



REPORT TO

REGULAR BOARD

## STUDENT AND CLASSROOM DEVICE STRATEGY (REVISED)

*Then Jesus took the loaves, and when he had given thanks, he distributed them to those who were seated; so also the fish, as much as they wanted. – John 6:11*

### Drafted

April 19, 2022

### Meeting Date

April 26, 2022

Steve Camacho, Executive Superintendent, Technology, Data, and Strategic Transformation & Chief Information Officer

### RECOMMENDATION REPORT

**Vision:** *IN GOD'S IMAGE: Growing in Knowledge, with Justice and Hope.*

**Mission:** *Nurturing the faith development and academic excellence of our Catholic learning community through the love of God, neighbour, and self.*



MULTI-YEAR STRATEGIC PLAN  
2022 - 2025

IN GOD'S IMAGE: Growing in Knowledge, with Justice and Hope



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## A. EXECUTIVE SUMMARY

Although most students have returned to in-person learning, the demand for technology continues to increase. Many communities are demanding more technology for their school as the benefits of technology-enabled learning to students have become more apparent. Existing school devices were last purchased in 2017 and are in immediate need of replacement. The TCDSB purchased over 22,000 devices during the COVID-19 pandemic for student use during remote learning. TCDSB expects most of these devices to be returned later this school year. Furthermore, the lack of a formal teacher device program meant that many teachers temporarily borrowed a classroom device to teach during periods of remote learning and continue to do so for in-person use within the classroom. Given all this, a new Student and Classroom Device Strategy is needed to support the system for the long term and fulfil our vision for the [Digitally Enabled School](#).

The new Student and Classroom Device Strategy uses a shared device program for students from JK until grade 5 with a target ratio of approximately 1 device to 5 students. Students from grade 6 to grade 12 will receive a dedicated device to be used throughout the school year (a 1-to-1 device program). A dedicated device is believed to be beneficial in higher grades where students are better prepared to take advantage of the technology and where many grades specific resources have been digitized. Furthermore, to support a modern learning environment, all permeant teachers will be provided with a dedicated device to use in the classroom.

The new Student and Classroom Device Strategy will require a significant funding investment. As result, the strategy will be implemented over 4 years to ensure the program's fiscal sustainability. Every year for 4 years one or two grade levels will transition from a shared device program to a 1-to-1 device program until all grades from 6 through 12 are on the 1-to-1 device program. The recommended strategy will cost approximately \$34M over 4 years to implement with an ongoing cost of approximately \$10M from year 5 forward. Staff will work to make funds available within the existing operating budget on yearly basis.

On April 5<sup>th</sup>, 2022, Trustees asked staff to review additional program launch options and assess the feasibility of having students keep devices that were loaned to them to support learning during the COVID-19 pandemic. Four additional options were reviewed and summarized in this revised report. After this additional review, staff are still recommending the original program launch option.

**The cumulative staff time required to prepare this report was 40 hours**

## **B. PURPOSE**

1. The purpose of this report is to provide information on and get approval for a new long-term Student and Classroom Device Strategy.

## **C. BACKGROUND**

1. ***Starting April 2020, in response to the COVID-19 pandemic and to support a new distance learning model, the TCDSB distributed approximately 22,000 devices (Chromebooks and iPads) directly to students.*** In general, Chromebooks (simple laptops) were distributed to students in grades 1 to 12 who had access to the internet at home. LTE-enabled iPads were distributed to students who indicated that they had no internet at home or were part of the kindergartner program.
2. ***Although most students have returned to in-person learning, the demand for technology has continued to increase.*** Many communities are demanding more technology for their school as the benefits of technology-enabled learning to students have become more apparent. In addition, teachers are now better prepared than before to take advantage of technology in the classroom.
3. ***Access to Technology remains a learning equity issue with not all students having equal access and the TCDSB has prioritized equity.*** While many students in Toronto have access to a device at home, not all home situations are equal. Many students gain access to a device through siblings or parents while other families are able to provide a device for each one of their children. The TCDSB's new Multi-year Strategy Plan has equity as one of its main pillars with a priority to "*continue to develop responsive learning environments that engage and care for students who are marginalized.*"
4. ***Through specific Government programs, the TCDSB has recently invested over \$8.3M in school Broadband and Wi-Fi services which have significantly improved services and capacity to manage more devices on school networks.*** The TCDSB received funding to upgrade Broadband and Wi-Fi from the following programs:
  - a. \$2.0M - CVRIS COVID Resilience Infrastructure (CVRIS) Fund
  - b. \$4.3M - Broadband Modernization Program (BMP)
  - c. \$2.4M - Connectivity at School Program (CASP)
5. ***Existing school shared devices were last replaced in 2017 and are in immediate need of replacement.*** The last replacement of school devices was

