2022/2023 District Student Breakage Report

In this annual report the Information Systems department documents the ongoing costs involved in supporting our fleet of student assigned computer hardware. This report will help provide transparency for district stakeholders and shed some needed light on the issues we are dealing with involving improper machine handling, and vandalism in district. We use a self-maintainer model handled by our District Technicians, one of which was eliminated by budget cuts. Expect our response times turning around equipment to increase by about 1/3.

In summary, due to their size and demographics, Arace and the High School have the most broken equipment. The cost breakdown shows replacing broken, unrepairable gear is the most costly category, followed closely by broken LCD displays, then by missing or broken USB C chargers, broken keyboards with keys missing, broken plastics, hinges, etc. We started the year with over 100 spare Chromebooks all grant purchased in previous years and through replacement units and requests for more gear from schools, we have less than 2 dozen or so spares on hand.

In schools that use carts to store the Chromebooks, we are having some vandalism issues with keycaps being pried off the keyboards (Contrary to popular belief, they do not just pop off under normal use!), screens being smashed, and tons of USB C charging cables being broken by cart using students mainly in the middle school. I believe the cart model should be re-thought as we are seeing a lack of accountability to the students that are damaging this equipment. It seems obvious to me that little or no oversight is happening in some classrooms. We have a real need to become better stewards of this investment in technology. Perhaps only adults should hand out, and re-rack Chromebooks, or we should be full 1:1 take home; I am open to suggestions to help solve this issue.

Current total cost of School Year 22/23 Student computer fleet maintenance is $40,547. We find that amount shocking. As a result we drafted a program of self-insurance. We propose at a minimum, each student who takes home computing equipment pay a $20 per year fee and in return, that student will get one no questions asked free repair per year. Afterwards each breakage will be charged at the cost of parts, up to the total unit cost. We may wish to expand this to all students who regularly use a Chromebook, at home or in school. A separate proposal on this subject will be shared along with this report.

Although the limited IT budget for new hardware this year will not allow it, I propose starting next year that freshmen entering BHS be given new Chromebooks, and when they graduate, they be allowed to keep the Chromebook. Ownership might help to limit the volume of breakage.

BHS reported 450 incidents to IT and has the highest volume of repairs.

The BHS campus includes the VOAG center and is full take home 1:1 model and does not use a cart centric model. BHS has the highest costs for several reason, the biggest of which is the broken Dell 3190 laptop hardware frequently exceeds the replacement value and is replaced with a Chromebook. Being a take home 1:1 school means more wear and tear on the equipment and more broken parts in general, but has very accurate accountability.

The approximate 2022-23 SY cost of maintaining the Chromebook fleet at **BHS = $22,480**



Bookshelves at BHS containing broken non-repairable 3190 laptops.

Parts used:
102 total Dell 3190 with shattered touch screens (3 years). Replacement cost new Chromebook = $189ea + Google Mgmt Lic $32ea Total $221ea = $22,542**; average per year = $7,514**
18 Chromebooks liquid spill beyond repair $221ea = **$3,978**
2 Dell liquid spilled beyond repair = $221ea = **$442**
116 HP G6 and G8 LCD display replaced. $25ea = **$2,900**
94 HP G6 keyboards $50 = **$4,700dong**
31 Dell Chargers damaged or lost. $26 = **$806**
20 Dell Keyboards $18ea = **$360**
11 USB C HP chargers damaged or lost $40ea = **$440**
30 G6 Batteries $38ea = **$1,140**
20 G6 Touch Pads $10ea = **$200**

The Arace campus reported 240 incidents to IT.

The Arace campus utilizes a cart centric model with few, if any student Chromebooks leaving the campus. We are seeing problems with this model at the Middle School: very visible problems are not being reported but are left to be discovered by IT at the end of the school year. Anticipating this, on the last days of school, the Arace carts were quickly inventoried and reviewed for problems before summer school. The following unreported problems were discovered: CAMS Cart 13 has an additional 7 broken chargers, many with the ends torn off, see the picture below. Wires like this are a safety hazard as they can short out and catch fire but still went unreported. CAMS Cart 12 is missing the white plastic label and its thumb screws that keep the black plastic dividers from moving around, and had an additional 5 chargers with ends broken off. CAMS Cart 15 has 6 Chromebooks with bad LCD cables, and one with the back panel plastics that needs to be replaced. Luckily, we had enough capacity to cover for summer school. Total estimated unreported cost of parts: **$738.** We expect to find other broken Chromebooks as the summer moves forward.

