BS ISO 37182:2022

BSI Standards Publication

Smart community infrastructures — Smart transportation for fuel saving and pollution emission reduction in bus transportation services

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National foreword

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A list of organizations represented on this committee can be obtained on request to its committee manager.

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Smart community infrastructures — Smart transportation for fuel efficiency and pollution emission reduction in bus transportation services

Infrastructures urbaines intelligentes — Transport intelligent pour l'efficacité énergétique et la réduction des émissions polluantes dans les services de transport par autobus

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Foreword

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Introduction

Massive energy consumption is one of the unavoidable issues that every modern city faces. To effectively provide transportation services for citizens and city visitors, cities need to continuously consume energy. There are significant benefits if energy consumption is reduced, even if the reduction amount is small at any given time or place.

In transportation operations, small efforts provide significant energy savings. Railway operations have options that can easily save energy. Modifying run curves in a train schedule is a typical example which minimizes energy consumed while running a train. This method has been used in railway operations for a long time.

In bus operations, it does not appear to be as easy to make such savings. Bus transportation services have tried to reduce energy or fuel consumption with experience accumulated over a long time. The best way to achieve fuel efficiency is to continually drive a bus at a speed up to and including the limit designated in each section on its route and to keep running at a constant speed. This method, while dependent on the bus driver's conduct, is still effective. Using telecommunication systems enables fuel efficiency to be achieved more successfully, by processing information on bus driving practices and then transmitting this to other places. These practices have already been shown to result in significant fuel efficiency in bus driving, even if such efforts are made locally or by individual bus drivers. However, as previously mentioned, widespread employment of this method will result in huge energy savings. Additionally, in engine-driven bus operations, there will also be a reduction in GHG, NOx/SOx and particle emissions. Bus transportation is the largest passenger service network, utilizing huge numbers of buses. This effort will contribute to a reduction in air pollutants emitted from these vehicles.

ISO Guide 82 has been taken into account in the development of this document with regards to addressing sustainability issues.

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