



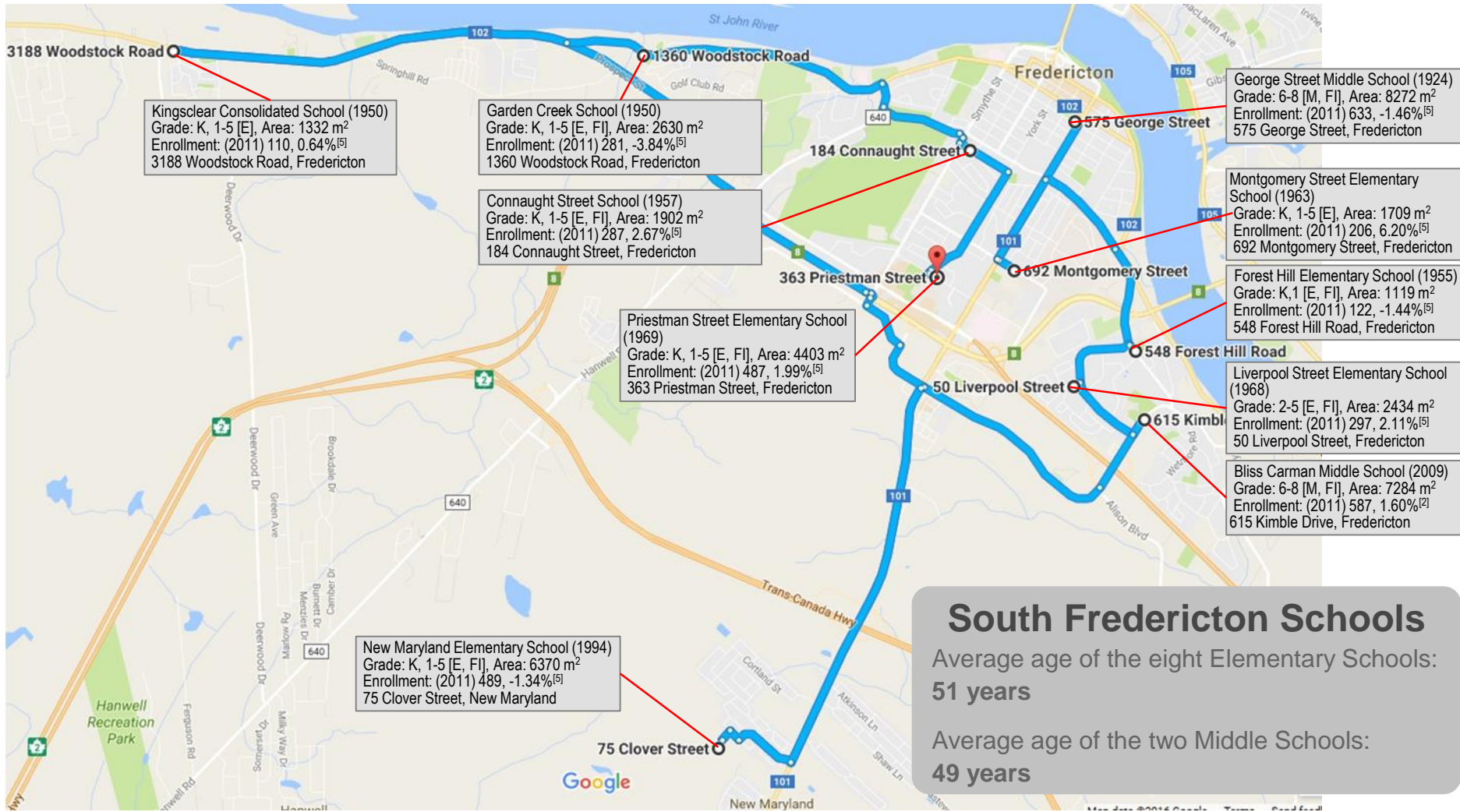
Anglophone West School District (ASD-W) *Multi-year infrastructure planning*

South Fredericton Elementary Schools

New Brunswick Department of Education
and Early Childhood Development (EECD)

7 October 2016

Context – ASD-W has initiated a review of South Fredericton elementary schools to identify multi-year infrastructure planning options

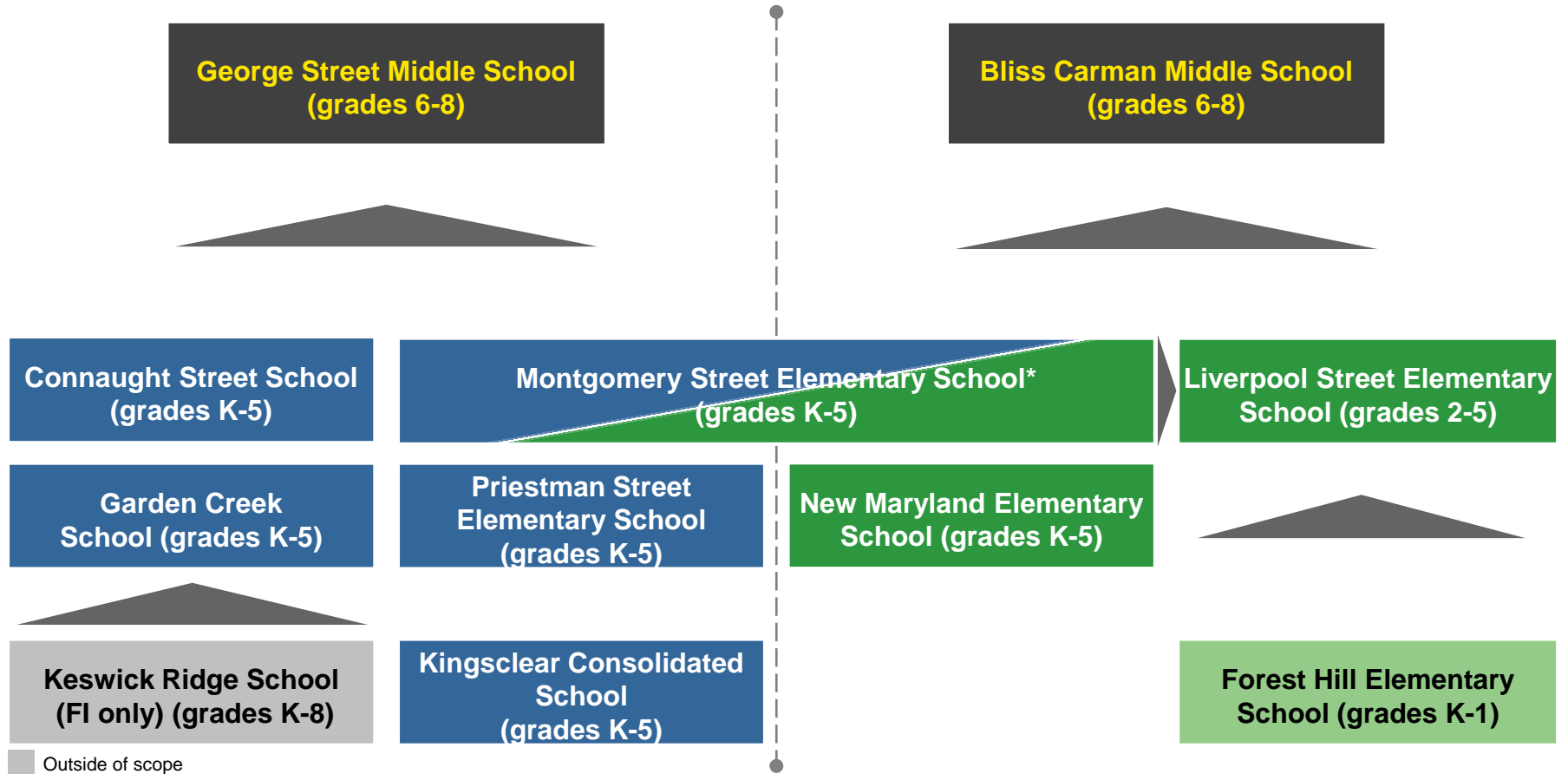


South Fredericton Schools
 Average age of the eight Elementary Schools:
51 years
 Average age of the two Middle Schools:
49 years

Source: Google Maps, EECD sub-district maps 6 and 7 for ASD-W.