prior to the pandemic and deployed a number of Chromebooks, iPads, and Cloudbooks to schools in 2017. Many of these devices are still used in schools today but are at the end of their useful life.

6. ***Families who were loaned devices throughout the pandemic are starting to return these devices to the school as they are no longer needed for remote learning.*** The TCDSB has collected approximately 5200 devices of total purchased for remote learning. TCDSB expects most of the remaining devices to be returned later this school year.
7. ***Many teachers are using or have used classroom devices meant for student use to support their work during the pandemic.*** The lack of a formal teacher device program meant that many teachers temporarily borrowed a classroom device to teach during periods of remote learning.
8. ***School boards throughout the GTA have started to develop and/or strengthen a student device program using devices loaned during the pandemic.*** For example, the [TDSB started a 1-to-1 program](#) this past September in grades 5 and 9 using borrowed [devices return in June 2021](#). Similar programs are in place at Durham Catholic and Durham District and are being considered at York Region, Peel District, and Dufferin Peel Catholic School Boards.

## **D. EVIDENCE/RESEARCH/ANALYSIS**

1. ***To support the demand for technology post-pandemic and to work toward the vision of the [Digitally Enabled School](#), a bold new Student and Classroom device strategy is required.*** This new device strategy has always been planned within the 2019-2022 Information and Technology Strategic Plan, but the experiences of the pandemic have brought new light to the importance of developing a fulsome device strategy that supports students and teachers.
2. ***The new strategy envisions a shared device program from JK until grade 5 with a target ratio of approximately 1 device to 5 students by year 4.*** A shared device program has been a staple of the TCDSB student device program for many years. While devices are allocated based on total enrolment, they are shared in such a way so that each student has access to the device within the school for a period of time to support their learning. A ratio of 1 to 5 will allow enough devices for a school to support grade 3 EQAO testing in a single day if needed.

3. ***The new strategy will provide every student from grade 6 to grade 12 with a dedicated device to be used throughout the school year (1-to-1 device program).*** A dedicated device is believed to be beneficial in higher grades where students are better prepared to take advantage of the technology and where many grades specific resources have been digitized.
4. ***The new strategy calls for JK/SK classrooms to be outfitted with iPads while Grades 1 through 12 will receive Chromebooks.*** Experience during the pandemic has shown that students from grade 1 onwards can benefit and often prefer a full physical keyboard while younger students do better on a touch-only device.
5. ***To support a modern learning environment, all permeant teachers will be provided with a dedicated device to use in the classroom.*** Teachers will receive a fully featured and reliable business-class laptop designed to handle all classroom software and be able to connect to projectors and screens. Schools will also be allocated a small number of daily use teacher devices, for the use of occasional teachers when replacing teachers and to be used as emergency swap devices when a device is broken. The additional devices will ensure the continuity of learning for students. Staff will consult with the Board's labour partners on the specifics of the program, as it relates to their members.
6. ***Early Years Teaching Teams (JK/SK) will get a laptop and iPad to support the classroom.*** Given the important partnership formed by teachers and Designated Early Childhood Educators and the unique nature of kindergarten programs, a two-device strategy will be used to support classroom activity over and above the shared devices provided for direct student use.
7. ***The new device strategy requires a significant funding investment and will be implemented over 4 years to ensure the program's fiscal sustainability.*** Every year, for 4 years, one or two grade levels will transition from a shared device program to a 1-to-1 device program until all grades from 6 through 12 are on the 1-to-1 device program. The following table shows the grades and anticipated transition years.

