



TRAFIKVERKET

Electric highway systems

Insights from real-world tries in Sweden

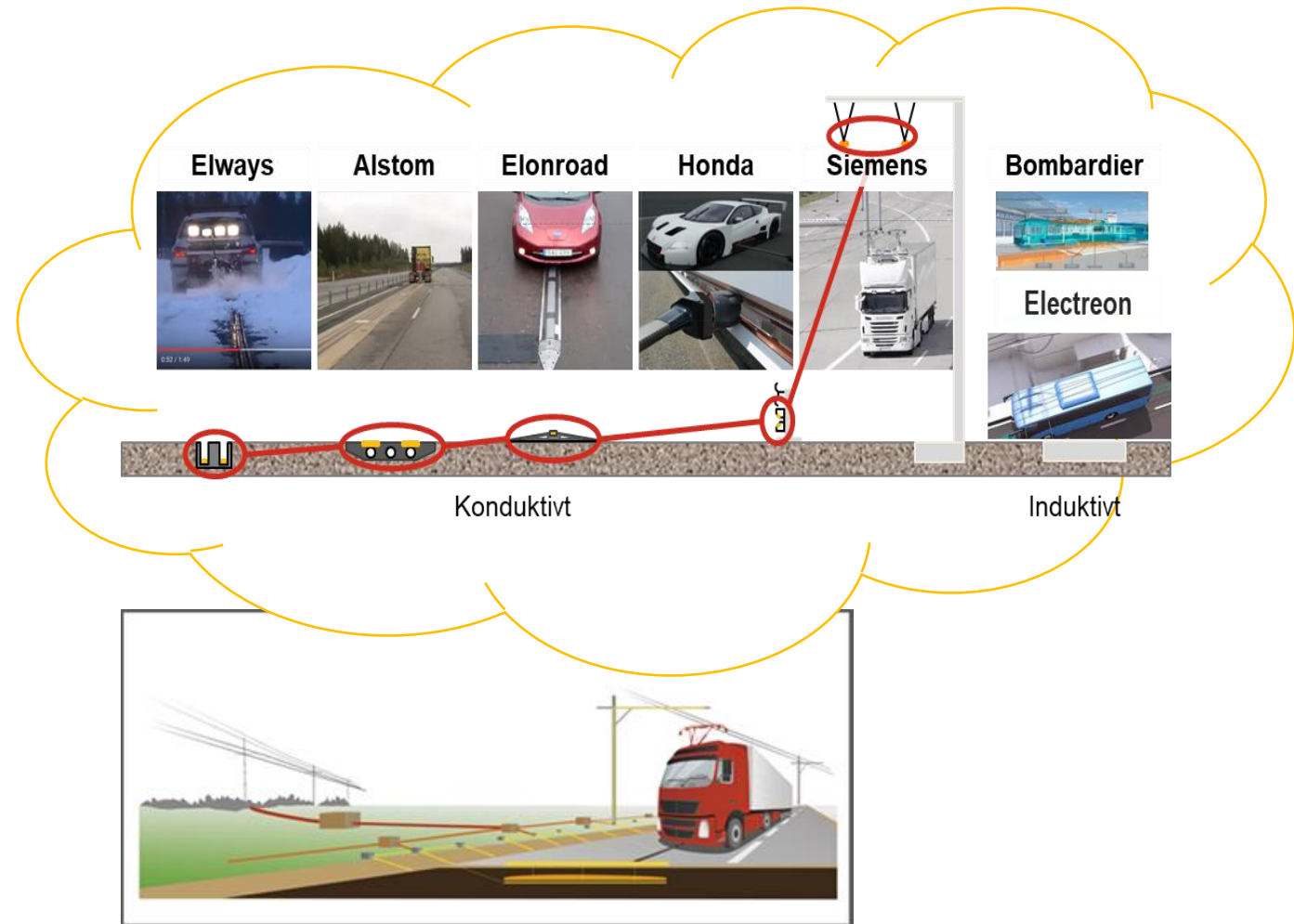
Mapping standards for low- and zero-emission electric heavy duty vehicles

International Transport Forum, Paris, 17-18 February 2020

Helena Andersson, LL.M, Swedish Transport Administration

ERS in Sweden

- Real-world tries
 - Demonstrators for technique
 - First part of large scale deployment planned
- Insights on standardization and regulations



Real-world tries in Sweden

Demonstrators

- Temporary
- No fees or charges

- Infrastructure, vehicle, (safety)

Does the technique work?

First part in a large scale deployment

- Permanent
- Fees and charges

- Business models, fees and charges, metering, enforcement

Does everything else work?

Insights?

What have we learned so far when taking the step from testing the technical solutions grid-to-vehicle to the start of a large scale deployment?

Legal challenges

- What is it?
 1. Powergrid?
 2. Road?
 3. Metering, data collection, enforcement

Power grid and energy use

- Power grids (Directive 2009/72/EC on the electricity market, and national law)
 - Monopoly rights for the incumbent grid owner
 - Commercial affairs
 - Open only to paying clients
 - Energy user's rights
 - All relevant data on consumption
 - Right to chose electricity supplier
- Meters and metering for all existing types of power use

Roads

- Public roads in national law
 - State funded, largely state owned
 - Open for everyone, no road tolls in Sweden
- Road tolling (directive 1999/62/EC for tolls and user charges on HGV, *if* considered to be road infrastructure. Is it? Should it? Is it a grid under directive 2009/72/EC?)

Metering, data collection, enforcement

- Metering for fees and charges
 - Electricity use
 - Grid use?
 - Users pay (Did the vehicle use the grid? Is it allowed to? Did it?)
 - Road use?
 - Users pay (Did the vehicle use the road? Which type of vehicle?)
- Enforcement
 - Contracts agreements? Permits? Unauthorized use? Monitoring and regulatory bodies? Penal law?

Main conclusions

- Is this grid or road?
- Policy descisions needed
- Changes in regulations on power grids and roads accordingly
- Uncertain times until we know where policy is heading!

Thank you for your attention!

Helena Andersson, LL.M, Swedish Transport Administration
helena.l.andersson@trafikverket.se