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| UTC Project Information | |
| Project Title | **Runners air pollution exposure assessment using Low-cost Wearable (LCS) Sensors** |
| University | Texas A&M Transportation Institute |
| Principal Investigator | Dr. Suriya Vallamsundar |
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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): $50,000 |
| Total Project Cost | $50,000 |
| Agency ID or Contract Number | 69A3551747128 |
| Start and End Dates | 01/01/21-02/28/22 |
| Brief Description of Research Project | This study aims at assessing runner’s TRAP exposure to PM2.5, PM10, and NO2 along alternative travel routes in the City of College Station, where Texas A&M University is located. The study attempts to bridge a gap in the literature by employing emerging low-cost sensor technology to implement a community-based air quality monitoring approach and study the relationship between exposure levels to air pollution, and influence of key parameters (traffic, meteorology, and route taken etc.) |
| Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here | In recent years, emerging wearable low-cost sensors have offered the possibility to cover larger samples and provide time-specific contribution based on crowd-sourced data and this has the potential to revolutionize the way air pollution data has been collected and reported. The goal of this study is to use micro/low-cost sensors to implement a community-based air quality monitoring approach to enhance traditional air quality monitoring. Real-time air quality maps that will be developed will help to better understand actual exposure experienced by runners and use the findings for outreach and communication. |
| Impacts/Benefits of Implementation (actual, not anticipated) | The results will provide air pollution data for many end users who are interested in knowing the air quality trends before undertaking any outdoor physical activity, so they can time their activities to avoid periods of high pollutant levels, and steering clear of high-polluted areas. By using low-cost measurement tools, emphasizing training and education, and utilizing an interactive website, study aims to provide the highest air quality data for policy making, outreach and research applications. |
| Web Links   * Reports * Project website |  |