PLACEMENT OF COPPER IN TRANSLINK SERVICES IN VANCOUVER

Prepared for the Office of TransLink's Safety & Emergency Management Department

Prepared by Izabel Lopez, ENGL 301 Student University of British Columbia

ENGL 301 Instructor: Dr Erika Paterson July 30, 2022

TABLE OF CONTENTS

LETTER OF TRANSMISSION 3
ABSTRACT —
Introduction —5
Background of transit to UBC using Translink services
Before COVID
During COVID
The description of the current practice of sanitation in Translink services
Background of Copper and its properties
Purpose of Report
Description of the primary and secondary data sources
Scope of Inquiry
Data Section —7
Sources of transmitting Viruses through Touch in Public Transit
Studies on Copper
Survey with UBC commuters
Limitations of Studies
Limitations of Survey
Conclusion —
Summary of findings
Recommendations

Letter of Transmission

[work in progress]

Abstract

[work in progress]

Introduction

- Background of Translink Services
 - Before COVID
 - o During COVID

According to the UBC Vancouver Transportation Status Report Fall 2019, 54% of all trips to and from the campus were made by public transit. While students and staff take public transit to UBC, they could run a higher risk of contracting COVID-19 than those who take a private vehicle or live on campus. If the commuter students and staff contract COVID-19, they could risk spreading the virus to the household members who live with them. Bacteria and viruses are known to live on surfaces for several hours. They spread from actions such as coughing, sneezing, and contact with contaminated surfaces. Those bacteria and viruses could enter the human body through the nose, mouth, eyes, or hands.

- Current Sanitation Process in Translink services
- Copper Background
- Purpose of Report
- Method of Research

Fourteen commuters of University of British Columbia responded to a short survey designed to analyze the process of using public transportation as well as gauge interest in a potential copper solution. An analysis of common places touched in public transportation was performed to determine the feasibility of implementing copper to all Translink services. In addition, journal articles were researched to understand copper's property against viruses and baceria.

Scope of Inquiry

Report

Figure 1:

- Sources of Transmitting Viruses through Touch in Public Transit
- Studies on Copper Against Viruses
- Survey with UBC Commuters

Figure 2:		
Figure 3:		
Figure 4:		

- Figure 4:
 - Limitations of Copper Studies Against Viruses
 - Limitations of Survey

Conclusion

Action is needed to reduce the spread of bacteria and viruses in buses going to UBC after the pandemic. Rigorous sanitation might not be practiced by the time the pandemic ends. Summary of Findings

Recommendations

Appendix

Works Cited

Monge, M., et al. "Inactivation of MS2 Bacteriophage on Copper Film Deployed in High Touch Areas of a Public Transport System." *Letters in Applied Microbiology*, vol. 74, no. 3, 2021, pp. 405–410., https://doi.org/10.1111/lam.13624.

Scully, John R. "The COVID-19 Pandemic, Part 1: Can Antimicrobial Copper-Based Alloys Help Suppress Infectious Transmission of Viruses Originating from Human Contact with High-Touch Surfaces?" *Corrosion*, vol. 76, no. 6, 2020, pp. 523–527., https://doi.org/10.5006/3568.

Sunada, Kayano, et al. "Highly Efficient Antiviral and Antibacterial Activities of Solid-State Cuprous Compounds." *Journal of Hazardous Materials*, vol. 235-236, 2012, pp. 265–270., https://doi.org/10.1016/j.jhazmat.2012.07.052.