

STIMULATING STAKEHOLDERS' COMMITMENT TO SUSTAINABLE DEVELOPMENT GOALS

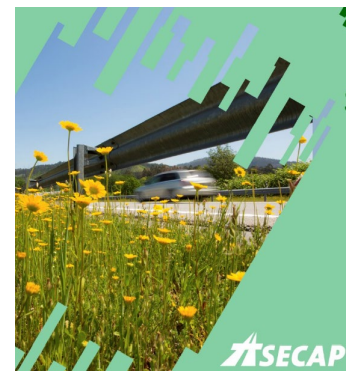


Image: author's composition based on ardencoaching.com and cgedi.ca

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SUSTAINABLE DEVELOPMENT GOALS AND THEIR APPLICATION IN TRANSPORT AND MOBILITY



4 SUM4All objectives

GLOBAL OBJECTIVES

UNIVERSAL ACCESS

Ensure for all equitable access to economic and social opportunities by 2030

EFFICIENCY

Increase the efficiency of transport systems by 2030

SAFETY

Improve safety of mobility across transport modes

GREEN

Shift transport systems to low polluting (GHG/air/noise) and climate resilient path

Four equally important, non-compensatory objectives

ROAD TRANSPORT USUALLY NOT ASSOCIATED WITH SUSTAINABLE MOBILITY

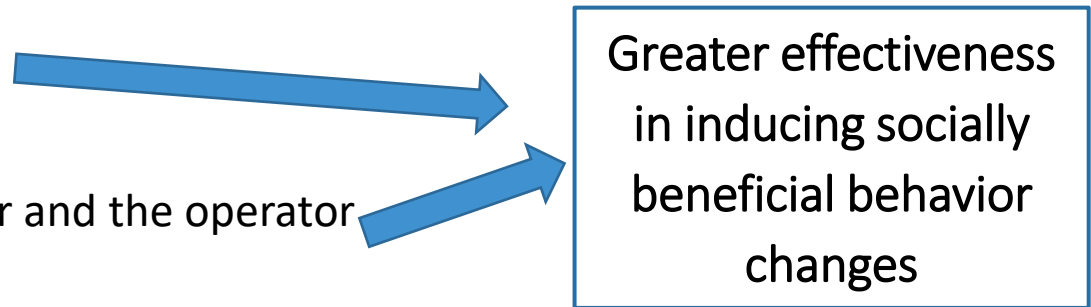
- Road Traffic is lowest performing mode regarding emissions (both pollutants and GHG) and safety
 - Mixed performance on Efficiency
 - Best on freight and passengers in low / medium density areas but associated with (very) serious congestion in urban agglomerations
 - Mostly negative on Universal Equitable Access
 - Inducer of land-use patterns that generate exclusion of those without motorized transport (but best option for territorial coverage)
- Electric vehicles will change situation regarding emissions
 - Assuming high penetration of renewables in power generation
 - But transition will be long and with risks of social turbulence due to difficult universal inclusion



Source: newsonair.com

ADVANTAGE OF TOLLED MOTORWAYS

- For the State, the possibility of accelerating investment in new technologies without the limitations of expenditure and public debt
- Effective guarantee of good maintenance and driver service, based on contracts with performance indicators and penalty clauses
- In tolled motorways, two different situations in the relationship between the operator and the driver:
 - The customer (vehicle) is not anonymous
 - There is a “contract” between the customer and the operator

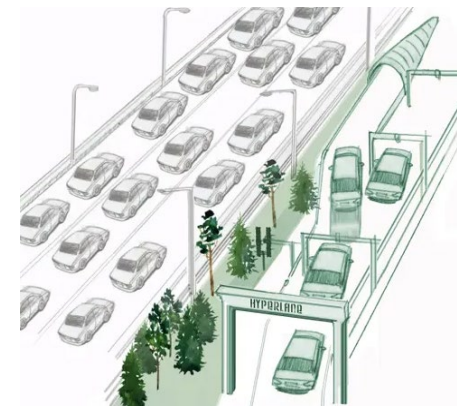


INTELLIGENT TRAFFIC MANAGEMENT – FLUIDITY AND SAFETY

- Communication between vehicles and infrastructure
 - To avoid the limitations of human drivers: To what extent will external control measures of the human-driven vehicle be accepted to ensure safety and fluidity (via commands from the “traffic manager”)?
 - Some equipment already installed (signage, paintings) for digital detection
 - Problem will not arise with driverless (autonomous) vehicles
 - Driverless vehicles introduced only when they are much safer than humans, but there will be new types of “driving errors” not included in testing program
 - Risk of political ricochet?
- Inevitable sharing of highways by **vehicles with different degrees of intelligence / driving automatism**
 - Separate lanes (with loss of capacity and fluidity for the less sophisticated)?
 - Other solutions (what security and fluidity implications)?



