



COMMITTEE OF THE WHOLE (PUBLIC)
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Update to the Resource Allocation Index based on Socioeconomics (RAISE)

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PURPOSE:

1. To provide an updated version of RAISE based on 2016-2017 data, including the identification of schools that have been prioritized to receive additional supports to help mitigate the effects of socioeconomic or demographic barriers to learning.

CONTEXT:

2. The OCDSB has a long history of identifying schools that could benefit from additional funding to help reduce the impact of socioeconomic/demographic barriers to student achievement and well-being. While the indicators themselves are based on data that is as close to the individual student as possible, the purpose of the index was to develop a “school-based measure” that captures relative need within the district to assist with the allocation of resources that would help mitigate barriers to learning.

The index that was developed in 1998 (at the time of school board amalgamation) was done so with guidance from a steering committee comprised of internal and external stakeholders and included data from several sources of data that captured information across five key themes – poverty, family/community, mobility, cultural/linguistic diversity, and readiness to learn. While these overarching themes have not changed over the past 20 years, with each recalculation of the index staff has undertaken a review and update of the data sources and methodology utilized to ensure that the best available data was used to inform decisions.

3. RAISE was last updated in 2010-2011. At that time, an external consultant was hired to undertake a review of practices in other schools districts. Details of this review can be found in *Report No. 11-150: Review and Update of the Beacon Index, 2010-2011* (Education Committee, 20 September 2011).

KEY CONSIDERATIONS:

4. Distinction Between RAISE and SES-Identified Group of Students

RAISE is comprised of a set of indicators that research has shown to be associated with barriers to student learning. While data is gathered at the individual student level, statistical methods are used to combine the indicators into a single index-value for each school that identifies the level of need (in terms of barriers to learning) relative to other schools in the district. Indices for the elementary panel (JK to grade 8) and the secondary panel (grades 9 to 12) are generated separately. Allocation of additional resources to elementary and/or secondary schools is based on these relative needs.

In addition to RAISE, the District has been monitoring student achievement for a number of identified groups of students for the purpose of determining areas of particular strength or need when it comes to learning outcomes for students. SES is the most recent group identified for monitoring purposes and is comprised of those students who reside in low income neighbourhoods. While the methodology used to identify these students relies on the same data source as the poverty measures used in RAISE, the calculation is somewhat different to allow for the linking of income data to individual student achievement data while adhering to privacy legislation. Based on the analytic approach taken for this purpose, students are identified as belonging to the “SES” group if the postal code of their primary residence belongs to a group of postal codes where the proportion of families living below the low income measure is higher than that for the City of Ottawa as a whole. More information about this methodology can be found in *Report No. 14-058: Proposed Plan to Monitor Outcomes for Students based on Socioeconomic Status* (Committee of the Whole, 15 April 2014).

5. Data Sources

The data sources are the same as those used in the 2010-2011 RAISE; however, the following changes were made to the final selection of indicators:

- (i) For the elementary index, the proportion of students rather than the number was used for students who were new to the school (mobility) and for the first language being something other than English or French (cultural/linguistic diversity), whereas new immigrants (cultural/linguistic diversity) was based on the number of students rather than proportion.
- (ii) For the secondary index, entries and withdrawals and new students (mobility) were based on the proportions of students rather than the number, whereas new immigrants (cultural/linguistic diversity) was based on the number of students rather than the proportion.

Details about the specific sources of data for each indicator and how they map onto each of the five index themes can be found in Appendix A.

6. Methodology

It continues to be the case that although the index value is generated at a school level, it is done so based on students enrolled at the school rather than on the geographic boundary of the school. For consistency purposes, the same statistical methods as those used in 2010-2011 (i.e., summing of standardized scores across the indicators) have been applied to the 2016-2017 data. More information can be found in Appendix B.

Staff has compared the index-values generated for RAISE to the Education Opportunities Index (EOI) recently developed by the Ontario Ministry of Education¹. Similar to RAISE, the EOI is comprised of a set of indicators that have been found to influence student achievement. Four of the five indicators (lone parent family, parental education, family income, and income source) are derived from data collected by Statistics Canada through a combination of the 2011 Census, 2011 National Household Survey, and 2014 Taxfiler data by matching student postal codes. The fifth indicator reflects recent immigration to Canada that is submitted by school districts to the Ministry of Education through OnSIS. Correlations between the EOI and RAISE were 0.89 for elementary and 0.90 for secondary panels, suggesting that both measures are tapping into the same general construct.

