DIRPA - Deloitte Institute of Research and Practice in Analytics

Asset Title *	AI for Equitable Public Transportation
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Industry Focus *	Demand Forecasting | Universal Service Design | Accessibility
Describe the Problem Statement *	Design an AI system to improve public transportation accessibility in urban areas. The solution will reflect measurable increases in transit accessibility, reduced travel times, and increased transit usage among underserved populations.
What are you trying to Solve for (Business Use Case) *	A Miami-based transit authority has engaged Deloitte to develop a model that predicts public transportation access gaps and emerging equity issues across their service area. The region features diverse demographics and a mix of densely populated urban centers and underserved outlying communities. Residents need up-to-date insights about their access to reliable, affordable, and efficient transit options, especially as neighborhoods change, new developments arise, or service changes occur.
Goals / Metrics *	Level 1: Analyze and clean data such as: demographic/socioeconomic data, transit system usage/operations data, community feedback. Build a model that can predict future transit demands and where service gaps/inequities are likely to occur using regression and time series analysis. Level 2: Design an AI model that simulates the impact of proposed service changes (e.g. wait times, equity outcomes) Level 3: Build a dashboard to visualize local transit access, ridership analytics, alerts & recommendations.
Expected Deliverables *	• Exploratory Data Analysis • Prediction Model Results • Simulation Model Results • Interactive Dashboard
Are Data Sets available? *	Yes
Data / Web Source *	• Demographic Data: US Census Bureau • Transit System Data: General Transit Feed Specification (Schedule & Real Time) • National Accessibility Evaluation Data