Overview of elementary schools that feed into middle schools for South Frederickton



***Note:** Montgomery Street Elementary School feeds both George Street and Bliss Carman Middle Schools:
 George Street Middle School: Montgomery Street (Windsor Street/College Hill Road portion)
 Bliss Carman Middle School: Montgomery Street (Lincoln Road below Wilsey to City Line)
 Montgomery Street Elementary School switch to Liverpool Street Elementary if taking French Immersion

Source: ASD-W school transportation software - Versatrans and ASD-W website.

Consultations between the District and EY narrowed the scope to two possible scenarios

Two multi-year infrastructure planning options were prepared for ASD-W to address the overcrowding and projected future growth within the elementary school system for South Fredericton:

- ▶ Scenario 1: Construction of a new K-5 school
- ▶ Scenario 2: Construction of a new K-8 school
- ▶ The two scenarios were to consider the potential of the following options to address the overcrowding of the schools:
 - School boundary rezoning;
 - Renovations/additions to existing schools;
 - Possible opportunities for consolidation;
 - Grade reconfiguration;
 - Additional school/space requirements; and
 - Consideration of the soft impact (pedagogy, guidelines, safety and accessibility) and hard impact (capital costs, transportation, operations/maintenance costs).

Context – overall elementary enrollment has increased by 5% since 2010-11, last year’s growth primarily driven by the arrival of the Syrian new-comer students

- ▶ Aggregate floor area is 37,455 m², or 9.6% of District total of 388,963 m².
- ▶ Age of elementary school assets range from 22 years (New Maryland Elementary School) to 66 years (Kingsclear Consolidated School).
- ▶ Total 2015-16 enrollment for the eight elementary schools in scope is 2,387 students.

Enrollment history											
Schools	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Kingsclear Consolidated School	105	105	99	109	113	117	110	111	111	101	94
Garden Creek School	325	331	336	312	294	294	281	289	277	276	290
Priestman Street Elementary School	448	470	438	439	467	487	487	497	534	525	533
Montgomery Street Elementary School	182	165	167	181	172	181	206	221	216	211	198
Connaught Street School	277	277	269	251	259	274	287	273	272	281	298
Forest Hill Elementary School	146	156	149	113	114	121	122	134	123	118	134
Liverpool Street Elementary School	250	257	269	303	283	291	297	278	304	318	361
New Maryland Elementary School	549	538	505	496	500	511	489	486	472	465	479
Total elementary school enrollment	2,282	2,299	2,232	2,204	2,202	2,276	2,279	2,289	2,309	2,295	2,387
George Street Middle School	643	651	683	685	663	631	633	636	649	649	695
Bliss Carman Middle School*	611	565	615	580	591	558	587	612	603	604	563
Total middle school enrollment	1,254	1,216	1,298	1,265	1,254	1,189	1,220	1,248	1,252	1,253	1,258

*Note: Bliss Carman Middle School, replaced Albert Street Middle School in October 2009. Enrollment history from 2006 to 2009 is for Albert Street Middle School

- ▶ Overall elementary enrollment (including New Maryland Elementary) has been increasing since 2010 (5% total growth).
- ▶ Larger enrollment increase seen in 2015-16 was primarily driven by the arrival of the 96 Syrian new-comer (K-8) students to the schools in scope.

Source: EECD Policy and Planning Summary Statistics and EECD School Asset Data.

Limited potential for consolidation within the existing school boundaries – consolidated schools would approach the 500 students upper limit leaving little space for enrollment growth

Total Enrolment by Grade (Excluding Syrian Immigrants) for 2015-16							
Total Enrolment by Grade							
School Name	K	1	2	3	4	5	Total (K-5)
Connaught Street School	49	45	44	42	48	51	279
Montgomery Street Elementary School	37	37	38	26	25	33	196
Forest Hill Elementary School	71	58	-	-	-	-	129
Liverpool Street Elementary School	-	-	59	96	96	92	343
Priestman Street Elementary School	83	75	92	84	80	91	505
Garden Creek School	33	40	46	60	50	57	286
Kingsclear Consolidated School	21	15	19	5	12	22	94
New Maryland Elementary School	95	78	83	77	65	81	479
Total for South Fredericton Elementary Schools:	389	348	381	390	376	427	2,311

Total Enrolment by Grade (Including Syrian Immigrants) for 2015-16							
Total Enrolment by Grade							
School Name	K	1	2	3	4	5	Total (K-5)
Connaught Street School	52	50	47	47	49	53	298
Montgomery Street Elementary School	38	38	38	26	25	33	198
Forest Hill Elementary School	74	60	-	-	-	-	134
Liverpool Street Elementary School	-	-	66	100	99	96	361
Priestman Street Elementary School	93	79	101	85	84	91	533
Garden Creek School	33	41	46	61	51	58	290
Kingsclear Consolidated School	21	15	19	5	12	22	94
New Maryland Elementary School	95	78	83	77	65	81	479
Total for South Fredericton Elementary Schools:	406	361	400	401	385	434	2,387

School Name	Combined Students
Connaught Street School	496
Montgomery Street Elementary School	
Forest Hill Elementary School	495
Liverpool Street Elementary School	
Priestman Street Elementary School	533
Garden Creek School	384
Kingsclear Consolidated School	
New Maryland Elementary School	479

Note: New Maryland Elementary School would have too many students (573) if it were combined with Kingsclear Consolidated. Schools that shared a school boundary were grouped together to examine the potential number of consolidated students.

Potential of school consolidation

- In 2015-16, there were 2,311 students enrolled in grades K-5 for the South Fredericton schools within scope.
- This increased to 2,387 following the Syrian immigration later in the year.
- EECD Planning Guidelines note that K-5 elementary schools generally house 350 to 500 students, with less than 200 students considered a small school.
- Montgomery Street, Forest Hill and Kingsclear Consolidated schools are considered small schools, meaning the Planning Guidelines specify less supporting space than regular sized schools (e.g. multi-purpose instead of a gym).
- Even with three small schools in scope, there is limited potential for consolidation with the existing school boundaries, due to the upper limit of 500 students for K-5.
- New consolidated schools would be close to 500 students, with limited space for enrollment growth).

Sources: EECD Policy, Planning Summary Statistics, ASD-W Syrian Enrollment Data for 2015-2016 and EECD Planning Guidelines for Educational Facilities.



South Fredericton Elementary schools are near functional capacity (80.6%) and there is limited/no space for resource, visiting professionals and program changes to Early FI

Based on 2015-16 Enrolment (Including Syrian Immigrants)

School Name	Total K-5	French Immersion (3 -5)	Maximum Capacity for Current Grade Distribution	Utilization for Grade Configuration	Number of Mobile Classrooms	Homeroom Count (Site Visit)	Classroom Count (Site Visit)
Connaught Street School	298	104	377	79.0%	1	15	16
Montgomery Street Elementary School	198	-	247	80.2%	1	11	11
Forest Hill Elementary School	134	-	168	79.8%	1	7	8
Liverpool Street Elementary School	361	191	409	88.3%	3	16	16
Priestman Street Elementary School	533	115	617	86.4%	3	25	26
Garden Creek School	290	119	355	81.7%	-	15	15
Kingsclear Consolidated School	94	-	114	82.5%	-	5	5
New Maryland Elementary School	479	135	674	71.1%	-	25	28
Total for South Fredericton Elementary Schools:	2,387	664	2,961	80.6%	9	119	125

Note: All calculations and counts in table include the mobile space.