### ***Elementary Rollout Schedule***

	2022-23	2023-24	2024-25	2025-26
<i>JK to Grade 5</i>	Shared	Shared	Shared	Shared
<i>Grade 6</i>	Shared	1-to-1	1-to-1	1-to-1
<i>Grade 7</i>	Shared	Shared	1-to-1	1-to-1
<i>Grade 8</i>	Shared	Shared	Shared	1-to-1

### ***Secondary Rollout Schedule***

	2022-23	2023-24	2024-25	2025-26
<i>Grade 9</i>	1-to-1	1-to-1	1-to-1	1-to-1
<i>Grade 10</i>	Shared	1-to-1	1-to-1	1-to-1
<i>Grade 11</i>	Shared	Shared	1-to-1	1-to-1
<i>Grade 12</i>	Shared	Shared	Shared	1-to-1

8. ***The program will cost approximately \$34M over 4 years to implement with ongoing cost of approximately \$10M from year 5 forward.*** Staff will work to make funds available within the existing operating budget. The funds spent on devices will grow and shrink commensurate with student enrolment and teacher allocations. The device will be replaced on a 4-year, or 5-year cycle based on budget availability and device wear and tear.
9. ***Returned student devices will be used to support the initial years of the new program.*** Using returned student devices from the pandemic will allow TCDSB time to grow the funding capacity needed to support the program in the longer term. Without the returned devices, the same program may take up to 6 years to fully implement and no grades will have a 1-to-1 program for the first 2 years.
10. ***Student and teachers will continue to be allowed to bring their own device (BYOD) if they prefer.*** If individuals choose to use their own devices, they will need to meet the minimum standards for TCDSB devices to ensure these devices can seamlessly work with the classroom environment.
11. ***Students and parents will sign a loan agreement to ensure families fully understand and acknowledge their responsibilities when using a TCDSB device.*** Damaged, lost, and broken devices that cannot be covered by the

device's warranty will be the responsibility of parents/guardians. Support may be provided on compassionate grounds in select circumstances at the school level.

## Review of Additional Program Launch Options

12. *At the April 5<sup>th</sup> meeting of the Student Achievement Committee, the original report was referred back to staff to consider options for students to keep devices loaned during the COVID-19 pandemic.* Staff reviewed four additional program launch options (options B through D) beyond the original recommendation (option A). Each of the options shown below focused on the student device portion of the program. Teacher devices will still be launched in a 4-year cycle as originally planned.
13. *Option A – Original Program Launch Option.* This is the original program launch option using a combination of recovered COVID-19 devices and newly purchased devices.

	Y1	Y2	Y3	Y4	Y5	Y6
<b>Recovered Devices</b>	19,000	19,000	14,000	11,000	0	0
<b>New Purchases</b>	8,000	9,500	11,500	12,850	12,850	12,850
<b># of grades at 1-to-1</b>	1	3	5	7	7	7
<b>Student/Device Ratio</b>	3.8	3.7	4.6	4.9	5.0	5.0
<b>Student Device Cost</b>	\$4.5M	\$5.4M	\$6.6M	\$6.8M	\$7.3M	\$7.3M
<b>Pros</b>			<b>Cons</b>			
<ul style="list-style-type: none"> <li><i>Budget impact is unchanged and is funded within the operating budget</i></li> <li><i>Program fully launched by year 4</i></li> <li><i>Student to device ratio is 5 to 1 or better throughout</i></li> <li><i>Devices are replaced on an even 4-year cycle in future years</i></li> </ul>			<ul style="list-style-type: none"> <li><i>All COVID-19 devices loaned to students must be returned</i></li> </ul>			

14. ***Option B – Students keep existing devices, same cost but more time.*** In this option, the COVID-19 loaned devices are not immediately collected but the same amount of funds are spent over the life of the program. In this option, the program takes 6 years to fully launch as device inventories need to be rebuilt to make up for not collecting the COVID-19 loaned devices.

