

## Tech Budget Recommendations

A number of factors had to be considered in developing this Technology Budget

We had been used to technological devices becoming more powerful and dropping in price for years. Vendors have offered software subscriptions for a wide variety of products for free in order to build their base of users.

Now, due to the current pandemic, the demand for portable devices and software subscriptions has increased dramatically worldwide. Based on the economic principle of supply & demand we can expect that there will be upward pressure on prices for these items, and this has, indeed, been the case.

- The cost of PC laptops and Chromebooks has risen significantly where they are available.
- Vendors of software have tended to raise prices ranging from 5%-20%.

Some years ago our district invested significant dollars in purchases of network infrastructure, computers, Chromebooks, Interactive White Boards and projectors, printers, etc. However, for the past 4-5 years there has been limited replacement of these purchases.

- The Meraki products that compose our network appliances (gateways/firewalls, switches, wireless access points) are reaching their end of life and need to be replaced very soon.
- In a number of cases teacher laptops are 6-8 years old. Battery life decreases over time as does performance.
- Student Chromebooks haven't been replaced, at least in a systematic way. This has resulted in all needing replacement soon - partly due to the nature of technology getting out of date all-too-fast, partly because battery life becomes limited, and partly due to the fact that these devices also have end-of-support dates from the vendors.
- Interactive White Boards ("Promethean Boards") and many projectors have aged to the point of not working properly/failing and need to be replaced.

There are two general methods employed to keep equipment up-to-date: replacement cycles where about 20% of devices are replaced each year and leasing, where everything in a category is purchased at once and then the cost spread evenly over a period of years.

Laptops are an example of a type of device where it makes sense to use a replacement cycle because some of our devices are already up-to-date. Replacing those along with old devices isn't fiscally responsible and leasing to update just the older devices leads to the problem of what to replace when down the road.

Network appliances (firewalls, switches, wireless access points) are an example of a place where using a lease to replace all at once is the best way to go. Because all of these devices need to be configured to work together, replacing a portion each year leads to incompatibilities.

My recommendation for replacement:

**Network Infrastructure:**

- replace with 5-6 year lease, then replace all at the end of the lease

**Chromebooks, Servers, Misc:**

- HS: Each year purchase new for grade 9 and students keep them until they graduate. Allow students to purchase at a low price when they graduate. For those not purchased, assign them to paras and use as spares in case of devices needing repair.
- MS: For years 1-3 purchase new for grade 6. In the 4th year use the money to replace servers. (We don't use servers all that much anymore so that cost isn't too high).
- ES: Because of the poor condition of the mixture of devices used by 5th grade students this year we replaced those. I recommend continuing this practice and moving the previous year's devices down a grade each year. Assuming that we get past the CoVid situation where all students are back to in-person learning the elementary Chromebooks don't travel home with students so there is less damage. They would be able to be used for more years than those at WLC. That means that for a couple of years after the current devices are replaced we could use the funds for something else as noted in the MS section above.
- Primary: iPads are generally considered a more appropriate device than a Chromebook for younger students. The ones that we have are quite old so replacement needs to be on an accelerated basis. Once we get up-to-date the devices are quite consistent regardless of model, so replacement by one classroom per year would probably work.

**Laptops:**

- Replacement of 15-20% of these teacher devices each year should be planned for. Keeping devices beyond 6 years leads to problems -- a 5 year cycle would be best, but 6 could be used.

**Interactive Whiteboards/Projectors:**

- Each classroom has some kind of device for presentation to groups of students. As with other tech, it's best not to plan on a life cycle of more than 5-6 years, so we should replace 15-20% each year.

**Copiers and Printers:**

- These are already on a 5 year lease cycle, so the cost each year is known. I would recommend that we replace all with a new lease at the end of that period of time.

In my budget proposal I have included money for an estimate of the cost of replacing ½ of the network infrastructure. As I mentioned to you in my last report to the School Board, we must do this in or before the summer of 2023. If we choose to go with my recommendation of replacing all in 2023 based on a lease then we will be able to reduce the costs in this and next year's budget. The tradeoff, of course, is that there is interest to pay - but rates at this time are favorable and it provides a known, consistent budget cost from year to year.