7. Impact of Changes Resulting from Student Learning and Accommodation Reviews

In light of the decisions made as a result of the School Learning and Accommodation Reviews in the eastern and western areas of the jurisdiction, adjustments have been made for the following schools to reflect the instances where there will be significant changes in student population effective September 2017:

School	RAISE Adjustment
Briargreen PS	Includes all Briargreen and Leslie Park students
Regina Street PS	Includes all Regina Street and Grant Alternative students
Carleton Heights PS	Includes K-6 Carleton Heights students, and all Century students
Sir Winston Churchill PS	Includes K- 6 Sir Winston Churchill students
Merivale (7-8)	Includes Grade 7 and 8 students from both Carleton Heights and Sir Winston Churchill
Sir Robert Borden (7-8)	Includes all Greenbank students
D. Roy Kennedy PS	Includes all D. Roy Kennedy and Severn Avenue students ²
Pinecrest PS	Includes all Pinecrest and Severn Avenue ² students
Bell (7-8)	Includes all D.A. Moodie Intermediate students
Gloucester HS	Includes all Gloucester and Rideau students
Severn Avenue PS ²	Includes all Woodroffe Avenue PS students

¹ At present, EOI values are not available for the following schools: Earl of March (7-8), Half Moon Bay, Kanata Highlands, Summerside, and Vimy Ridge Public School.

² Due to the nature of the restructuring at Severn Avenue PS it is difficult to predict the impact on student populations. As a result, the entire Severn Ave PS student population has been merged with both D. Roy Kennedy PS and Pinecrest PS, and Severn Ave PS has adopted the same values for all student-level indicators as Woodroffe Avenue PS to take into account the incoming EFI program.

While additional schools were impacted by these accommodation reviews, the RAISE index values generated based on 2016-2017 student-level data have been maintained, as the changes being implemented (e.g., minor adjustments to program offerings, boundaries, or the grade levels; or changes that will take effect are pending other decisions/renovations) are not expected to have a significant impact on their overall RAISE index-value.

8. Adjusted RAISE 2016-2017

The 2016-2017 Adjusted RAISE is a recalculation of school-level indicator values based on actual student data, taking into account the redirection of students to other schools due to school closures and/or changes in grade offerings as described above. The adjustment also makes use of the projected 2017-2018 ESL/ELD enrolments across all schools (i.e., “Needs ESL Support” indicator), rather than those provided for the 2016-2017 school year.

Although it is recognized that all schools have some level of need within their community to close opportunity gaps for students, schools that meet a certain threshold on the index (i.e., an index-value greater than 1.0) have historically been targeted to receive additional funding allocations/supports. Based on the 2016-2017 Adjusted RAISE, twenty-one (21) Elementary schools and five (5) Secondary schools meet this criteria, as compared to nineteen (19) Elementary schools and six (6) Secondary schools who met this criteria in 2010-2011. This list of schools can be found in Appendix C. Appendix D provides an alphabetical listing of schools within each of four groupings based on their RAISE index-value.

9. Next Steps

The revised RAISE will be communicated to schools prior to the end of this school year for implementation in September 2017. In light of the School Learning and Accommodation Reviews taking place over the course of the next few years, it may be necessary to update RAISE on a more regular basis to reflect changes that have substantial impacts on school populations. As staff undertakes this work, it will be important to continue to monitor emerging research and trends across the province to ensure that the index continues to serve its intended purpose.

10. Intended and Potential Uses of RAISE

RAISE was developed for the purpose of identifying schools that may benefit from additional funding and/or resources (material and human) to help mitigate the effects of socioeconomic and demographic barriers to learning.

RAISE is used by the Finance Department to allocate additional funds to school operating budgets that may be used to provide supports and services (e.g., breakfast programs, student fees associated with extracurricular activities/field trips/events, etc.). In addition to school operating budgets, RAISE is also used to offset costs associated with field trip transportation, provision of enrichment opportunities, guest speakers/student workshops, etc. for priority funding schools. Details of these expenditures are communicated through an annual memo to Trustees in June.