The new mobile for Liverpool Street Elementary School does not increase the classroom count, as space was needed to separate the music room from the library.

Four new mobile classrooms were added for 2016-17 at Connaught Street, Forest Hill Elementary, Liverpool Street Elementary and Priestman Elementary (bringing the total to nine mobiles in South Fredericton).

Classroom utilization

- Overall utilization for the eight elementary schools in scope is 80.6% (including all 9 mobile classrooms)
- This indicates that all the elementary schools in South Fredericton are approaching their functional capacity, and there is little to no space for resource and/or visiting professionals
- Although New Maryland Elementary does have some potential classroom space, it is approaching the Planning Guidelines specification of 500 students (enrollment is 479)
- GNB is considering lowering the start of Early French Immersion (FI) Program from grade 3 to grade 1 (this can increase classroom space requirements, depending on the grade distribution and amount of students that enroll in the program)

Source: EECD Policy and Planning Summary Statistics, ASD-W Syrian Enrollment Data for 2015-2016 and school site visits.

South Fredericton elementary schools (excluding New Maryland Elementary) have seen an average net migration of 2% since 2010 (based on historical enrollments)

Summary of Enrollment History for South Fredericton Elementary Schools (Excluding New Maryland Elementary)

Year	K	1	2	3	4	5	Total	K-4	1-5	Variance of 1-5 to previous year K-4	Percentage Increase to Previous Year
2005-06	274	280	304	270	314	291	1,733	1,442	1,459		
2006-07	312	282	278	294	287	308	1,761	1,453	1,449	7	0.49%
2007-08	260	310	282	277	299	299	1,727	1,428	1,467	14	0.96%
2008-09	280	271	312	279	276	290	1,708	1,418	1,428	0	0.00%
2009-10	299	282	257	306	288	270	1,702	1,432	1,403	-15	-1.06%
2010-11	295	307	285	272	312	294	1,765	1,471	1,470	38	2.65%
2011-12	284	301	306	313	277	309	1,790	1,481	1,506	35	2.38%
2012-13	312	294	304	304	311	278	1,803	1,525	1,491	10	0.68%
2013-14	289	304	297	326	308	313	1,837	1,524	1,548	23	1.51%
2014-15	267	297	306	315	340	305	1,830	1,525	1,563	39	2.56%
2015-16	311	283	317	324	320	353	1,908	1,555	1,597	72	Exclude Syrian Immigration Year

Comparing the variance between the K-4 enrollment in a year to the 1-5 enrollment in the following year estimates the net migration into the elementary system from other locations.

New Maryland Elementary School was excluded from the analysis, so the seven remaining elementary schools were for the south side of the City of Fredericton (for comparison to population data).

2015-16 was excluded from the analysis, as the increase was related to the Syrian immigration and so this data is not comparable to the previous history for net migration. It is unclear whether this spike in 2015-16 will be short lived or not.

Net migration history

- There was little to no net migration for the South Fredericton elementary system between 2005 and 2009.
- Since 2010, the area has seen an average net migration increase of 2% to the total elementary enrollment.
- This is the equivalent of 10 to 39 students added to the elementary system of seven schools.
- The City of Fredericton projections indicate this could increase to approximately 2.8% (on average) in the next ten years.
- Since 2005, the kindergarten enrollment for the system has fluctuated between 260 and 312 students (averaging 289).

A new K-5 school is recommended for revitalization versus adding an addition to an existing school, due to the deficiency of space to current guidelines and FCI scoring

School	Area m ²			High-level estimated cost				
	Existing (A)	New 500 (K-5) (B)	Estimated addition (B-A)	For addition (C)	Deferred maintenance (D)	Total cost (C + D)	For new school	Percentage of cost (C+D to new school)
Connaught Street School	1,902	7,363	5,461	\$14.7M	\$0.9M	\$15.6M	\$19.8M	79%
Montgomery Street Elementary School	1,709	7,363	5,654	\$15.2M	\$0.9M	\$16.1M	\$19.8M	81%
Forest Hill Elementary School	1,119	7,363	6,244	\$16.8M	\$1.1M	\$17.9M	\$19.8M	90%
Liverpool Street Elementary School	2,434	7,363	4,929	\$13.3M	\$1.0M	\$14.3M	\$19.8M	72%
Priestman Street Elementary School	4,403	7,363	2,960	\$8.0M	\$1.7M	\$9.7M	\$19.8M	49%
Garden Creek School	2,630	7,363	4,733	\$12.7M	\$1.3M	\$14.0M	\$19.8M	71%
Kingsclear Consolidated School	1,332	7,363	6,031	\$16.2M	\$2.0M	\$18.2M	\$19.8M	92%

High-level estimate to determine if an addition could be utilized at one of the existing schools instead of building a new elementary school for infrastructure revitalization in South Fredericton. If the percentage of costs were lower, a more detailed analysis of space deficiency to EECD Planning Guidelines would be warranted. Priestman Street Elementary School is at 49%, however, the site has little to no room for an addition.

School addition versus new school

- A “rule of thumb” in determining the tipping point between selecting a new school or renovating an existing school/new addition is when the cost of the deferred maintenance and new addition exceeds 50% of the cost of a new building.
- Once renovations are started, the existing structure must be brought up to code and there is potential for “new discoveries” in the structure that could drive up renovation costs closer to that of a new school.
- It has been identified that consolidation of two schools in the South Fredericton elementary system would require a 500 (K-5) school.
- With the amount of space missing from the existing structures to bring them to current EECD Planning Guidelines and the FCI scoring, we recommend selecting a new school.

The FCI* scoring for the South Fredericton elementary schools are rated poor due to the high amount of deferred maintenance compared to the replacement value of the same size footprint. Kingsclear Consolidated and Forest Hill Elementary schools are the only two schools that score above the average index of 0.22. Note: an FCI rating of Poor or Fair does not mean a building is unsafe or unfit for use.

School	FCI*	Rated condition
Kingsclear Consolidated	0.55	Poor
Forest Hill Elementary	0.37	Poor
Montgomery Street Elementary	0.21	Poor
Garden Creek	0.19	Poor
Connaught Street	0.18	Poor
George Street Middle	0.16	Poor
Liverpool Street Elementary	0.15	Poor
Priestman Street Elementary	0.14	Poor
New Maryland Elementary	0.00	Good
Bliss Carman Middle	0.00	Good
Average school condition	0.22	Poor

*FCI: Facility Condition Index with the following ranges: Poor (>0.10), Fair (0.05 to 0.10) and Good (<0.05).

