

Optimizing School Transportation in the UAE: Safety, Efficiency, and Environmental Considerations

Junaid Shahid

Manager, Interway Transport and General contract, United Arab Emirates

Abstract

The United Arab Emirates (UAE) has seen a monumental growth in its educational sector, resulting in an increased demand for efficient and safe school transportation systems. Given the unique climatic, demographic, and infrastructural attributes of the UAE, crafting a transportation solution tailored to its specific needs is imperative. This paper examines the current state of school transportation in the UAE, identifying potential areas of improvement, particularly in safety protocols, route efficiency, and environmental impact. By leveraging advanced technologies such as Geographic Information Systems (GIS) for route optimization, Artificial Intelligence (AI) for predictive maintenance of vehicles, and integrating electric buses to reduce carbon emissions, the UAE can pioneer a model school transportation system that ensures the safety of its students, minimizes operational costs, and reduces environmental impact. Preliminary findings suggest that a multi-pronged approach, combining policy revisions, technological adoption, and stakeholder engagement, can lead to a transformative shift in how school transportation is perceived and operationalized in the country.

Keywords: Transportation, School Education, Safe Schools, Advanced Technologies