The Human Resources Department uses RAISE in determining school staffing allocations where additional supports may be helpful in meeting the needs of English language learners, in particular.

Individual components of RAISE (e.g., single parent families, entries/withdrawals, income level categories, first language other than English or French) can be used by schools in the development of grant applications. This information is currently made available to schools upon request; however, staff is looking into developing a template that could be produced and made available to all schools moving forward.

Finally, RAISE was used as a means of measuring progress towards the equity objective in the 2015-2019 OCDSB Strategic Plan (Report No. 17-006 presented to COW on 7 February 2017) for data that cannot be disaggregated to an individual student level. For example, specific measures from the Our SCHOOL parent survey were presented for priority funding schools compared to non-priority funding schools.

RAISE serves as a useful tool for resource allocation and to gain insight into specific challenges schools may face as a result of the relative socioeconomic/demographic needs of their student population. It is important to acknowledge that the identification of schools in this way may result in unintended consequences such as difficulty attracting and maintaining students and staff, and not setting high enough expectations for students.

RESOURCE IMPLICATIONS:

11. Two sets of custom tabulations were purchased from Statistics Canada at a cost of approximately \$5,600. These funds were absorbed through the Quality Assurance operating budget for 2016-2017. One of these custom tabulations will also serve to provide updated data for the SES-identified group of students for the monitoring of student achievement. Based on analyses undertaken during the current review and update, moving forward staff is confident that the purchase of a single custom tabulation at approximately half the cost can be used for both purposes.
12. Compiling the data and preparing a data file for the analysis and computation for RAISE requires a significant amount of staff time and relies on support from staff in other departments, most notably Business & Learning Technologies to provide the data extracts from Trillium. In light of the development of the EOI by the Ministry of Education that is highly correlated with our own RAISE, it may be worth considering adopting use of the EOI as a replacement to RAISE moving forward.
13. In addition to costs associated with the actual review and update of RAISE, funds are allocated to schools that meet a certain threshold on the index to help close the “opportunity gap” for students. For the past several years, a per-pupil budget allocation in the amount of \$9.35 has been incorporated into school operating budgets – in 2015-2016, this amounted to \$55,216. During the same school year, an additional \$252,515 was allocated through the budget process to support a wide range of initiatives at identified schools. For example, enrichment

resources, guest speakers/student workshops, arts educational programming, field trip transportation, healthy schools/character education, community outreach, tutoring, and temporary staffing assistance. More details can be found in *Memo No. 16-131: 2015-2016 Support Funding for RAISE Index Identified Schools*.

COMMUNICATION/CONSULTATION ISSUES:

14. There was no formal consultation process associated with the current review and update of RAISE, staff has connected with other school districts to verify that the approaches described in Report No. 11-150 continue to be used throughout the province.

STRATEGIC LINKS:

15. RAISE directly supports both the Equity and Stewardship pillars of the OCDSB's 2015-2019 Strategic Plan by serving as a means of allocating financial and human resources to schools that serve student populations that may face substantial barriers to learning as a result of poverty, mobility, family/community, cultural/linguistic diversity, and/or readiness to learn.

GUIDING QUESTIONS:

16. The following questions are provided to support the discussion of this item by the Committee:
 - Does RAISE continue to serve its intended purpose?
 - What are the merits of continuing to undertake the work associated with RAISE in light of the availability of the EOI?
 - How could RAISE be used to serve other priorities of the Board?

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APPENDICES

- Appendix A Themes, Indicators, and Sources of Data Used in the 2016-2017 RAISE
- Appendix B Methodology Used to Calculate RAISE
- Appendix C Historical Overview of OCDSB Schools Identified as 'Beacon' (1999-2006) and Those Identified as Having the Greatest Need According to the RAISE (2010-2017)
- Appendix D Alphabetical School Listing by 2016-2017 RAISE Value Ranges

Themes, Indicators, and Sources of Data Used in the 2016-2017 RAISE

The following twelve (12) indicators were included in both the Elementary and Secondary RAISE.