Kingsclear Consolidated School – Is a small school with limited room for expansion on existing school property (without taking away green play space) and school is not accessible



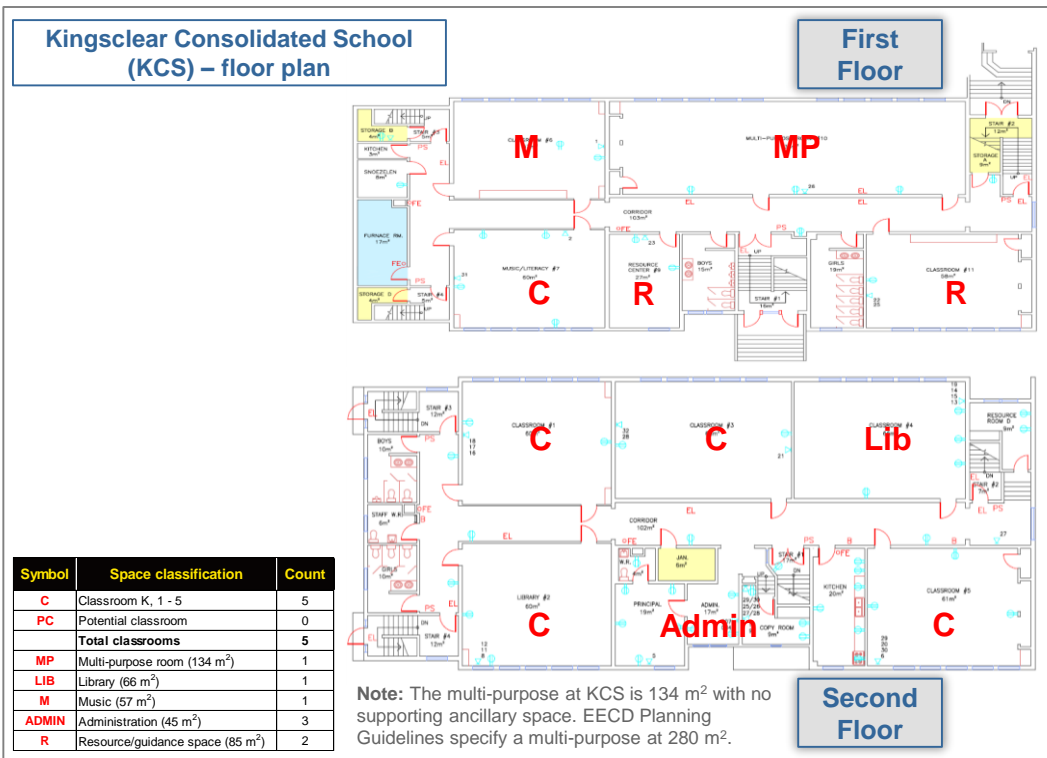
Note: The school footprint is the second smallest in the South Fredericton elementary system at 1,332 m². For comparison: a replacement school built to current EECD Planning Guidelines (for the same number of students) would be approximately 2,410 m².

Kingsclear Consolidated School

- Kingsclear Consolidated School is located on the corner of Woodstock Road and Fairview Drive.
- The school was originally built in 1950. In 1959, Kingsclear was consolidated with two other local schools: Silverwood and McKinley Ferry.
- The school is located approximately 5.4 km away from Garden Creek School, where students from the Kingsclear Consolidated school boundary attend to take Early French Immersion.
- Picture A: Back side of school – is flat ground. (There is little space between the school and the property line. Limited room for expansion, without taking from outside play area).
- Picture B: Front side of school – there is a small hill stepping down from the school to the playfield and playground.
- Picture C: Front Entrance – the school is not accessible (no ramps or elevators/lifts). The main entrance is split level, with stairs up or down after entering the school.

Source: Google Maps, GeoNB Viewer: <http://geonb.snb.ca/geonb/>, <http://www.nbinfo.ca/record/HDC4129?>, site visit and EECD Planning Guidelines for Educational Facilities.

Comparison of KCS floor plan to EECD Planning Guidelines identified a shortage of pedagogical space and there is approximately \$2M in deferred maintenance



Kingsclear Consolidated School

- Site visit confirmed five homeroom classrooms (C).
- Total deferred maintenance liability is \$2M. Key maintenance items include a new ventilation system, making the site accessible, and various interior and exterior improvements.
- Comparison of the school floor plans to EECD Planning Guidelines found approximately 816 m² of notable space deficiencies (e.g. cafeteria and a full sized multi-purpose room with ancillary space).
- Shortage of pedagogical space including early childhood development room, multi-function room, project work areas and visiting professionals offices.

Deferred maintenance	Estimated cost	Space deficiencies compared to Planning Guidelines	Area (m ²)
Interior alterations - upgrade classrooms, ceiling, and corridor, and replace flooring	\$659,000	Dining and stage	128
Building envelope - replace all exterior windows, refinish exterior walls, and replace roof # 2	\$380,000	Multi-purpose room, and ancillary and support space	397
Heating and ventilation - new ventilation system	\$328,000	Early childhood development room	110
Interior accessibility - install one elevator, one stairwell lift and ramps	\$297,000	Multi-function room	110
Fire prevention - install sprinkler system, and replace classroom and office doors with fire rated doors	\$121,000	Project work area and break-out rooms	57
Electrical - install 36 new classroom receptacles, upgrade electrical systems and interior lighting	\$117,500	Visiting professionals office and waiting area	14
Site improvements - upgrade drainage and water proofing and other general site improvements	\$75,000	Total space deficiencies compared to Planning Guidelines	816
Total for deferred maintenance	\$1,977,500		

Source: EECD school drawings with site visit, EECD Planning Guidelines for Educational Facilities, and School Physical Plant Status report for Deferred Maintenance.



Trigger School – Recommend Kingsclear Consolidated School be consolidated in a new facility considering its small size, high deferred maintenance and space deficiencies to standards

- ▶ Kingsclear Consolidated School is currently identified as a trigger school*, as the 2015-16 enrollment was 94 students. The District noted that during stakeholder engagement, a developer stated there were plans to build approximately 160 lots in Silverwood Country Estates and this would help increase future enrollment.
- ▶ However, Kingsclear Consolidated only has five homeroom classrooms. Several former classrooms have been converted into other pedagogical space that are part of the elementary school program, including a music room (less than 100% utilized), a resource/guidance/literacy room and a library.
- ▶ As noted previously, the school does not meet accessibility standards and there is deferred maintenance for heating/ventilation improvements. Total deferred maintenance is \$2M.
- ▶ The current multi-purpose room used for the gym is too small compared to current guidelines (134 m² compared to 280 m²) and there is no supporting ancillary spaces for the gym. Other space deficiencies include: cafeteria, Early Childhood Development, multi-function room, project work areas and visiting professionals space. This totals approximately 34% of the space of a replacement school and 64% of the total cost (including deferred maintenance). Considering all of these factors and quality of education, we recommend this school be consolidated into a new facility (Appendix E has pictures for comparing elementary infrastructure space types of different ages).

*A “trigger school” has fewer than 100 students or less than 30% capacity and requires a feasibility study (as defined in a statement by the Minister of Education and Early Childhood Development dated 27 March 2015), EECD Policy, Planning Summary Statistics and EECD Planning Guidelines for Educational Facilities.

Proposed recommendations:

Proposed recommendations:

South Fredericton elementary schools are aging and a long-term solution should include elements to revitalize the school infrastructure in conjunction to addressing projected enrollment growth. Proposed recommendations include the following (details of each can be found in the main body and appendices of the report):

1. To meet the needs of a growing population, we recommend building a new K-8 (650 students) school in the Hanwell area. The K-8 solution provides additional capacity needed for the middle school system. This option would reduce bussing costs and travel time. The approximate cost for this option is \$25M – \$26M*.
2. Kingsclear Consolidated School is currently a trigger school*, with high deferred maintenance and space deficiencies compared to EECD standards. We recommend closing the school and splitting the school boundary between the proposed K-8 school (majority of the students) and Garden Creek School. This would eliminate \$2M in deferred maintenance.
3. Change the Montgomery Street Elementary School boundary to have the students currently bussed from the Lincoln Road area to now attend Priestman Street Elementary School.

*Note: Class "D" estimate ($\pm 30\%$) based on the EECD Planning Guidelines for Educational Facilities, as an estimate for this report only. Cost estimates will be adjusted when the EECD Infrastructure and project team establishes the actual space allocation for the new school.

