



**ELECTRIC BUS AIR QUALITY MONITORING PLATFORM:
FINDINGS AND IMPLICATIONS**

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In Salt Lake City, a unique air quality remote-sensing system developed and is used for air quality simulations allowing the public to view the harmful effects of regional air quality pollution in the Salt Lake Valley Region. This study focuses on integrating air quality sensors on (Utah Transit Authority) UTA and electrical buses for public transportation throughout the Salt Lake Region stretching as far south as Draper, UT, and as far north as Ogden, UT. These sensors pick up trails of Ozone, NO₂, and CO₂ within our troposphere. The effect these pollutants have on human health is extremely detrimental after a certain period of time, as well as induces respiratory diseases. With the aid of Utah's light rail or TRAX system, it allows for compiling data on the concentration of particulate matter with a diameter of <10 μm (PM₁₀) around the valley region by using The Air Pollution Model. Through the use of the Air Pollution Model, forecasts can be constructed to indicate the result of different health risk patterns and pollution hot spots. Through the vast system of air quality network data, collecting and analyzing the data allows for the inquiry of recent inversions in the air caused by PM_{2.5} levels exceeding the National Ambient Air Quality Standard (NAAQS). In similarity, researchers have conducted a study in which a local news helicopter was in use to provide a sensor platform for spatial-temporal analysis & vertical profiles of pollution concentration in the Salt Lake Valley. In parallel, the air quality data gained by the news helicopter was disseminated from maps, websites, forecasting trends as well as public awareness. (2015-2016). Facing the increasing threat of a risk to public health through pollutants traveling through the air, it is uncertain the future of air quality, despite ensuring to limit the concentration of ozone and gas emissions.