Theme	Indicator	Source
Poverty	Income	Statistics Canada: postal codes were matched against 2014 Revenue Canada tax file data for families with school-aged children. A median income was calculated for each postal code and assigned to each student having that postal code. An average was then calculated for each school, based on the number of students with available data. This indicator was reverse-coded for inclusion in the mean composite score.
	Social Assistance	Statistics Canada: the percentage of families with school-aged children receiving social assistance was calculated for each postal code and assigned to each student having that postal code. An average was then calculated for each school, based on the number of students with available data.
	Low Income Measure (After-Tax)	Statistics Canada: the percentage of families with school-aged children identified as living below the Low Income Measure (after-tax) for their family type and size was calculated for each postal code and assigned to each student having that postal code. An average was then calculated for each school, based on the number of students with available data.
Family/Community	Single Parent Families	Trillium: the number of students living with only one parent (i.e., mother OR father OR stepmother OR stepfather) as of 31 October 2016.
	Students Living in Foster Care/Group Homes	Trillium: the number of students identified as living in foster care or group homes as of 31 October 2016.
Mobility	Absenteeism	Trillium: the average number of instructional days missed by active students in a school as of 31 January 2017, based on 31 October 2016 enrollment.
	Entries/ Withdrawals (Transience)	Trillium: the number of student entries and withdrawals between 1 October 2016 and 31 January 2017, reflected as a percentage of 31 October 2016 enrollment.
	New Students (Transitions)	Trillium: the percentage of students actively enrolled in an elementary/secondary school on 31 October 2016 who were not enrolled in that school on 31 October 2015.
Cultural/Linguistic	Needs ESL Support	Enrollment & Staffing Data Unit: the Funding Factor applied by Human Resources for the purpose of allocating ESL/ELD overlay staff to schools.
	New Immigrants	Trillium: the number of students identified as not having Canadian Citizenship or Landed Immigrant status, based on 31 October 2016 enrolment.
	First Language Other than English or French	Trillium: the percentage of elementary students who have indicated their mother tongue is not English or French, based on 31 October 2016 enrolment.
Readiness to Learn	Learning Skills and Work Habits	Trillium: a score was computed for each student based on the six Learning Skills and Work Habits identified on the report card, as of 31 January 2017. At the secondary level, scores were calculated for English and Math courses separately, and treated as two indicators. An average was then calculated for each school, based on the number of students with available data. This indicator was reverse-coded for inclusion in the mean composite score.

Methodology Used to Calculate RAISE

Note: The numbers used in the calculations below are for demonstration purposes only. They do not represent actual data used to calculate RAISE.

- Descriptive statistics (e.g., mean, median, mode, standard deviation) were computed for all potential indicators within each panel:
 - median & average income
 - median & average proportion of families receiving social assistance
 - median & average proportion of families below the low income measure (“after-tax income”)
 - number & proportion of single parent families
 - number & proportion of students living in foster care/group homes
 - average number of student absences
 - number & proportion of entries and withdrawals
 - number & proportion of students new to the school
 - funding factor applied by Human Resources to allocate ESL/ELD overlay staffing
 - number & proportion of students who are not Canadian Citizens nor Landed Immigrants
 - number & proportion of students whose first language is something other than English or French
 - average learning skills and work habits (one overall score was computed for elementary; two scores were used for secondary – one for English and one for Math)
- A correlation matrix was produced to assist with the final selection of indicators (i.e., 12 for elementary, 13 for secondary). Standard scores (z-scores) were then calculated for each indicator.

Example:

To compute a standard score for “number of students living in single parent families” –

$$Z = \frac{X - \mu}{\sigma} \qquad Z = \frac{100 - 80}{25} = 0.8$$

Where X is the number of students living with only one parent for a specific school
 μ is the average number of students living with only one parent across all schools
 σ is the standard deviation of the number of students living with only one parent across all schools

The same method was used to convert the remaining indicators into standard scores. Where appropriate, standard scores were reverse-coded to ensure a consistent scale directionality (i.e., higher score = higher risk). This was done for both Income and Learning Skills.

- A composite score (i.e., sum of the 12, or 13, indicators) was produced.

Example:

$$\text{Composite Score} = Z_1 + \dots + Z_{12} = 15.25$$

- The composite score was then converted to a mean composite.

