Delivery Report for SCLS Board of Trustees
February, 2021
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Delivery and COVID-19:

Volume:

Volume for delivery remains stable through the holidays. Further analysis of volume trends will continue. We have had some local Madison Public Library routes show significant loads on Mondays returning to the facility. If these loads continue to show robust volume, we will look to employ some strategies to space out the volume to safely handle the workload of our fleet.

Automated Material Handling Evaluation:

On February 19, Corey and Vicki Teal-Loveley visited Racine Public Library to observe the use of their recently installed Lyngsoe sorting system. The sorter installed there has the capability to automatically sort about 1300 pieces per hour. This is a very good pace compared to our hand sorting done by a single person (where we range from about 500 to 800, depending on the staff member).

The numbers for that single person are pretty clear. However, that would not put much of a dent in our occasional 1,110 to 1,300 daily bin totals we observed pre-pandemic. For achieving our daily workload under those conditions, we had the advantage of putting numerous staff members on the floor at the tail end of the day. For automated sorting, there are two disadvantages to production:

- Induction: The system needs to be fed by unloading materials one-by-one onto the scanning platform. A single point of induction is too small to handle our previous (and current) volumes. It might take a 24-hour cycle of pretty continuous operation to achieve. Staff members also need to manage the end points (the dedicated destinations) of the sortation. Those staff members need to straighten and remove full bins or carts to staging. For successful handling of our workload, we would need multiple induction points.
- Induction productivity: For each additional induction point, the overall productivity for each point added ***decreases.*** The decrease in production is due to shared conveyor space. As each induction point introduces a book or piece of media, it has to share the same pathways as materials on other induction points much like a network of streets or highways with traffic. An induction point may have a slight delay to coordinate the introduction of a new piece. It is very much like the meters that you see on busy highway entrance ramps. Ultimately, during peak use, the overall capacity of the system does increase from 1300 pieces, it does not achieve that figure for each of the additional induction.

We do not believe at this time that we can see an improvement in production that would justify the significant cost of such a system. We may be able to approach or match production at best. Further study is need to see where this would fall. Ultimately, we would have to extend our sorting hours to accommodate full usage of the system from our current 8-10 hour sorting blocks to something like 14-16 hours.

The improvements on the Delivery Facility side of our process would be observed in improved accuracy and possibly safety.

Accuracy would no doubt improve. To examine this, we will be auditing our current error rate. For sorting error, the interruption is not insignificant. Each time a book goes to the wrong destination, it has to be handled and returned by the library to our location and re-sorted properly. Effectively, it triples the transit time at minimum. In other applications, human error like a mis-sort can account for as much as 5% of all production. I don't believe were are that high, but we do need to audit to be sure we can calculate the impact and improvement.

For safety, the system can be configured to strategically limit the number of lifts and repetitive motion techniques we use now. Doing so could reduce both dynamic and chronic injury incidences. Again, evaluating how many lifts we are doing now needs to be evaluated against what a new sorting configuration could yield. We will examine that as well.

The most significant efficiencies may be garnered by our member libraries at their locations. If we can speed up the processing of materials for incoming and outgoing materials at libraries, they may be able to significantly cut the time staff spends on that processing. They can then determine more value-added tasks related to patron experience to transition valuable staff resources to.

To evaluate those improvements, we have decided to convene a joint workgroup of interested members made up of primarily our current Delivery and ILS Committees. That roster will be filled out over the next few weeks.