Source: The Economist



Source: The Guardian

GREATER URGENCY IN DECARBONIZATION ?

- It should be expected that the urgency of decarbonizing the economy and transport will increase due to
 - most recent IPCC report on climate change and
 - tensions in the oil market as a result of the sanctions on Russia.
- Could toll highways provide significant help (additional leverage)?
 - Addendums to the grantor & concessionaire contracts that include these objectives through bonus/malus clauses
 - Repercussion of these clauses in the relationship with the customer
- In addition to decarbonization incentives, support services for options aligned with decarbonization must be offered
 - Electric vehicle charging stations, complying with European legislation (distances between stations), well dimensioned, and with a reservation system
 - In the future, possibly, dynamic charging option



Source: contracts-for-difference-com



Source: ciriondo.com

TOWARDS CARBON NEUTRALITY

- Very likely, electrification of road vehicles will not occur fast enough to cope with the pledges already made at the EU level (IEA dixit)
 - Changes in mobility patterns required
- First order stakeholders of motorways are their clients / drivers
- Stimulating them towards more sustainable mobility patterns requires
 - Facilitation of alternative forms of mobility (public transport or shared mobility), with lower emissions
 - In large agglomerations, collateral social benefit of reduced congestion / higher efficiency
 - Direct or collateral monetary incentives depending on
 - emissions and
 - the combination of vehicle occupancy and lane saturation
 - Other instruments may also be useful
 - Nudging



Source: itf-oecd.org



Source: medium.com



Source: hatrabbits.com

Gamification



Source: hurix.com

STIMULATING OTHER STAKEHOLDERS TOWARDS SUSTAINABILITY

- Besides travellers, three other types of stakeholders must be considered:
 - **Suppliers of various types:** energy, O&M services, ITS services, catering services, ...
 - **Communities /Regions served**
 - **Indirect suppliers (through the clients):** vehicle OEMs, insurance, financing, car-rental



Source: oecd.org

- All types of stakeholders should be involved in all sustainable mobility dimensions, not just reducing emissions
 - All of them benefit from a healthy business contributing to the SDGs

STIMULATING OTHER STAKEHOLDERS TOWARDS SUSTAINABILITY

- But their possible contributions and motivations will be different and so will be the incentives effective for each group
 - Contracts between concessionaires and direct suppliers could be aligned with the bonus/malus clauses suggested for the concession contracts
 - Pressure on indirect suppliers only possible through the “person-in-the middle”, i.e. the driver
 - Communities / regions may provide essential resources for modal transfers to public transport and shared mobility solutions
- Ultimately, all publicly quoted companies’ share prices are increasingly subject to consideration of how they handle their ESG responsibility
- Partnerships with public entities to facilitate the transition to more sustainable mobility patterns must be sought by motorway concessionaires and, when achieved, get adequate publicity



Source: verdictfoodservice.com

ADAPTATION OF BUSINESS MODELS REQUIRED

- From the traveller perspective, motorways present a favourable framework for shared mobility at two levels:
 - On long trips, by the direct savings it entails
 - On commuting trips, by the density of matching opportunities
- Such modal transfers help reduce emissions and congestion, but they also reduce revenue for the motorway operator
- To induce behaviour changes in consumers, regulation may help but business models (in particular value propositions) must also change
 - enhancing the perception of the value gains
- Similarly, the business models of the suppliers of motorway operators will be affected and must be adjusted
 - Like those of many other businesses in society
- **We cannot expect different outcomes if values and rules stay the same !**



Source: thevalueengineers.nl

CONCLUSIONS

- Motorways must be able to respond competently to the growing demands of society in all domains of sustainable mobility, and of their customers in terms of fluidity.
- Some ICTs will be very valuable to improve fluidity (efficiency) and safety
- Other types of action will be needed to improve clean mobility, in line and in sync with the EU commitments
 - Positive discrimination of EVs
 - In large agglomerations, adoption / cooperation with shared mobility solutions and public transport
- Tolled motorways are in good position to allow introduction of elements stimulating behavioural change of drivers as well as of companies involved in the value chain of motorized mobility
- But in this domain like in virtually all others, adaptation of business models will be necessary

Thank you for your attention !



Image: author's composition based on ardencoaching.com and cgedi.ca

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