Example:

$$\text{Mean Composite Score} = \frac{Z_1 + \dots + Z_{12}}{12 \text{ (or 13)}} = \frac{15.25}{12 \text{ (or 13)}} = 1.27$$

- This score was then transformed to a final standard score, having an average of 0 with a standard deviation of 1. Statistically speaking, you would expect to have approximately 16% of scores falling above 1 standard deviation of the mean (i.e., you would expect that 19 of 118

elementary and 5 of 30 secondary schools would fall above this score). A cut-off score of 1 standard deviation above the mean continues to be used to identify the list of elementary and secondary schools with priority needs in terms of sociodemographic barriers to learning.

Example:

$$Z = \frac{X - \mu}{\sigma} \qquad Z = \frac{1.27 - 0.31}{0.85} = 1.13$$

Historical Overview of OCDSB Schools Identified as ‘Beacon’ (1999-2006) and Those Identified as Having the Greatest Need According to the RAISE (2010-2017)

2016-2017³	2010-2011⁴	2005-2006⁵	2004-2005⁵	2002-2003⁶	1999-2000⁶
<u>Elementary:</u> Arch Street Bayshore Blossom Park Carleton Heights Carson Grove Centennial Charles H. Hulse D. Roy Kennedy Featherston Drive Hawthorne Henry Munro Pinecrest Queen Elizabeth Queen Mary Robert E. Wilson Roberta Bondar Sawmill Creek Vincent Massey Viscount Alexander W.E. Gowling York Street	<u>Elementary:</u> Arch Street Bayshore Blossom Park Cambridge Carson Grove Century Charles H. Hulse Farley Mowat General Vanier Hawthorne Pinecrest Queen Elizabeth Queen Mary Robert E. Wilson Roberta Bondar Severn Vincent Massey W. E. Gowling York Street	<u>Elementary:</u> Arch Bayshore Blossom Park Cambridge Carson Grove Centennial Century Charles H. Hulse Christie Connaught Featherston General Vanier Hawthorne McGregor Easson Pinecrest Queen Elizabeth Queen Mary R E Wilson Riverview Alt Roberta Bondar Severn Vincent Massey Viscount Alexander W E Gowling York Street	<u>Elementary:</u> Arch Bayshore Blossom Park Cambridge Carson Grove Centennial Century Charles Hulse Christie Connaught Featherston Hawthorne McGregor Easson Pinecrest Queen Elizabeth Queen Mary Robert E. Wilson Severn Vincent Massey Viscount Alexander W. E. Gowling York Street	<u>Elementary:</u> Bayshore Blossom Park Centennial Charles Hulse Connaught Hawthorne Manor Park Pinecrest Queen Elizabeth Riverview Alternative Robert E. Wilson Severn Vincent Massey W. E. Gowling York Street	<u>Elementary:</u> Bayshore Blossom Park Cambridge Carson Grove Centennial Charles Hulse Connaught Hawthorne Pinecrest Queen Elizabeth Queen Mary Robert E. Wilson Vincent Massey W. E. Gowling York Street
<u>Secondary:</u> Gloucester Ottawa Technical Richard Pfaff Ridgemont Woodroffe	<u>Secondary:</u> Elizabeth Wyn Wood Glebe Richard Pfaff Rideau Ridgemont Woodroffe	<u>Secondary:</u> Brookfield Glebe Ottawa Technical Rideau Ridgemont Woodroffe	<u>Secondary:</u> Laurentian Ottawa Technical Richard Pfaff Rideau Ridgemont	<u>Secondary:</u> Gloucester Laurentian Ottawa Technical Rideau Ridgemont	<u>Secondary:</u> Gloucester Laurentian Rideau Ridgemont Woodroffe

³ The list of schools for 2016-2017 reflects the adjustments described in part 7 of this report.

⁴ The list of schools for 2010-2011 reflects those identified using the methodology described in Report No. 11-150 presented to Education Committee on 20 September 2011.

⁵ The list of schools from 2004-2005 to 2005-2006 shown here reflects those identified using the methodology described in Report #05-070 presented to Education Committee on 21 March 2005 and approved on 13 June 2005.

⁶ The methodology used to calculate Beacon Index in 1999-2000 and 2002-2003 was substantially different from that used in 2004-2005 and 2005-2006, in that schools were ranked on the various indicators and an overall average ranking computed.

