceeded it by one student, although no classroom currently has more than 24 students.

2) The Class Size Advisory Group also recommended continuing the practice of freezing classes where possible at the guideline limits and redirecting students to schools where classes might be smaller. That practice has continued into FY 2014, although at present all classrooms are reaching or are at capacity.

3) The Class Size Advisory Group deemed that redistricting was not a particularly viable resolution at the time since all schools were approaching capacity and nothing would be gained by new district borders. We concur and endorse the continuation of redistributing students rather than redistricting. Until or unless more physical classrooms attach to existing facilities, redistricting achieves no perceivable benefit. Nonetheless, the question of redistricting needs to be reviewed annually.

4) Recommendations about reducing class sizes for the Chenery Middle School by the Advisory Group were designed and implemented in FY 2014. The large current 4th grade will have an impact at the Chenery in September 2014. Therefore, a high priority will have to be identification of classroom space—presumably by having teachers rotate through rooms rather than "own" a specific room. As well, at least two additional teachers will be necessary to address the growth at 5th grade.

5) Space is and will continue to be a concern. Simply adding permanent additions to existing facilities, or even building a new elementary or middle school facility, is at this time unrealistic given the pressing and prior need to renovate and expand Belmont High School. The Town must continue to petition the Massachusetts School Building

Authority for funds to undertake the high school project, and completion of that project would go far to compensate for the crowding at the current facility.

6) The expansion of space for elementary classrooms should initially be viewed as a temporary measure with long-term solutions emerging after growth over the next five years becomes reality and there can be a reasonably secure estimation of subsequent building needs. In the short term, the Town might consider renting state-of-the-art modular units like those used during the construction of the new Wellington School. The units initially would be suitable at the two smaller elementary schools—Burbank and Butler. However, the use of modular units is, we believe, not necessary for the 2014-2015 school year but could be helpful as soon as the 2015-2016 school year.

7) Finding additional space for middle school students poses a conundrum. The district might well consider expanding Belmont High School in its renovation to include the 8th grade in order to allow the current Chenery building to accommodate its growing population. The Chenery has generally enrolled the largest population in the district, even higher than Belmont High School.

8) If the student population were to grow by another 160 students in the 2014-2015 school year, and if that growth were relatively evenly spread as it was in 2013-2014, then an additional 50 elementary students would predict, on average, the addition of a student in each elementary classroom since there will be 15 classrooms at each grade level (K-3). The greater impact would be at the middle school, and the addition of staff as well as management of classroom availability would be essential.

9) A modular unit attached to Belmont High School for the pre-kindergarten program would offer relief for the Wellington School while opening space to transfer the LABBB classrooms to better facilities for that program at the Wellington. The current modular unit might not suitable for an early-childhood center, but its as such deserves consideration. Centering the pre-kindergarten program next to the high school might offer an opportunity for an early education program that would involve high school students studying child development.

10) Were the School Department to establish a Parent Information Center (PIC) at its Central Office, new registrants could be distributed efficiently among the four elementary schools. Furthermore, a PIC would provide the opportunity to assess proficiency and placement for new students, especially those who require assessment of English language proficiency if they come from a home where English is not the primary language. As well, a PIC could hold in a central databank all relevant demographic and assessment information so that enrollment trends as well as individual placements could be consolidated rather than, as at present, maintained in each discrete school.

11) The need to manage growth also invites in the elementary grades an opportunity to consider grade-level combinations. For example, combining a first and second grade class, or a third and fourth grade class, could reduce higher class sizes. Combination classrooms have been in existence since the time of the one-room schoolhouse, but modern implementation of a combined classroom would require sufficient teacher development and planning.

LIST OF APPENDICES