



ACCEPTH2 – PUBLIC ACCEPTANCE OF HYDROGEN TRANSPORT TECHNOLOGIES

HOW TO RUN EFFECTIVE HYDROGEN DEMONSTRATION PROJECTS

INTRODUCTION TO HYDROGEN BUS TRIALS

The introduction of hydrogen (H₂) fuelled vehicles is taking place in selected demonstration cities worldwide, with a view to achieving full commercialization. However, the successful introduction of these vehicles will depend not only on technical maturity, but also on public acceptance of these new fuels and technologies.

INTRODUCTION TO ACCEPTH2

AcceptH2 accompanied the CUTE/STEP fuel cell bus demonstration in London, Luxembourg and Perth, and the MAN/BVG hydrogen bus trial in Berlin.

Using survey-based methods for data collection, the AcceptH2 project aims to contribute strongly to a better understanding of the public acceptability of H₂ technologies, and hence enable the introduction of H₂ vehicles to be carried out with a clear strategy towards public acceptance. AcceptH2 is a cross-continental comparative assessment of public knowledge, acceptability and preferences ('willingness to pay') for H₂-fuelled buses, in five cities: Berlin (Germany), London (UK), Luxembourg, Oakland (US) and Perth (Western Australia). By comparing public

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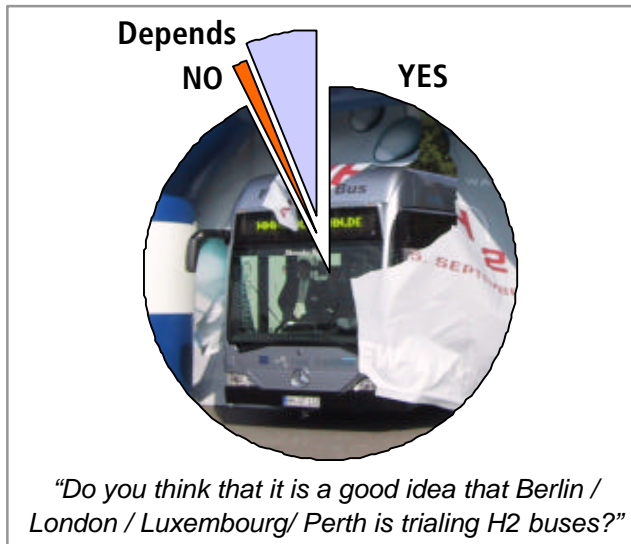


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Design: L-B-Systemtechnik, Ottobrunn, Germany

date or even futuristic features *inside* the bus (such as stylish interior design). Furthermore, the free use of hydrogen buses during the trial in Berlin and Perth drew customers attention.

- Bus drivers should be trained to answer the basic questions regarding the trial, hydrogen, fuel cells.



- Unconditional support for the large-scale introduction of hydrogen buses increased in all cities involved.
- There exists a significant willingness-to-pay (WTP) through additional fare (mean additional WTP 0.30 – 0.40 € adjusted) in order to have hydrogen buses on the street. However, the willingness remained unchanged throughout the trials.
- People who directly experienced a hydrogen bus rated them more positively than conventional buses. However, direct experience had no significant influence on attitudes and willingness-to-pay for the large-scale introduction of hydrogen buses.

LONDON

- AcceptH2 partner(s):
Imperial College, London, UK
- Bus operator: **Transport for London (CUTE)**
- Start of bus operation: **01/2004**



BERLIN

- AcceptH2 partner(s):
L-B-Systemtechnik, Munich, Germany
Universität des Saarlandes, Saarbrücken, Germany
- Bus operator: **BVG, Berlin**
- Start of bus operation: **05/2004**



OAKLAND

- AcceptH2 partner(s):
University of California, Davis, USA
- Bus operator: **AC Transit, Oakland, CA/USA**
- Start of bus operation: **08/2005**



LUXEMBOURG

- AcceptH2 partner(s):
Universität des Saarlandes, Saarbrücken
L-B-Systemtechnik, Munich, Germany
- Bus operator: **Ville de Luxembourg (CUTE)**
- Start of bus operation: **10/2003**



PERTH

- AcceptH2 partner(s):
Murdoch University, Australia
Western Australian Department for Planning and Infrastructure
- Bus operator: **Western Australian Department for Planning and Infrastructure (STEP), Perth**
- Start of bus operation: **08/2004**



awareness, acceptability and preferences associated with hydrogen transport before and after the introduction of demonstration H2 buses in different cities across the world, the project aims to: 1) investigate the factors that determine the effectiveness of H2 bus demonstration projects in shaping public knowledge, perceptions, values and use, and on the basis of these findings, 2) to develop recommendations for maximising the positive influence and uptake of future demonstration and commercial projects. Conclusions from this study are given in the following section.

FINDINGS & RECOMMENDATIONS

- Knowledge about hydrogen & fuel cell vehicles was generally low, except in Berlin, where there have been a number of hydrogen and fuel cell transport demonstration projects over the past 20 years.
- Prior knowledge about hydrogen & fuel cells, and environmental sensibility, were found to be key drivers for unconditional support in most cities. It is thus suggested that direct experience of the technology must be coupled with adequate

information on H2 and information on the environment in order to influence acceptance. This can be done by approaching media and setting up dedicated events for opinion leaders, such as teachers. Children and teenagers should especially be addressed now, as they will come of age when the introduction of hydrogen applications gains full momentum.

- Information about the project, the technology applied and its environmental, societal and economic benefits should be provided in the bus. Posters displayed in the hydrogen buses facilitate a fast low-barrier access to information. Free brochures laid out in the hydrogen bus should complement such information for the interested audience.
- Since the start of the hydrogen bus trials, public awareness about hydrogen-powered vehicles has increased amongst respondents in Luxembourg and Perth only; furthermore, respondents in these cities are most likely to have heard about, or used, the hydrogen buses being trialed in the cities. These results suggest that the hydrogen bus trials have been more effective in raising public awareness in Perth and Luxembourg, compared to Berlin and London. Notably, Luxembourg and Perth are the smallest cities in the study and they were host to the most extensive information campaigns associated with the hydrogen bus trials. This suggests that, in order for demonstration projects to have maximum public impact, they must be large enough to secure adequate exposure, and they must be accompanied by adequate communication efforts.
- Interviews with bus passengers in Berlin revealed that people often fail to notice the dedicated exterior hydrogen bus design. However, people *did* recognise the most up-to-