Summary of Final Report, BB-864
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IMPACT OF MAINTENANCE TRAINING ON FLORIDA'S TRANSIT PROVIDERS

PROBLEM STATEMENT

As the transit industry moves into the 21st century, four main issues are emerging in transit maintenance departments: (1) a dramatic increase in new technologies in the vehicles and in the diagnostics and tools used to repair them, (2) a number of new external regulations addressing environmental and access issues, (3) an increase in focus on vehicle safety, and (4) a need to attract new and retain existing talent in the industry. All of these issues point to a need for an increased focus on training in transit maintenance departments.

In response to the growing need for maintenance training, the Florida Department of Transportation (FDOT) developed the Florida Maintenance Training Program (FMTP) in 1990. This innovative program, administered since its inception by the Center for Urban Transportation Research (CUTR), provides maintenance training to all of Florida's public transportation providers as a partial solution to maintenance training needs. The program has been well received and supported by FDOT officials, maintenance managers, maintenance technicians, and public transit general managers. It is credited by transit managers and FDOT officials with reducing maintenance expenses by honing the skills of technicians and increasing the accuracy of repairs and the safety of transit fleets.

While the need for maintenance training has been clearly identified, increased scrutiny of operating expenses by transit administrators has left transit maintenance managers with a two-sided task: (1) obtain funding for internal training activities and (2) simultaneously justify that such an investment is worthwhile and that it increases system efficiency. The same task is at hand for state officials investing in consortium training programs. This two-part task requires that transit maintenance departments and others who support maintenance training have methodologies in place to evaluate and monitor the success of their programs.

OBJECTIVES

Using the FMTP participants as case studies, the research for this report investigates whether statewide training programs and internal training efforts are actually increasing efficiency and reducing maintenance costs among Florida's transit properties. Researchers provide a methodology for public transportation providers and those funding statewide training programs to evaluate and monitor the expenditures for and the benefits of maintenance training. The final report presents the methodology, its development, and the results of its application in the Florida case studies.

FINDINGS AND CONCLUSIONS

While quantitative conclusions are somewhat inconclusive due to the lack of data available, the benefits of maintenance training are clear from the qualitative sources. Both maintenance managers

and technicians responded positively when interviewed and surveyed. Both groups attest to the merits of their internal training efforts and their participation in the FMTP in making maintenance departments more efficient and effective.

The development of the methodology and the final analysis of data from all sources revealed areas for improvement within transit agency maintenance departments. What can clearly be argued as a result of this research process is that there is a tremendous need for record keeping improvements within transit agency maintenance shops. Benefits of making record keeping consistent from transit property to transit property would include rendering communication and cooperation with outside oversight agencies easier.

The following are the recommendations that resulted from this research:

- *Individual transit systems should be encouraged to use maintenance cost tracking software that allows for the separation of costs (labor and parts) by major repair categories.* Many maintenance departments interviewed for this study either did not have the capability to extract maintenance cost information from their cost tracking software or they did not have the tools to do it. In many cases, software was either outdated or it was originally purchased for the transit agency based on the needs of its finance department rather than of its maintenance department.

- *As part of the Florida Maintenance Training Program, maintenance management should receive training on data collection and data management.* Interviews with maintenance managers indicated that training in the areas of data collection and data management would be beneficial for maintenance managers. Most maintenance managers have enormous amounts of information at their fingertips but do not take advantage of it.

- *A survey should be distributed every six months to all managers of technicians who have participated in the FMTP to determine the effects of the training.* There is currently no follow up in the FMTP to determine the benefits of specific training that technicians receive. Therefore, researchers recommend that every six months maintenance managers be sent a survey that would ask them if and how specific training for specific technicians has benefited their organization.

- *Based on qualitative and quantitative analyses in this report, it is evident that the Florida Maintenance Training Program has been a success, and future and continued participation by all Florida public transportation properties should be encouraged.*

BENEFITS

In-house maintenance departments maintain most of the vehicles used by Florida's public transportation providers. Over the last 10 years, finding qualified technicians to service and repair these units has become extremely difficult. Today's equipment employs constantly changing technologies not found on older, less complex vehicles. Transit providers have tried to combat the situation by improving recruitment methods and by seeking outside contract services. Neither strategy has been successful.

Without qualified technicians, operating costs have escalated. This equipment, and the service it provides, is funded by both federal and state (FDOT) dollars. Consequently, FDOT must take proactive steps to address this problem. This study is an attempt to better understand the problem and to seek solutions, in order to avoid continued increases in operating costs.

The Public Transit Maintenance Advisory Council is currently using the final report as a tool. It details the complexities of the problem and has given the council a much-needed resource.

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