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Mobility School

Project G3-EFFF Driver School Electromobility

Berlin-Brandenburg International Showcase for Electromobility

www.mobilitätsschule.de und www.mobilitaetsschule.de

Status quo

In classic driving course with conventionally powered vehicles today are generally not taken into account the capabilities of electric vehicles and new mobility services (eg car sharing)
Courses are limited to the training to safely perform conventional vehicles with Otto or Diesel engines and supports learners' desire for subsequent acquisition of a car allowing to cover all individual mobility needs.(keyword "race2travel-car").
The training of driving instructors have not been subject to and tabled through the German National Platform for Electric Mobility (NPE). In Germany, "state-approved driving instructors' are not regarded as a classic vocational training in the traditional sense. The professional degree is based on an independent driving instructor law.(FahrLG) by Authority of the Provincial Road Departments. A representative quote states: "The aim of education is the formation of pre-knowledge and skills, insights and finally a traffic-oriented behavior designed to protect individuals and society ..." (Instructor FahrLG-law) The scope and content of the classical teaching content for technical analysis of electric vehicles in the future are set by said Authorities on the basis of laws and regulations, yet to be drafted.

Project Goals

Because of ecological and social reasons of future traffic patterns, it is desirable in the medium-term establishing multimodal mobility, respectively 'integrated electrified mobility'[i]. Under this objective, the "environmentally friendly" Electromobility is despite or perhaps because of their more limited range a fundamental building block of a futuristic transportation offer.

The following questions will be raised from the perspective of an innovative learner-training:

- How do I motivate driving learners to think in new or different mobility categories to cover their personal mobility needs based on their specific plans to travel and then to act?
- How do I motivate driving learner to satisfy their mobility needs with **all** available transport offers and to waive individual vehicle ownership?
- How can young people be excited for the new mobility?
- Which expertise is needed by instructors and how to get there?
- Mobility of the future, how to describe and what does she looks alike?

The paradigm shift from conventional propulsion techniques towards electrified mobility will be politically guided in the coming years from governments and institutions.
The combination of individual transport, public transport (eg various public transport systems) with cycling, 'on foot' mobility and with electric vehicles lead to new intermodal mobility forms, which are linked - in conjunction with a high energetic efficiency – to acceptable consumption of resources and emission reduction (CO2, particulate matter etc.),in favor of future generations of mankind.

While traditional driver training concentrates first and foremost in the exchange traffic law and safety-related requirements for driving a car, the learning objective multimodal mobility will change the requirements for the driving school of the future significantly. New collaborations by driving schools with each other, but also with public schools and mobility providers can support this development.
While traditional driver theoretical training concentrates first and foremost in teaching traffic law and safety-related requirements for driving a car, the learning objectives of new multimodal mobility, eg integrated mobility, will change the requirements for the driving school of the future significantly. That is why we shaped the word 'Mobility School'.

Methods
In order to answer raised questions and to achieve said goals new innovative training concepts and formats need to be developed covering new Electric mobility technologies, components and mobility services, such as, for example, car-sharing or –pooling or transport mode switching. These issues need to be tested during driving school lessons and electric vehicle training lessons and then, accompanied by TU Berlin ancillary research, studied, analyzed and -given feedback- further developed and improved. These Teaching and learning modules called 'integrated mobility' shall be integrated as complementary part of the new training regulations (converted into law) of the Federal Provinces of Germany, conducted by the Federal Ministry for Transport, Building and Urban Development, if and when the efforts merit the results.

The project partners agreed to make use of the TU Berlin /IVP developed Scenario
"*Essential changes compared to today's mobility have been taken place. A distinct preference for inter- and multimodal mobility determine this scenario. The role of an own car declined. Individual mobility is still highly valued – but is mostly performed as multi- und intermodal mobility. Small and very small electric cars play a prominent role*."[1]

Implementation
The Berlin Project 'Mobility School' primarily focuses on the development of a futuristic pilot, implemented in a well-established driving school in Berlin City District Friedrichshain-Kreuzberg. Through driving school student analysis and implementation of a new theoretical and practical training method, using new motivation guides, yet to be developed, the "Mobility School" will hosted by 'Verkehr human GmbH, Graefestr. 74 owners and instructors.

International Impact
By intent multimodal mobility will be supported specifically with reference to Electric Mobility and the political efforts of the European Union with regard to 'Mobility School' project in Germanys Capital Berlin.
1. European harmonization and optimization efforts regarding Learner / Instructor Training
2. Increase traffic safety / reduction of traffic fatalities
3. Sustainable transport (reducing emissions such as noise, exhaust gases, etc.)
4. Efficient, integrated and sustainable transport and traffic

Distribution / dissemination
A Project Webpage will serve as communication device for driving school instructors, created as an interactive learning and interaction platform. 'Lessons learned' electric vehicle driver experiences from the

[1] Reference is made to the EVS27 Paper and Lecture: 'Foresight Communication and New Modes of Mobility Building consistent scenarios for achieving moving target Electric Mobility' of Dipl. Soz. Ingo Kollosche, Department of Integrated Transportation Planning (IVP), Berlin Technical University.

theoretical and practical project work of ‘Mobility School’ as well as Scientific results and user experiences from side of instructors, students and fleet car managers will be provided and communicated plus, informative articles, pictures, video and collaboration results will be made available for driving schools interested to participate.

Results

At end of the project, December 2015, practical, proven and scientifically-based learning modules "integrated electric mobility" (curricula)will be publically presented, based on visual aids as well as "best practice" reports and feedback documented from driving instructors, students and fleet car managers", Technical University of Berlin/IVP cooperates with Project partners and will furnish a scientific study to be published, on base of ancillary research provided during Project term.

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[i] BSM, Federal Association of Solar Mobility, Berlin is suggesting the new phrase ‘integrated electrified mobility’ reflecting various means of transport, based on electric drives and systems and meant to allow seamless transport to various destinations by different types of vehicles, tram, trains , etc. but also managed on base of instructions given by customer through new smart devices using Apps and Integrated Transport System (ITS) back-end services.