

Harvard Business School

Entrepreneurship

MIT

April 25, 2018

4:00 –

The report provides a table of direct comparison to urban background. Dr. George briefly discussed the limitations of the monitoring.

Dr. Gall presented the monitoring results for the SW corner closest to I-5 and the east side of the building along Flint Street (see report) Finding #1: There is a gradient of traffic-related pollutants that decreases as a function of distance away from I-5, approaching background levels about 300-400 feet from the freeway Finding #2: Air sampled on the SW side (freeway side) of Tubman Middle School is heavily impacted by freeway emissions. Air sampled on the Flint Ave. side is also impacted by freeway emissions but at lesser extent This gradient should be taken into consideration when locating the intake vent for the new HVAC system Finding #3: Many air pollutants measured at Tubman are elevated compared to Portland urban background site (DE SW Lafayette).

Recommendation #1 : Student outdoor activities be limited at HTMS, especially during high traffic periods.

Recommendation #2 : The HVAC system be designed such that outdoor ventilation air intakes are sited as far from I-5 as possible.

Air cleaning systems at Tubman should include a high efficiency particulate filter, high MERV or HEPA filter and sorbent media. MERV 16 combined with 24" activated carbon provide the capability to remove 95% of particulates and many organic air toxins. Finding #4: Air pollutants of concern in HVAC outdoor ventilation air can be reduced to levels substantially below urban background and levels of health concern.

Recommendation #3 : The HVAC system be designed to include at least MERV 16 filtration and dedicated sorbent beds capable of maintaining recommended media contact times for gas phase pollutant removal.

Infiltration of outdoor air can be a second pathway for air to enter a building. This is untreated outdoor air and is controlled by the pressure differential between the air pressure inside the building and the outside air pressure. This untreated air can be controlled by weatherizing the building and maintaining a slight positive pressure inside the building.

Question: Anthony Barnack Cost of weatherization and positive pressure.

Answer: Steve Simonson Positive pressure simple and inexpensive.

Recommendation #4 : The building be evaluated/commissioned for HVAC balancing and building airtightness to minimize infiltration, especially along those portions of the building facing I-5.

Recommendation #5: The efficacy of the air cleaning system be monitored periodically for breakthrough of gas phase compounds and confirmation of removal efficiency of particulate matter as part of an air quality management plan for HTMS.

There was a brief presentation on a literature search regarding reducing the contact levels in outdoor air. Finding #5: A review of the published literature suggests that , designed properly, incorporating vegetation and/or sound barriers near traffic exposed areas can reduce concentration of air pollutants 150%.

Dr. Cal presented an update of the status of development orders of the topography and

