

5. CONCLUSION

In this study, a PDCA cycle to improve scheduled bus services was constructed beginning with an exploratory process and then progressing toward a fine-tuned solution. After determining the details of the PDCA for making improvements, we verified the importance of using an introductory PDCA cycle before implementing the first PDCA cycle designed to improve the existing routes. In addition, through improvement of an actual scheduled bus service and by implementing an appropriate PDCA cycle, we verify that not only was it possible to raise the level of user satisfaction but it could also maintain and increase the number of bus riders. Furthermore, it was also found that the vicious cycle of “worsening revenue - drop in the level of service - less users - worsening revenue...” can be reversed by using an appropriate PDCA cycle, and that ridership numbers can return to their former state if the supply side (the business operator) makes the necessary improvements. At the same time, the riders’ needs and opinions are very diverse, and we must live with the fact that all of these problems cannot be addressed through one-time improvements. In recent years, measures taken on the demand side have been highlighted by the means of mobility management (MM), but on the supply side (improving the basic service level in the bus industry), there remain many issues to address. However, we have demonstrated the usefulness of one such option (employing the PDCA cycle), which should be continually implemented in order to improve scheduled bus services in Japan.

REFERENCES

- National Transit Database, <http://www.ntdprogram.gov/ntdprogram/> (Accessed on April 5th, 2013)
- Furth, G., Peter. (2000) Data Analysis for Bus Planning and Monitoring, *TCRP Synthesis 34*, Transportation Research Board.
- University of South Florida (2010) A guidebook for Using Automatic Passenger Counter Data for National Transit Database.
- Yajima, M., Sakamoto, K., Kubota, H. (2007) Improving the route bus business model using operation data and marketing, *Proceedings of the Eastern Asia Society for Transportation Studies*, Vol. 6, CD-ROM,