Approximate 22/23 SY cost of maintaining the current Chromebook fleet at the **Arace campus $11,379**



CAMS Cart 13 broken charging cables



CAMS Cart 12 back door; Two cages have broken plastic tabs.

Parts used:
10 non-repairable Chromebooks $221ea = **$2,210**
75 USB-C chargers $40ea = **$3,000**
79 11 inch LCDs $25ea = **$1,896**
34 G8 back panels L89771-001 $40ea = **$1,360**
10 G8 Keyboards $45ea = **$450**
6 Samsung keyboards $70ea = **$420**
2 Samsung batteries $50ea = **$100**
4 G8 track pads. L89789-001 $30ea = **$120**
10 G8 Bezels L89773-001 $30ea = **$300**
10 trim covers L89769-001 $20ea = **$200**
13 Hinge sets L89768-001 $20ea = **$260**
25 LCD cables L89775-001 $13ea = **$325**

Global Experience Magnet School reported 58 incidents to IT.

GEMS uses a full take home 1:1 model with a few carts available in the building for charging and spare unit storage. The number of incidents does not reflect the amount of equipment worked on as many are placed onto a single work order making it not possible to extract the information. After BHS and Arace, GEMS has the next highest equipment repair costs. When student Dell laptops fail they are replaced with Chromebooks. The broken Dells are later cannibalized to fix other Dells when possible.

Approximate 22/23 SY cost of maintaining the current Chromebook fleet at GEMS **$4,030**

Parts used:
10 Dell 3190 with shattered touch screens. Replacement cost new Chromebook = $189ea + Google Mgmt Lic $32ea Total $221ea = **$2,210**
1 Dell liquid spilled beyond repair = $221ea = **$221**
50 G8 LCD 11 inch display replaced. $25ea = **$1,250**
3 G8 Keyboards $45ea = **$135**
2 G8 Trackpads $10ea = **$20**
2 Dell 3190 keyboard $17ea = **$34**
10 G8 trim covers $8ea = $80
2 G8 LCD back panels $40ea = **$80**

Laurel Elementary School reported 71 incidents to IT.

Laurel utilizes a cart centric model with few, if any student Chromebooks leaving the building. We are seeing problems with this model at this school: very visible problems are not being reported but are left to be discovered by IT at the end of the school year. Anticipating this, after the last day of school, the Laurel carts were quickly inventoried and reviewed for problems before summer school. We found 38 unreported broken Chromebooks in carts at the end of school. Of the unreported damages, 34 Acer Chromebooks were missing keycaps, and 12 had damaged keyboards, some with glue spilled or poured into the keyboard, 2 had broken hinges and 3 had cracked LCD's. Estimate repair cost for unreported problems: **$1,702**

Approximate 2022-23 SY cost of maintaining the current Chromebook fleet at the **Laurel $2,333**

Parts used:
13 Acer cb311-911 keyboard and palm rest $37ea = **$481**
6 11 inch LCD $25ea = **$150**

Metacomet Elementary School reported 35 Incidents to IT

Metacomet utilizes a cart centric model with few, if any student Chromebooks leaving the building. The Metacomet carts were reviewed at the end of the school year and few problems were discovered.

Approximate 2022-23 SY cost of maintaining the current Chromebook fleet at the **Metacomet $325**

Parts used:
5 11 inch LCD Panel $25ea = **$125**
2 G8 Keyboards $45ea = **$90**
1 G8 lcd bezel $30ea = **$30**
2 G8 back panels $40ea = **$80**

Wintonbury Early Childhood Magnet School

Wintonbury does not hand out equipment to students and has no student broken or lost equipment to report.

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