Alphabetical Listing of Elementary Schools by RAISE Value Ranges for 2016-2017

RAISE values of -1.0 and lower (i.e., lowest priority funding schools)

A. Lorne Cassidy ES
Castor Valley ES
Elmdale PS
First Avenue PS

Huntley Centennial PS
Kars on the Rideau PS
Manotick PS
Mutchmor PS

Osgoode PS
Richmond PS
Stittsville PS
Westwind PS

RAISE values between -0.99 and 0

Adrienne Clarkson ES
Alta Vista PS
Avalon PS
Barrhaven PS
Bayview PS
Bridlewood Community ES
Broadview PS
Castlefrank ES
Cedarview MS
Churchill Alternative School
Connaught PS
Convent Glen ES
Devonshire Community PS
Dunning-Foubert ES
Earl of March (7-8)
Elgin Street PS
Emily Carr MS
Fallingbrook Community ES
Farley Mowat PS
Forest Valley ES

Glen Cairn PS
Glen Ogilvie PS
Goulbourn MS
Greely ES
Henry Larsen ES
Heritage PS
Hilson Avenue PS
Hopewell Avenue PS
J.H. Putman PS
Jack Donohue PS
Jockvale ES
John Young ES
Kanata Highlands PS
Katimavik ES
Knoxdale PS
Lakeview PS
LePhare ES
Longfields-Davidson Heights
(7-8)
Maple Ridge ES

Mary Honeywell ES
Metcalfe PS
North Gower/Marlborough PS
Orleans Wood ES
Pleasant Park PS
Roch Carrier ES
Rockcliffe Park PS
Roland Michener PS
Severn Avenue PS
Sir Robert Borden (7-8)
South March PS
Stephen Leacock PS
Steve MacLean PS
Stonecrest ES
Summerside PS
Terry Fox ES
Trillium ES
W.O. Mitchell ES
Woodroffe Avenue PS

RAISE values between 0 and 0.99

Agincourt Road PS
Bell (7-8)
Bells Corners PS
Berrigan ES
Briargreen PS
Cambridge Street Community
PS
Chapman Mills PS
Dunlop PS
Elizabeth Park PS

Fielding Drive PS
Fisher Park PS/Summit
Alternative School
General Vanier PS
Glashan PS
Half Moon Bay PS
Lady Evelyn Alternative
School
Manor Park PS
Manordale PS

Meadowlands PS
Merivale (7-8)
Regina Street PS
Riverview Alternative School
Robert Bateman PS
Robert Hopkins PS
Sir Winston Churchill PS
W. Erskine Johnston PS

RAISE values of 1.0 and above (priority funding schools)

Arch Street PS
Bayshore PS
Blossom Park PS
Carleton Heights PS
Carson Grove ES
Centennial PS
Charles H. Hulse PS

D. Roy Kennedy PS
Featherston Drive PS
Hawthorne PS
Henry Munro MS
Pinecrest PS
Queen Elizabeth PS
Queen Mary Street PS

Robert E. Wilson PS
Roberta Bondar PS
Sawmill Creek ES
Vincent Massey PS
Viscount Alexander PS
W.E. Gowling PS
York Street PS

Alphabetical Listing of Secondary schools by RAISE Value Ranges for 2016-2017

RAISE values of -1.0 and lower

A.Y. Jackson SS
Osgoode Township SS
South Carleton HS
West Carleton SS

RAISE values between -0.99 and 0

Cairine Wilson SS
Canterbury HS
Colonel By SS
Earl of March SS
Frederick Banting Secondary Alternate
John McCrae SS
Lisgar CI
Longfields-Davidson Heights SS
Merivale HS
Nepean HS
Sir Robert Borden HS
Sir Wilfrid Laurier SS

RAISE values between 0 and 0.99

Bell HS
Brookfield HS
Elizabeth Wyn Wood Alternate
Glebe CI
Hillcrest HS
Norman Johnston Alternate
Sir Guy Carleton SS
Urban Aboriginal Alternate Program

RAISE values of 1.0 and above (priority funding schools)

Gloucester HS
Ottawa Technical SS
Richard Pfaff Alternate
Ridgemont HS
Woodroffe HS