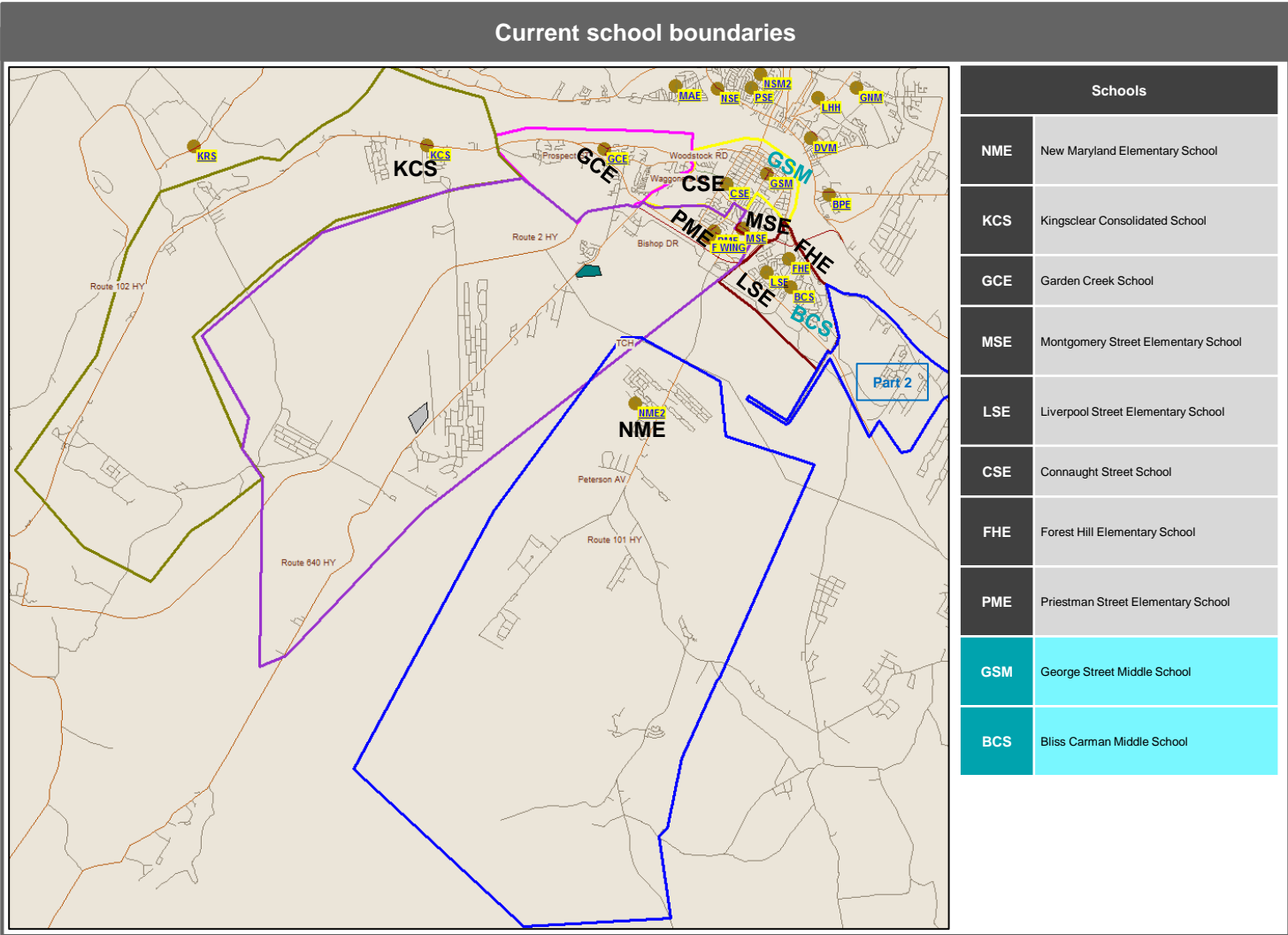
Proposed recommendations

Proposed recommendations (continued):

4. Switch area bounded from Montgomery Street to Kings College Road in one direction and Regent Street to York Street in the other from Priestman Street Elementary to Montgomery.
5. Reconfigure Montgomery Street Elementary to a K-2 and Connaught Street School to a 3-5, sharing the same school boundary with the French Immersion Program remaining at Connaught Street.
6. To initiate a revitalization plan, consolidate Forest Hill Elementary and Liverpool Street Elementary schools by building a new K-5 (500) within the existing school boundary. This option will cost approximately \$21M – \$22M** and would eliminate \$2M in deferred maintenance.
7. Enrollment projections indicate there will be a growing need for an additional elementary school with the timeline dependent on the actual trajectory of population growth for the area. Closely monitor enrollment projections to actual, as the planning cycle for a new elementary school may need to start in the near future.

*A "trigger school" has fewer than 100 students or less than 30% capacity and requires a feasibility study (as defined in a statement by the Minister of Education and Early Childhood Development dated 27 March 2015). **Class "D" estimate ($\pm 30\%$) based on the EECD Planning Guidelines, as an estimate for this report only.

