Synchronizing Bus Lines: Application of CABBIE, Pilot Project in Dbus, San Sebastián, Spain

Juan Argote
VIA Analytics,
Chief Analytics Officer,
juan@v-a.io

Carlos F. Daganzo
VIA Analytics,
Chief Scientist and Chairman of the Board,
carlos@v-a.io

Dylan B. Saloner
VIA Analytics,
Chief Executive Officer,
dylan@v-a.io

August, 2013

Executive Summary

This report describes the results obtained in the first pilot project implementation of VIA Analytics' Coordinated Anti Bus Bunching Intelligent Environment (CABBIE).

Contents

List of Figures

List of Tables

Chapter 1

Pilot Project Background

1.1 Dbus

1.2 Lines 5 and 25

1.2.1 Location

1.2.2 Service description

1.2.3 Merge behavior

1.2.4 Initial Service Performance

Schedule adherence

Headway regularity

Regularity index

Chapter 2

Requirements

2.1 Hardware

2.1.1 GPS

2.1.2 OBU Communication

2.1.3 Computation

2.1.4 Display

Focus groups results

Interface description

2.2 Agency

2.2.1 Installation

2.2.2 Driver training

Chapter 3

Capabilities

3.1 CABBIE

3.2 DiagnostiQ

3.3 VIZ

Chapter 4

Results

4.1 System Performance

4.1.1 Reliability Improvements

4.1.2 Effects on Commercial Speed

4.1.3 Social Benefit

4.1.4 Driver Compliance

4.2 Qualitative Reviews

4.2.1 Drivers

4.2.2 Dispatchers

4.2.3 Passengers

Chapter 5

Conclusions

Chapter 6

Ongoing work

Bibliography

[1] Juan Argote and Jean C. Doig. A visual approach to providing bus arrival prediction information. In *Submitted to the Transportation Research Board 93rd Annual Meeting*, Washington, D.C., 2013.