Green Transport Corridors and Alternative Vehicle Fuels:

A View of a Transportation Economist

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GREEN TRANSPORT CORRIDORS

Green Transport Corridors aim at reducing environmental and climate impact while increasing safety and efficiency. Characteristics of a green transport corridor include:

- Sustainable logistics solutions with documented reductions of environmental and climate impact, high safety, high quality and strong efficiency;
- Integrated logistics concepts with optimal utilization of all transport modes, so called co-modality;
- Harmonized regulations with openness for all actors;
- A concentration of national and international freight traffic on relatively long transport routes;
- Efficient and strategically placed trans-shipment points, as well as an adapted, supportive infrastructure;
- A platform for development and demonstration of innovative logistics solutions, including information systems, collaborative models and technology.

(Swedish Initiative, 2008)

SUSTAINABLE TRANSPORTATION SYSTEM

Sustainable transportation system is one that:

- allows the basic access needs of individuals and societies to be met safely and in a manner consistent with human and ecosystem health, and with equity within and between generations;
- is affordable, operates efficiently, offers choice of transport mode, and supports a vibrant economy
- limits emissions and waste within the planet's ability to absorb them, minimizes consumption of non-renewable resources, limits consumption of renewable resources to the sustainable yield level, reuses and recycles its components, and minimizes the use of land and the production of noise.

GREEN CORRIDORS AND ALTERNATIVE VEHICLE FUELS: Sustainable logistics solution with documented reductions and climate impact

There is direct link between Green Transport Corridors in terms of reduction in

- greenhouse gases (mostly carbon dioxide)
- other pollutants (nitrogen oxides, particular matter, volatile organic compounds)
- noise

and transport de-carbonization via use of electricity and natural gas as alternative to diesel and gasoline fuels.

GREEN CORRIDORS AND ALTERNATIVE VEHICLE FUELS: Integrated logistics concepts with optimal utilization of all transport modes

This is the so-called co-modality - *the efficient use of different modes on their own and in combination which leads to an optimal and sustainable utilization of resources*

Co-modality means the use of various modes of transportation including modes of transportation with alternative fuels or in general optimal traffic mix. The focus is on enabling the choice of environmentally friendly modes and transport technology, while not jeopardizing the need for an efficient transport operation

GREEN CORRIDORS AND ALTERNATIVE VEHICLE FUELS: Harmonized regulations with openness for all actors

Openness for all actors or the so-called equal access of all modes of transportation to green transport corridors implies equal role of vehicles with alternative fuels with respect to the vehicles with traditional fuels which is called in the literature on sustainable transportation systems *social equity*

SYSTEMS VIEW ON VEHICLES WITH ALTERNATIVE FUELS

Systems approach can better emphasize short-run, medium-run and long-run issues associated with introduction of green corridors and the role played by alternative fuels.

In the short-run, development of those vehicles should be synchronized with other goals of green corridors such as productivity, punctuality, safety, security and others.

In the medium-run, development of transportation network via green corridors should become the North American way towards a sustainable transport system with higher level of mobility, with more actors, uniform documentation, alternative fuels and fostering of innovations.

In the long-run, the green transport corridors should contribute considerably to the overall aim of sustainability in all dimensions – economic, environmental and social - through the continuous improvements of performance in all areas of the transport chain including vehicles with alternative fuels

MAJOR CHALLENGES

Use of vehicles with alternative fuels is not a separate issue aimed at immediate reduction in air pollution by transport; it is a part of a bigger philosophy, philosophy of the long-term development of North American transportation system in general: *Towards sustainable transportation through green transportation corridors*.

Implementation of this philosophy requires:

- Political support at all levels
- New engineering solutions
- New business models
- Collaboration amongst engineers, entrepreneurs, industry, governments and academia