Okanagan Engineering Competition: Engineering Consulting
YLW Covid-19 Health Safety Proposal

The Kelowna City Council adopted a "Master Plan" that lists their plan for expansion in 2016. With the unexpected occurrence of a global pandemic, the program needs amendments to provide passengers and employees safety procedures.

Problem Background:

The unprecedented rate of the Coronavirus virus transmission took the world by surprise, leading many industries and businesses to shut down. Due to heavy travel restrictions and the suspension of flights to stop the spread of the virus, the travel industry and airports have suffered a decline in total revenue. In 2016, when the Kelowna City Council adopted the "Master Plan 2045" for the Kelowna International Airport expansion, it failed to plan for pandemics or health crises. YLW expects over 3.5 million passengers by 2045, increasing 100,000 passengers per year since 2016[1]. At this rate of incoming and outgoing passengers, the risk of coming in contact with air-borne pathogens carrying the deadly virus is exceptionally high. Hence, a concrete plan to combat against Covid-19 or any future health crisis is needed.

Our Response:

We address the proposed terminal expansion project described in the "Master Plan 2045" as most interactions occur at the terminal.

Goal: Limit the physical interactions of passengers and employees at terminals.

> *Strategy 1:* Decrease the number of people allowed to enter the terminal at a time. Passengers must enter the building only within a given window of time to decrease traffic inside the airport, ensuring that passengers check-in online and do not arrive at random times. Any checked baggage will be sent in using external machines, reducing the usage of check-in counters.
>
> *Strategy 2:* Create one-way traffic from the entrance to the departure gates and arrival gates to luggage pickup and exit, maintaining a minimum 2 feet distance between passengers when in lines and ensuring one individual/family at a time in security and limiting the number of people in stores around the terminal.

Goal: Prevent the risk of virus transmitting when in contact with passengers.

> *Strategy:* Ensuring each staff member wears properly fitted masks, and that security at each entrance ensures anyone entering the building is wearing a mask. Plexiglass covers are attached to every counter that passengers and staff contact each other, such as check-in counters, security checkpoints, and counters in front of gates.

Goal: Extra procedures to ensure total revenue generated

> *Strategy 1*: Testing centers/ Proof of Vaccination/ Symptoms checklist (Depending on what stage the treatment process is)

Strategy 2: Fast-tracked check-in lanes and security with proof of vaccination/negative test results.

Goal: Train employees on Safe Work Procedures laid out by the province.

Strategy 1: Create an interactive video for the employees with embedded quizzes to ensure their acknowledgment of the procedures and provide a safety handbook.

Strategy 2: Provide mandatory daily self-assessments for staff to reduce the possibility of transmitting viruses.

Resources Required:
A. Contract with an IT company to set up online videos/quizzes for employees and a website/app/database to give passengers entrance time windows.
B. Contract with a construction company to rearrange the terminal for one way traffic.
C. Contract with health professionals for testing centers, and verify proof of vaccinations.
D. Increased Security personnel at entrances.

Overviewed Schedule:
The forecast for this project goes side by side with the expansion of the terminals. Therefore, it is being renovated between 2016 - 2025 [2]. However, the training of staff and security and starting the strategy of having a window of passengers' arrival could be implemented by Summer 2021.

Summary of the expected results:
These strategies will help us contain the risk of transmission of any future viruses. By working side by side during the expansion project, the designs can be amended to create a safer environment for both the passengers and the staff. The implementation of new technology for passenger check-in times can ensure limiting any physical interactions within the terminal. With these safety measures intact, the airport will not have to shut down during another pandemic decreasing the risks of losing revenue. Due to the airport now having a windowed arrival time, we reduce traffic jams at the airport, reducing emissions from idle cars and making the airport more environmentally friendly.

Appendices:

[1] 2016, *Kelowna International Airport 2045 Volume 1- Report, Page iv,* YLW Kelowna, https://ylw.kelowna.ca/sites/files/3/docs/masterplan/ylw_2045_master_plan_volume_1_final_0.pdf

[2] 2016, *Kelowna International Airport 2045 Volume 1- Report, Page 145,* YLW Kelowna, https://ylw.kelowna.ca/sites/files/3/docs/masterplan/ylw_2045_master_plan_volume_1_final_0.pdf