	Y1	Y2	Y3	Y4	Y5	Y6
<b>Recovered Devices</b>	0	0	0	0	0	0
<b>New Purchases</b>	8,000	9,500	11,500	12,850	12,850	12,850
<b># of grades at 1-to-1</b>	0	0	2	4	6	7
<b>Student/Device Ratio</b>	10.7	4.9	3.8	2.9	5.0	5.0
<b>Student Device Cost</b>	\$4.5M	\$5.4M	\$6.6M	\$6.8M	\$7.3M	\$7.3M
<b><i>Pros</i></b>			<b><i>Cons</i></b>			
<ul style="list-style-type: none"> <li><i>Budget impact is unchanged</i></li> <li><i>Students that have not yet returned their loaned device may hold onto the device for its useful life (approx. 4 years)</i></li> </ul>			<ul style="list-style-type: none"> <li><i>Program launch completed in years 6 (2 years later)</i></li> <li><i>Student device ratio in the first year is 10.7 students per device. This high student to device ratio may hamper a school's ability to effectively administer testing such as EQAO.</i></li> <li><i>Device distribution per classroom is uneven, making it difficult for teachers to plan lessons</i></li> </ul>			

15. ***Option C – Students keep existing devices, program launch cost increases but the program is launched in the original 4-year time frame.*** In this option, the COVID-19 loaned devices are not immediately collected so extra funds are needed to make up for not collecting the loaned devices. The program is launched in the same 4-year window as originally planned

	Y1	Y2	Y3	Y4	Y5	Y6
<b>Recovered Devices</b>	0	0	0	0	0	0
<b>New Purchases</b>	22,000	11,000	12,500	12,500	12,850	12,850
<b># of grades at 1-to-1</b>	1	3	5	7	7	7
<b>Student/Device Ratio</b>	5.0	4.7	3.8	2.9	5.0	5.0
<b>Student Device Cost</b>	\$12.5M	\$6.3M	\$7.1M	\$7.1M	\$7.3M	\$7.3M
<b>Pros</b>			<b>Cons</b>			
<ul style="list-style-type: none"> <li>Students that have not yet returned loaned devices may hold onto the device for its useful life (approx. 4 years)</li> <li>Program fully launched by year 4</li> <li>Student to device ratio is 5 to 1 or better throughout</li> </ul>			<ul style="list-style-type: none"> <li>Budget impact is increased by \$9.6M in the first 4 years.</li> <li>Device replacement cycle is uneven because of large purchases in year 1, requiring longer device refresh cycles (5 or 6 years) to even out future spend.</li> </ul>			

16. ***Option D – 8,000 devices are held back to support students in need program launch cost increases, but the program is launched in the original 4-year time frame.*** In this option, 8000 are not collected for students who demonstrate a strong personal need. The remaining 11,000 devices are collected and used to seed the new program. Additional funds are needed to make up for not collecting a portion of the COVID-19 loaned devices, but the new program is launched in the original 4-year time frame.

	Y1	Y2	Y3	Y4	Y5	Y6
<b>Recovered Devices</b>	11,000	10,500	7,500	4,650	0	0
<b>New Purchases</b>	11,000	10,500	12,850	12,850	12,850	12,850
<b># of grades at 1-to-1</b>	1	3	5	7	7	7
<b>Student/Device Ratio</b>	5.0	5.0	5.0	5.0	5.0	5.0
<b>Student Device Cost</b>	\$6.2M	\$6.0M	\$7.3M	\$7.3M	\$7.3M	\$7.3M

<b><i>Pros</i></b>	<b><i>Cons</i></b>
<ul style="list-style-type: none"> <li>• <i>8,000 devices are allocated to students in need on a case-by-case basis</i></li> <li>• <i>Program fully launched by year 4</i></li> <li>• <i>Student to device ratio is 5 to 1 or better throughout</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Budget impact is increased by \$3.5M in the first 4 years.</i></li> </ul>

17. ***Staff reviewed each option listed above and believe the original option (option A) provides the most overall benefit to students learning and the least cost.*** Option B requires a substantial increase in the student to device ratio and may jeopardize the TCDSB ability to effectively administer standardized testing and might even lower test results because access would not be evenly distributed. Options C and D require a substantial increase in funding which could pose an operational challenge and could result in a reprioritization of other initiatives.

## **E. METRICS AND ACCOUNTABILITY**

18. ***The strategy will be supported by the TCDSB operating budget, and the exact yearly spending will vary from year-to-year based on available funds and enrolment.*** The yearly spending on this program will not exceed what is with the approved yearly operating budget.

## **F. STAFF RECOMMENDATION**

That the Board of Trustees support the new Student and Classroom Device Strategy to be implemented as described in the original program launch option (option A) and that staff work to ensure the funds are made available within TCDSB's operating budget starting in the 2022-2023 school year.