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| UTC Project Information | |
| Project Title | Transportation as a Disease Vector – A Modeling Approach |
| University | Texas A&M Transportation Institute |
| Principal Investigator | Josias Zietsman |
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| Funding Source(s) and Amounts Provided (by each agency or organization) | Center for Advancing Research in Transportation Emissions, Energy, and Health (CARTEEH): $25,000 |
| Total Project Cost | $25,000 |
| Agency ID or Contract Number | 69A3551747128 |
| Start and End Dates | March 1, 2020-March 31, 2021 |
| Brief Description of Research Project | Transportation plays a major role in the global spread of disease. It increases the range of movement and the spatial diversity of the infected and exposed individuals, and in the case of public transportation, forces people into prolonged contact in a confined, closed environment. Public transportation vehicles and infrastructure can also facilitate the indirect transmission of pathogens. This study extends traditional epidemiological models by specifically addressing the indirect disease transmission mechanism in the transportation context, by addressing infections that occur when vulnerable people become infected through contact with fomites. A stochastic agent-based modeling approach that models' infections due to local person-to-person and person-to-vehicle interactions was used in this study to assess the potential impact of policies such as vehicle disinfection or social distancing. |
| Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here | Policy and decision makers, scientific researchers, and practitioners are encouraged to use the concepts presented in this study to further explore the role of transportation vehicles and infrastructure as disease vectors and to investigate strategies to limit disease spread in this capacity. |
| Impacts/Benefits of Implementation (actual, not anticipated) | The findings from the project pave the way for future research investigating transportation as a disease vector with the goal of mitigating disease spread through transportation networks. |
| Web Links   * Reports * Project website | <https://www.carteeh.org/wp-content/uploads/2020/06/Project-Brief-Transportation-as-a-Disease-Vector.pdf> |