

Executive Summary

This project has confirmed that research efforts have to be made regarding the efficient procedure of the operational maintenance and repair. Data available in the operating organizations is still very heterogeneous and with huge differences in scale. At the same time, there is an increasing desire to efficiently use resources and, therefore, to compare with other operating organizations.

Influencing factors, measures and performance indicators

The indicators for the communities could be determined from the measured variables from the questionnaire by means of regression analysis, which have a significant influence on the operational maintenance costs of local roads. These performance indicators formed the bases for the determination of the key performance indicators. Some key performance indicators, such as personnel expenses per unit of time, are obvious and already used by many operating organizations. Due to insufficient available data, other performance indicators still need confirmation to prove they are worth in terms of statements about the cost-efficiency of operations.

Although the data available from the private railway organizations was not sufficient for a regression analysis that yielded statistically meaningful results, it was possible using expert opinion and the data available to propose reasonable performance indicators.

The values of the performance indicators, however, need to be interpreted with care. A large portion of the variation in the values observed between organizations is most likely due to the considerable differences in the ways the data was reported by the different organizations.

Economies of scale

Economies of scale have been detected. The studies are to be continued, particularly in operational areas of activity which may be affected. This information helps in the decision making of strategic objectives and, in consequence, the operational measures.

Performance measurement system and forecast

The developed performance measurement systems allows for the comparison of operating organizations in communities or private railways. The aggregated, higher-level evaluations, present a limitation for any optimization, which can be determined more effectively in a depth analysis. Thus an in-depth investigation was conducted by using the different cost types (personal, material, third-party) for each cost category (e.g., green keeping, winter services, cleaning). At this level, different factors, such as the levels of service, could be considered.

With the approach of adjustment factors, a path has been treaded to make the individual operating organizations comparable. Factors which cannot be influenced by the operator (e.g., weather, altitude) should be unified by means of normalization, so that a comparison on a uniform unit of measurement can be done. In some cases this approach has proven to successful, but a broad application in all sectors of the database was too low and with too many uncertainties to create a meaningful forecast.

Accounting plan – Proposal

The data of the operating organizations in both the communities and the private railways are very heterogeneous and available at different levels of detail. The proposed structure of an accounting plan can help to achieve better comparability by creating a framework to allow for collection of data in a consistent way. This requires a standard solution in the industry, which is likely to cause certain changes in the reporting for some organizations.

Web application Inframonitor

The data of the participating organizations has been stored in a central database. The derived indicators have been displayed in the web application "Inframonitor" and have been made available to the participating organizations.