

## Publications:

- Application of A Fleet Assignment Model to Intercity Bus Schedule of The Saudi Public Transport Company. Proceedings of 1996 Annual Conference of Canadian Society for Civil Engineering: Transportation Specialty Conference, Volume IIIa.

**Abstract:** The Saudi Public Transport Company (SAPTCO) intercity bus schedule comprises a list of 382 major trips per day to over 250 cities and villages utilizing over 300 buses. SAPTCO operates Mercedes 404 SHD and Mercedes 404 RHL fleet types for the intercity trip. The fleet assignment model developed at American Airlines was adapted and applied to a sample of 40 trips of the intercity bus schedule. The results show that there was a great saving in the total number of needed buses (only a total of 7 buses of two fleet types was needed), therefore, the decision makers at SAPTCO decided to use only Mercedes 404 SHD fleet type. Hence, the fleet assignment model was modified to incorporate only one fleet type and applied to the sample example. Due to the increase in the problem size, the model was decomposed by stations. The result of the application of the decomposed model to the sample example did not change (only seven buses were needed). Finally, the modified decomposed model was applied to the whole schedule. The model results show that only 143 buses of Mercedes 404 SHD were needed to cover the whole schedule. The fleet assignment model is expected to save SAPTCO about 32 million Saudi Riyals (SR) per year.