REPORT TO

REGULAR BOARD

CHILD MEDICAL MASKS – ASTM LEVEL 3

Please use the "New Revised Standard Version Catholic Edition" from https://www.biblegateway.com/ for Bible quotes.

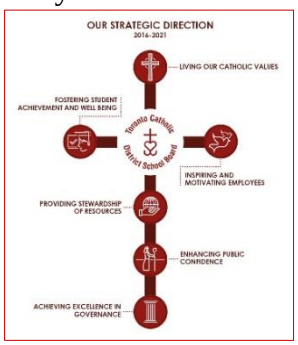
Drafted	Meeting Date
February 9, 2022	February 17, 2022

Stefan Martens, Service Quality Supervisor, Environmental Support Services
Martin Farrell, Superintendent, Environmental Support Services

INFORMATION REPORT

Vision:
At Toronto Catholic we transform the world through witness, faith, innovation and action.

Mission:
The Toronto Catholic District School Board is an inclusive learning community uniting home, parish and school and rooted in the love of Christ. We educate students to grow in grace and knowledge to lead lives of faith, hope and charity.



Brendan Browne
Director of Education

Adrian Della Mora
Associate Director of Academic Affairs & Chief Operating Officer

Derek Boyce
Associate Director of Facilities, Business & Community Development

Ryan Putnam
Chief Financial Officer & Treasurer

A. EXECUTIVE SUMMARY

This report provides information on medical masks and an update on the provision of ASTM Level 3 Children Masks to students in the TCDSB.

The cumulative staff time required to prepare this report was 6 hours.

B. PURPOSE

1. At the February 3, 2022 Student Achievement and Wellbeing meeting, Trustees requested that staff prepare a report on the feasibility and cost of providing medical grade masks of ASTM Level 3 for student use on a daily basis.

C. BACKGROUND

1. Medical masks sold in Canada are required to conform to a generally recognized and accepted standard established by the American Society for Testing and Materials (ASTM).
2. Wearing a mask is highly recommended and required in public settings such as stores, schools, public transit, etc.
3. To provide effective protection, masks must be well constructed, fit well and used properly.
4. In September 2020, the Ministry of Education in consultation with the Ministry of Health, mandated Level 2 masks for all school board staff. These masks are supplied at no cost to the boards.
5. In August 2020, the Ministry of Education provided 2-ply cloth masks for students at no cost that were optional to use as replacement for students as needed but permitted the use of other types of personal masks.
6. Beginning February 2021, the Ministry began providing a 3-layer cloth mask for student use. These masks do not have an ASTM rating, nor would they be considered medical grade.

7. Medical Mask ASTM Grade Levels.

- **Level 1** - Low barrier protection. Only for general use, not used for aerosols, spray or fluids.
- **Level 2** - Moderate barrier protection. Use for low to moderate levels of aerosols, spray and/or fluids.
- **Level 3** - Maximum barrier protection. Use for high risk of fluid, spray and/or fluids.

ASTM PROTECTION VS. INTENDED USAGE

LEVEL 1 (LOW) BARRIER: 80 mm Hg	LEVEL 2 (MODERATE) BARRIER: 120 mm Hg	LEVEL 3 (HIGH) BARRIER: 160 mm Hg
Light / minimum BFE & PFE protection	High BFE & PFE protection	High BFE & PFE protection
Used for general procedures and respiratory etiquette	More breathable than high barrier mask	
Designed to resist a splash or spray at venous pressure	Designed to resist a splash or spray at arterial pressure	Highest fluid resistance – designed to resist a splash or spray during tasks like orthopedic surgery or trauma

ASTM F2100-11 (2011) REQUIREMENTS FOR MEDICAL FACE MASKS

TEST	LEVEL 1 (LOW) BARRIER: 80 mm Hg	LEVEL 2 (MODERATE) BARRIER: 120 mm Hg	LEVEL 3 (HIGH) BARRIER: 160 mm Hg
BFE (Bacterial Filtration Efficiency) at 3.0 micron ASTM F2101	≥ 95%	≥ 98%	≥ 98%
PFE (Particulate Filtration Efficiency) at 0.1 micron ASTM F2299	≥ 95%	≥ 98%	≥ 98%

D. EVIDENCE/RESEARCH/ANALYSIS

1. Based on an estimated 86,000 TCDSB students at one medical mask per student daily, it is estimated a weekly requirement of up to 430,000 masks would be required. This quantity of student medical masks required depends on demand and student/family preference and not all TCDSB students would necessarily utilize medical type masks.
2. To develop costing Board staff contacted a number of TCDSB vendors on an informal basis to provide an estimate on pricing for information and budgetary purposes. Should the decision to proceed be approved by the Board of Trustees, an expedited procurement would be recommended to expedite delivery of the masks.
3. Vendor pricing breakdown ranged between:
   - $.0889 per mask plus delivery or;
   - $ 0.1138 to $.20-$.30 per mask (based on stock availability) with direct delivery included.

Breakdown of Costs without Delivery

	Cost per Mask	Weekly Cost per Mask	17 Weeks Cost for Mask
Vendor 1 (Delivery Extra)	$0.0889	$ 39,052.70	$ 663,895.95
Vendor 2 (Delivery Included)	$0.1138	$ 49,990.97	$ 849,846.56
Vendor 3 (Delivery Included)	$0.2000	$ 87,857.60	$1,493,579.20
Vendor 3 (Delivery Included)	$0.3000	$131,786.40	$2,240,368.80

Note: Vendor 3 prices ranged between $0.20 and $0.30 per mask

4. Based on a 17-week period, from March 1 to June 24, (excluding March Break) using the lowest price but excluding delivery cost, the cost would be approximately $663,895.95 if all the students utilize the masks provided.
5. Delivery costs for the lowest price would incur an estimated additional cost of $65,981.25 for the 17-week period. Delivery costs are based on utilizing unit rate contracts, with once-a-month delivery to approximately 207 locations with an estimated deliver cost of $75.00 per location.

Breakdown of costs for delivery

Per Location	Monthly	17 Week Period
$ 75.00	$ 15,525.00	$ 65,981.25

6. The estimated cost for the most cost-effective vendor over the full 17-week period with delivery included would be $729,877.20.
7. The Board would procure two different sizes, being child and adult. Child size would be utilized by elementary students and adult size would be utilized by secondary students.

E. METRICS AND ACCOUNTABILITY

Staff have identified the following issues and considerations related to providing masks to students:

1. Purchase of masks would not be funded by the Ministry as they are currently providing 3ply cloth masks for students to use on a 8 week cycle.
2. Funding would need to be accommodated within the current operating budget and/or through use of Board reserves.
3. Pricing would be contingent on guaranteed volumes for a specific period of time.
4. Inability to accurately project the total number of masks needed for students.
5. Additional pressure on staff and administration at school level in distributing masks in schools.
6. Students are not/will not be mandated to wear the medical masks provided by the TCDSB.
7. The effectiveness of the ASTM Level 3 masks in preventing the spread of COVID-19 in schools will depend on the uptake within a particular school/classroom.
8. Additional masks may be required to replace damaged, soiled masks during the day by students, increasing consumption.
9. Board Staff are provided with the option of utilizing ASTM Level 2 Masks through the Ministry or non-fitted N95 masks, also provided by the Ministry.

F. CONCLUDING STATEMENT

This report is for the information of the Board of Trustees.