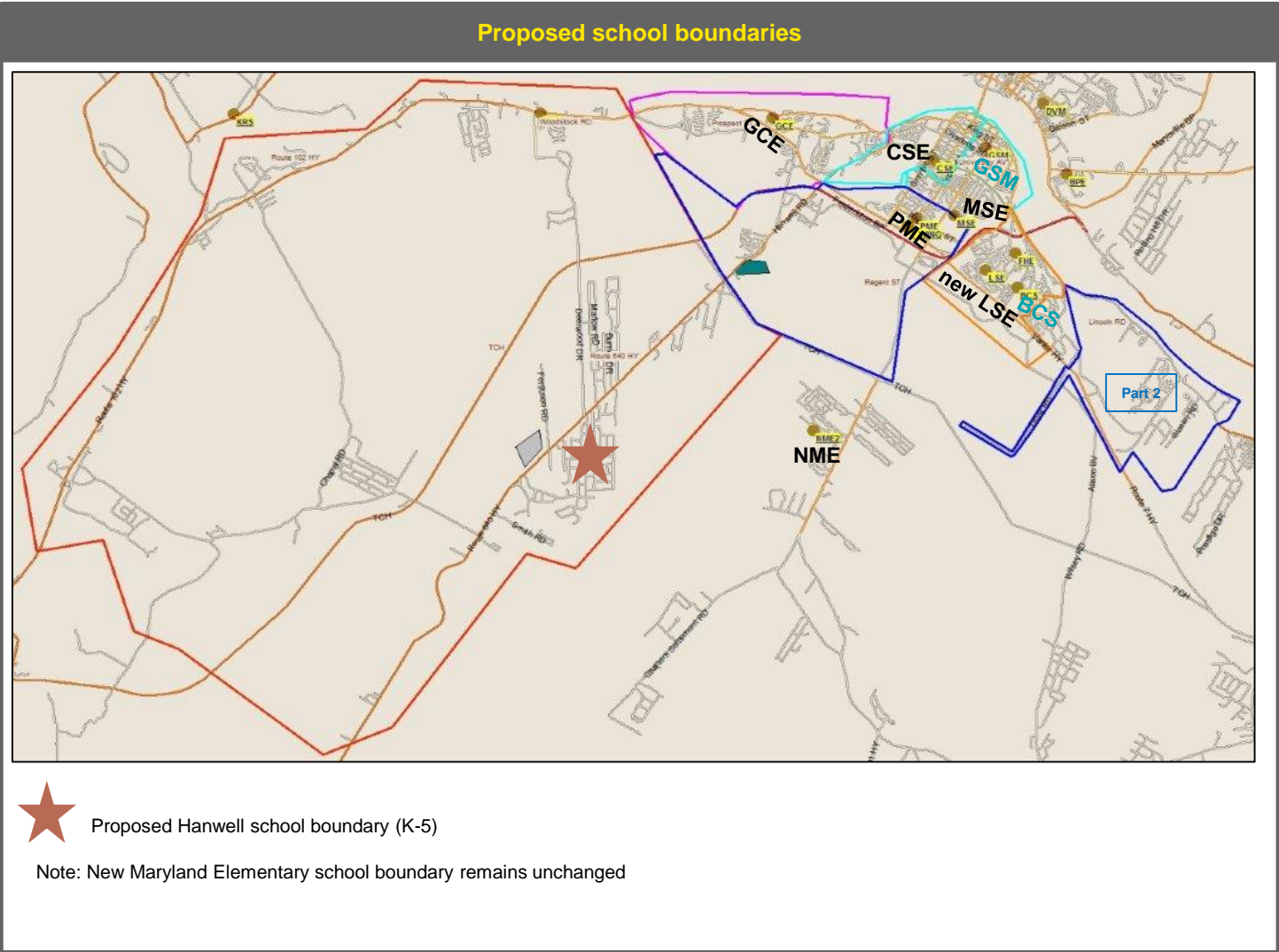
Current school boundaries



Source: ASD-W school transportation software - Versatrans.



Proposed school boundary changes

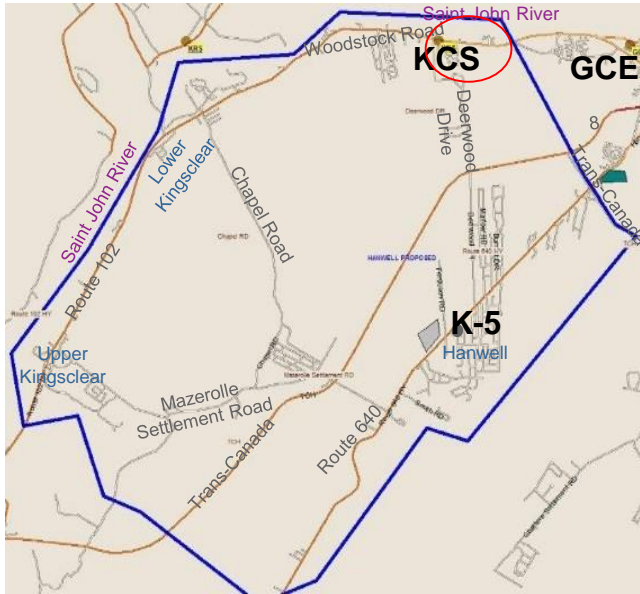


Source: ASD-W school transportation software - Versatrans.



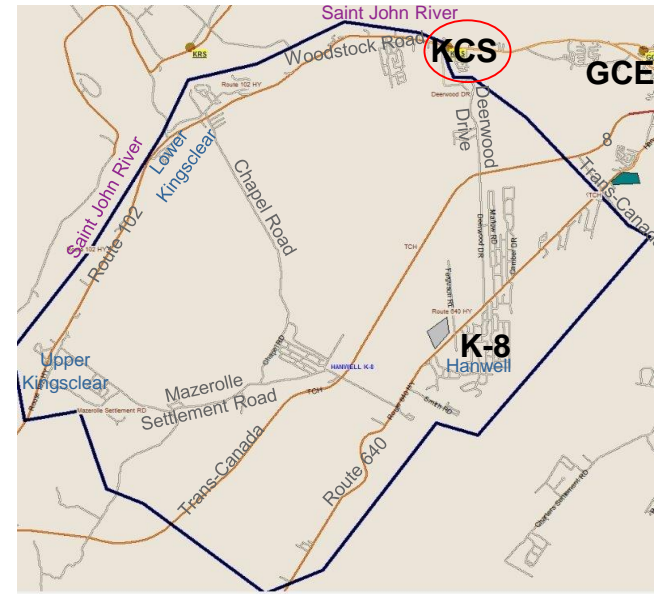
Proposed boundary changes for a new K-8 school would be identical to the K-5 school recommended in scenario 1a, except a small portion of Kingsclear Consolidated boundary

Scenario 1a - New K-5 school in the Hanwell Area



Scenario 1a - New K-5 school

Scenario 2 - New K-8 school in the Hanwell Area



Scenario 2 - New K-8 school

Proposed school boundary – New K-5 school

- Kingsclear Consolidated School (KCS) is recommended to close and consolidate with the Hanwell area of the current Priestman Street Elementary school boundary.
- The new boundary would include Woodstock Road, Route 102, Mazerolle Settlement Road, Route 640 and the Trans-Canada Highway.

Proposed school boundary – New K-8 school

- The proposed K-8 school boundary would be identical to that for a K-5 school, except a small portion of the Kingsclear Consolidated school boundary adjacent to the school (to make room for middle school students).
- It is proposed that these students would attend Garden Creek School (GCE), detailed on the following page.

See Appendix B for details of the other recommendations for school boundary changes included for scenario 2.

Source: ASD-W school transportation software – Versatrans.

Proposed Recommendations – Trend/analyze how the South Fredericton elementary system reacts to the proposed changes and projected growth before committing funds to a potential third school

Projection 1 (Assuming no net migration)							
Year	K	1	2	3	4	5	Total
2016-17	302	333	293	333	339	327	1,927
2017-18	275	302	333	293	333	339	1,875
2018-19	293	275	302	333	293	333	1,829
2019-20	320	293	275	302	333	293	1,816
2020-21	335	320	293	275	302	333	1,858
2021-22	345	335	320	293	275	302	1,870
2022-23	348	345	335	320	293	275	1,916
2023-24	362	348	345	335	320	293	2,003
2024-25	373	362	348	345	335	320	2,083
2025-26	379	373	362	348	345	335	2,142
2026-27	381	379	373	362	348	345	2,188

Project start-up would depend on GNB approval

Year 1 Estimated new school construction
Year 2
Year 3
Year 4 (depending on start time)

2,256 (Estimated 80% Capacity)

Projection 2 (Assuming 2% net migration)							
Year	K	1	2	3	4	5	Total
2016-17	302	333	293	333	339	327	1,927
2017-18	297	308	340	299	340	346	1,929
2018-19	320	303	314	346	305	346	1,935
2019-20	351	326	309	320	353	311	1,971
2020-21	366	358	333	315	327	360	2,059
2021-22	381	373	365	340	321	333	2,114
2022-23	384	389	381	372	346	328	2,200
2023-24	400	392	396	388	380	353	2,310
2024-25	412	408	400	404	396	388	2,408
2025-26	418	420	416	408	412	404	2,478
2026-27	421	426	429	424	416	421	2,537

Project start-up would depend on GNB approval

Year 1 Estimated new school construction
Year 2
Year 3
Year 4 (depending on start time)

2,256 (Estimated 80% Capacity)

Projection 3 (Extrapolated city projections)							
Year	K	1	2	3	4	5	Total
2016-17	312	320	309	316	306	281	1,844
2017-18	319	326	332	319	327	310	1,933
2018-19	338	332	339	341	330	331	2,011
2019-20	361	351	344	348	352	333	2,089
2020-21	381	374	363	353	359	355	2,185
2021-22	399	395	387	372	364	362	2,279
2022-23	413	413	409	397	383	367	2,382
2023-24	427	428	427	419	408	386	2,495
2024-25	438	443	442	438	431	411	2,603
2025-26	445	454	458	453	450	434	2,694
2026-27	447	462	470	469	467	454	2,769

Project start-up would depend on GNB approval

Year 1 Estimated new school construction
Year 2
Year 3
Year 4 (depending on start time)

2,256 (Estimated 80% Capacity)

Based on birth rates for year (forwarded to when they would start school)

Based on forecasted births from city projections

Potential third school (exceeding 80% Capacity)

- High level estimation for when the South Fredericton elementary system (excluding New Maryland) would reach 80% of capacity after the proposed schools have been added.
- It is based on the total elementary enrollment, and some schools could reach 80% capacity at different times depending on population distribution within the school boundaries.
- Elementary system projections have less certainty than middle schools and high schools, as they rely on entry point forecasts versus actual feed school data (see blue and green in tables).
- The tables illustrate how the assumptions in the projections would drive whether/when another school would be needed (projection 1: 2027-28, projection 2: 2023-24 and projection 3: 2021-22).
- Because of this uncertainty, it is recommended to analyze how the system trends/reacts to the proposed changes and projected growth before committing funds to a potential third school.

