



Florida Department of Transportation Research Florida Bus Maintenance Staffing Practices BDK85 977-19

The availability of an adequate and well maintained transit bus fleet is a key element for a transit agency's ability to provide high quality, reliable, and safe bus transit service. Key to this effort is the maintenance department, which must have a functional and responsive structure, properly defined staffing plans, and adequate staffing levels. A number of factors in transit operations make it difficult to develop simple guidelines for the organizational structure and staffing levels for maintenance departments. Yet, with fleet maintenance accounting for around 20 percent of a transit agency's operating budget and considering the capital investment in the fleet and its infrastructure, it is critical that the business process of organizing and staffing an agency's bus maintenance department be tailored to that agency according to definable principles.

To address this issue, researchers at the University of South Florida designed a project through which they sought to identify optimal organizational structures, optimal staffing plans, and adequate staffing levels for bus fleet maintenance programs and to determine the critical elements that help define those factors.

Researchers began their work by reviewing the research literature to identify methodologies or findings from previous studies that could serve as a starting point for this project. A few resources were found, but the literature review generally revealed gaps and deficiencies in the existing knowledge of bus maintenance staffing practices.

Researchers contacted more than 100 transit maintenance managers across the country, asking them about decision-making tools and approaches for staffing that they used or knew about. Respondents recognized some general rules for staffing, but more often, they reported system-specific factors used to establish benchmarks and staffing ratios. Factors included: type of operation; vehicle miles; proportion of contracted maintenance activities; down-time/nonwork hours



Maintenance can represent 20 percent of a transit agency's budget.

for mechanics during the workweek; weather/seasonal issues; average fleet age; and preventive maintenance intervals. Fixed-route transit systems in Florida were also contacted, and a number responded with organizational charts, position descriptions, and agency maintenance plans.

Based on the literature and manager/transit system responses, a Web-based survey was developed to collect additional information, e.g., transit agencies' overall structures, maintenance department structures, and staffing patterns. In each area, high variability was found. Budget pressures were significant and often defining.

Researchers created a valuable compilation of guidelines and approaches for maintenance staffing across the U.S. They were able to identify critical inputs that transit agencies should consider when either staffing a new program or evaluating and re-aligning an existing program.