Source: City of Fredericton Growth and Community Services (Projections from Economic and Demographic Potential: Fredericton, New Brunswick by Strategic Projections Inc. July 2015), EECD Policy, Planning Summary Statistics and ASD-W school transportation software - Versatrans.

Other Considerations – New K-8 school proposed to increase middle school capacity; monitor middle school projections and determine infrastructure plan for George Street Middle School (replace/renovate)

- ▶ The District noted that since students would now have to cross Regent Street after the reconfiguration of Montgomery Street Elementary School and Connaught Street School, additional crossing guards would likely be required in this area.
- ▶ The following table illustrates the new middle school capacity after the proposed K-8 Hanwell School has been added to the system:

Projection 2 (Assuming 2% net migration)				
Year	Bliss Carmen	George Street	Hanwell (6-8)	Total
2016-17	575	460	222	1,257
2017-18	572	484	208	1,264
2018-19	605	473	188	1,267
2019-20	596	489	203	1,288
2020-21	579	498	208	1,285
2021-22	584	513	223	1,320
2022-23	579	491	226	1,297
2023-24	591	498	230	1,318
2024-25	570	498	225	1,293
2025-26	589	533	229	1,351
2026-27	614	572	245	1,431

- Based on the total middle school enrollment, schools could reach 80% capacity at different times, depending on population distribution within the school boundaries. Added K-8 capacity extends potential decision on new middle school to approximately 2025-26 based on projection 2.

- ▶ George Street Middle School is 92 years old and located in the downtown core. The school has no green space and school parking is limited/congested. Monitor the middle school growth projections to actual. Recommend determining an infrastructure plan for aging George Street Middle School be made a priority in the near future. Determine whether to replace or renovate for revitalization and projected growth. The City has noted two potential sites for locating a school in the future.

Source: City of Fredericton Growth and Community Services (Projections from Economic and Demographic Potential: Fredericton, New Brunswick by Strategic Projections Inc. July 2015), EECD Policy, Planning Summary Statistics and ASD-W school transportation software - Versatrans.

Scenario 1 estimated to cost between \$41.6M – \$43.6M*, while the cost of scenario 2 is between \$45.9M – \$47.9M*. Both options would reduce deferred maintenance liability by \$4.1M

- ▶ Both scenarios 1 and 2 address the need for additional space and revitalization of the school system in South Fredericton.
- ▶ **Scenario 1:** Increase elementary capacity by building a new K-5 (500 students) school in the Hanwell area, estimated at \$20.8M – \$21.8M*. Consolidate Liverpool Street Elementary and Forest Hill Elementary schools in a new K-5 school, as part of the revitalization process, whose cost and capacity would be similar to the proposed Hanwell K-5 school (see details in Appendix B).
- ▶ **Scenario 2:** Increase both elementary and middle school capacity by building a new K-8 school (650 students) in the Hanwell area, estimated at \$25.1M – \$26.1M*. As proposed in scenario 1, build a new consolidated K-5 school in the Liverpool Street area (see details in Appendix C).
- ▶ In both scenarios, it is proposed to build two new schools and close the same three schools (Kingsclear Consolidated, Forest Hill Elementary and Liverpool Street Elementary). The cost avoidance in deferred maintenance liability is estimated at \$4.1M.

Scenario 1 - New K-5 school in the Hanwell area and a new K-5 school that would replace Liverpool Street Elementary School

School	Reason	Estimated cost
K-5 school in the Hanwell area (500 students)	Increase capacity	\$20.8M - \$21.8M
K-5 school in the Liverpool area (500 students)	School revitalization	\$20.8M - \$21.8M
Total estimated cost		\$41.6M - \$43.6M

Scenario 2 - New K-8 school in the Hanwell area and a new K-5 school that would replace Liverpool Street Elementary School

School	Reason	Estimated cost
K-8 school in the Hanwell area (650 students)	Increase capacity	\$25.1M - \$26.1M
K-5 school in the Liverpool area (500 students)	School revitalization	\$20.8M - \$21.8M
Total estimated cost		\$45.9M - \$47.9M

Deferred maintenance costs avoided

School	Estimated cost
Kingsclear Consolidated School	\$2.0M
Forest Hill Elementary School	\$1.1M
Liverpool Street Elementary School	\$1.0M
Total deferred maintenance costs avoided	\$4.1M

*Note: Class "D" estimate (± 30%) based on the EECD Planning Guidelines for Educational Facilities, as an estimate for this report only. Sources: EECD Planning Guidelines for Educational Facilities, and School Physical Plant Status report for Deferred Maintenance



In both the K-5 and K-8 scenarios, the District's infrastructure footprint and operational costs would increase due to the additional space required for projected enrollment growth

- The District's school footprint would see an increase in net square metres of 9,841 m² for a K-5 scenario and 12,966 m² for a K-8 scenario. Operational costs (excluding staffing) would increase by approximately \$176K for a K-5 scenario and \$226K for a K-8 scenario.

Schools (For K-5 Scenario)	Area (m ²)
Kingsclear Consolidated School	1,332
Forest Hill Elementary School	1,119
Liverpool Street Elementary School	2,434
Total for potential school closures:	4,885
New K-5 (replace Liverpool and Forest Hill)	7,363
New K-5 Hanwell (replace Kingsclear)	7,363
Total new space for schools:	14,726
Increase in total m²:	9,841

Schools (For K-8 Scenario)	Area (m ²)
Kingsclear Consolidated School	1,332
Forest Hill Elementary School	1,119
Liverpool Street Elementary School	2,434
Total for potential school closures:	4,885
New K-5 (replace Liverpool and Forest Hill)	7,363
New K-8 Hanwell (replace Kingsclear)	10,488
Total new space for schools:	17,851
Increase in total m²:	12,966

Based on March 2016 ASD-W Operational Data File							
Kingsclear Consolidated School A.	Forest Hill Elementary School B.	Liverpool Street Elementary School C.	Total for proposed school closures D= (A + B + C)	Average spend of 2 new ASD-W 650 student (K-8)* E.	Spend of a newer ASD-W (K-5) - 26 classroom school** F.	Total for a new K-8 and a new K-5 school G= (E + F)	Total for 2 new K-5 schools** H= (F X 2)
Utilities:							
Lights/power	4,797.77	6,549.39	49,027.94	60,375.10	89,881.29	57,150.48	114,300.96
Water/sewage	296.35	1,556.19	5,397.68	7,250.22	12,348.51	2,999.30	5,998.60
Heating fuel/natural gas	9,616.84	16,972.14	0.00	26,588.98	32,252.35	48,872.96	97,745.92
Sub-total	14,710.96	25,077.72	54,425.62	94,214.30	134,482.15	109,022.74	218,045.48
Maintenance/cleaning:							
Garbage removal	540.84	599.28	1,486.20	2,626.32	3,272.82	2,748.24	5,496.48
Snow ploughing	7,397.00	5,550.00	6,150.00	19,097.00	25,977.79	15,277.80	30,555.60
Cleaning supplies	3,651.58	3,527.99	13,363.65	20,543.22	10,885.05	19,295.01	38,590.02
Other minor repair	3,314.58	3,947.82	7,007.47	14,269.87	39,105.31	17,049.44	34,098.88
Sub-total	14,904.00	13,625.09	28,007.32	56,536.41	79,240.96	54,370.49	108,740.98
Total	29,614.96	38,702.81	82,432.94	150,750.71	213,723.11	163,393.23	326,786.46
Operational cost increase:						G_{total} - D_{total}	H_{total} - D_{total}
						226,365.63	176,035.75

* Townsview and Meduxnekeag Consolidated: new 650 (K-8) schools in Woodstock, NB

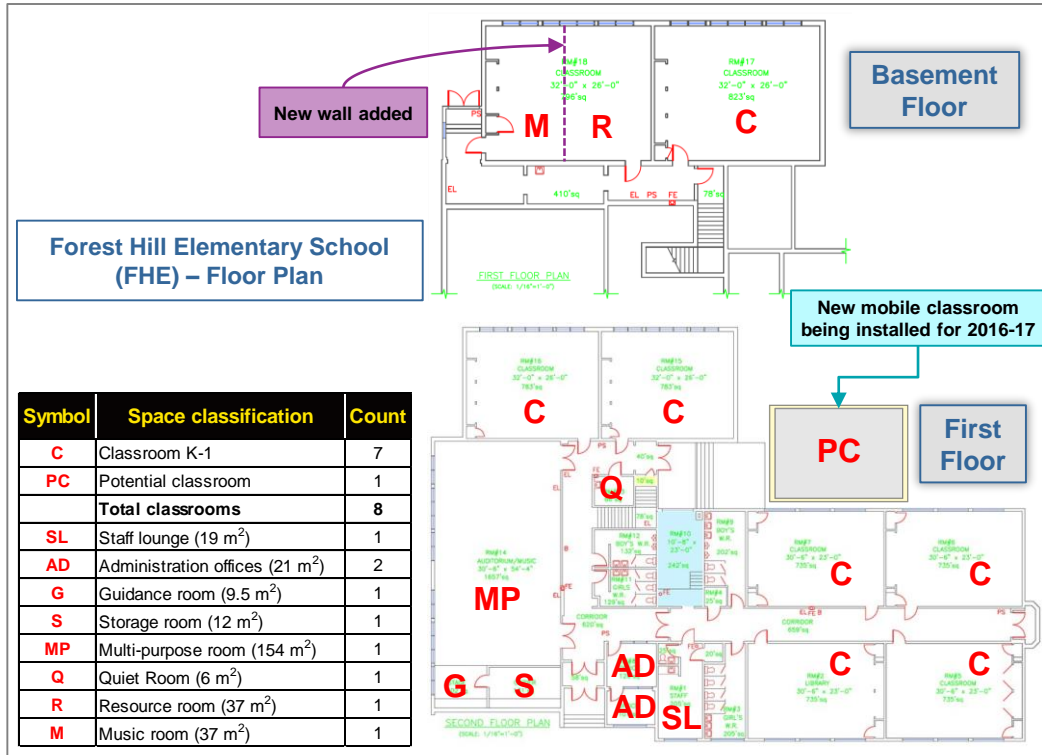
to approximate operating costs of a new K-8 school

** Gibson-Neil Elementary: newer (K-5) 26 classroom used to approximate operating costs of a new K-5 school

Source: EECD School Asset Data and ASD-W file: Operating Costs for 2016.



Comparison of FHE floor plan to EECD Planning Guidelines identified a shortage of pedagogical space and there is \$1.1M in deferred maintenance



- ### Forest Hill Elementary School
- Site visit confirmed 7 classrooms (C) and 1 potential classroom (PC), which is the new mobile classroom.
 - Total deferred maintenance liability is \$1.1M. Key maintenance items include various site improvements, heating system upgrades and accessibility upgrades.
 - Comparison of the school floor plans to EECD Planning Guidelines found approximately 728 m² of notable space deficiencies (cafeteria and the multi-purpose gym is smaller than the Guidelines, which recommend 280 m²).
 - Shortage of pedagogical space including early childhood development room, library, multi-function room and offices for visiting professionals.
 - Dehumidifiers are required for the classroom spaces in the basement floor.

Deferred maintenance	Estimated cost
Site improvements	\$300,000
Heating and ventilation - upgrade thermostat and controls (EMCS)	\$275,000
Interior accessibility - install one elevator, and one stair lift	\$272,000
Interior improvements - upgrade classrooms, 2 washrooms, and 8 classroom ceilings	\$146,000
Electrical - install 20 new receptacles, upgrade electrical supply and distribution, and upgrade lightings	\$111,550
Total for deferred maintenance	\$1,104,550

Space deficiencies compared to Planning Guidelines	Area (m ²)
Cafeteria	188
Early childhood development room	110
Library and seminar room	110
Multi-function room	110
Gymnasium - ancillary space	104
Project work area and break-out room	57
Special care room	35
Visiting professionals office and waiting area	14
Total space deficiencies compared to Planning Guidelines	728

Source: EECD school drawings with site visit, EECD Planning Guidelines for Educational Facilities, and School Physical Plant Status report for Deferred Maintenance.



Visual comparison of space types in a newer K-5 school compared to some older K-5 schools within scope

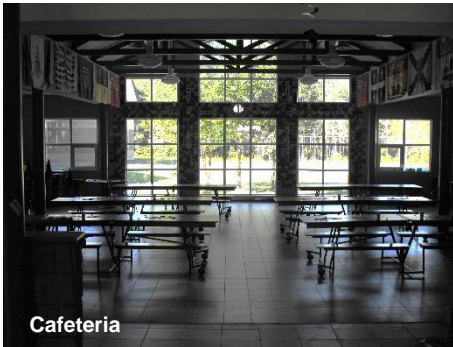
New Maryland Elementary School (K-5) School, built in 1994



Classroom



Gymnasium



Cafeteria

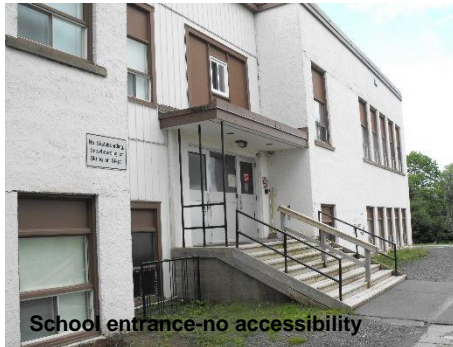
Kingsclear Consolidated School (K-5) School, built in 1950



Classroom



Multipurpose room for gymnasium



School entrance-no accessibility

Forest Hill Elementary School (K-1) School, built in 1955



Classroom



Multipurpose room for gymnasium

Liverpool Street Elementary School (2-5) School, built in 1968



Classroom



Gymnasium

- New Maryland Elementary School is a newer school at 22 years of age. Space types such as classrooms, gymnasium and cafeteria are similar to those in EECD Planning Guidelines.
- Kingsclear Consolidated School, Forest Hill Elementary School and Liverpool Street Elementary School currently have no cafeteria.
- The multi-purpose gyms at Kingsclear Consolidated and Forest Hill Elementary are under sized to current guidelines.
- Accessibility has been identified on the deferred maintenance list for Kingsclear Consolidated and Forest Hill Elementary.