UIC Conference “Low carbon mobility: making modal shift desirable”
(Brussels, 13 February 2020)

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During this conference, we will quite extensively use a word which is not that often heard in the transport sector: “frugality”. We will also use a second one, equally unusual, which is “desire”. Indeed, we all know that if we want to reduce the consequences of global warming, which are now quite inevitable, we have to act fast and act now.

Acting fast means that we have to reduce emissions using the technologies that are at hand now. The most secure way to do it is to avoid current emissions by promoting modal shift to the modes that are the least emitting, namely railway, public transport and soft mobilities.

We then have in front of us the necessity to set up a collaborative process to promote frugality and make that modal shift desirable to the end user.

As the well-known 17th Century French theologian Jacques-Benigne Bossuet said “God laughs at men who complain of the consequences whilst cherishing the causes.” In our case, that means that if we continue to cherish a transport model based on individual vehicles, that is consuming both non-renewable resources and contributing to global warming, it will be quite difficult to curb the rise of temperatures on our planet.

Today, sharing together inspiration and solutions, we will try to give shape to a different thinking about modal shift with, I hope, a unique mix of practical and academic experience.

UIC represents the global railway community, encompassing 200 railway networks providing mobility for 7 billion people around the world and of course providing global freight transport. We think, no, we know, that we have to collaborate with all other actors involved in the challenge of achieving climate neutrality in order to provide solutions.

Speaking of railways, UIC is well known for its important role as the technical platform for the world’s railway operators and in developing standards that are produced for the sector by the sector.

Transport in its broadest terms is responsible for 24% of energy related GHG emissions but railway transportation as today it is 4 times less carbon emitting than the other modes and has a really important part to play. Whilst accounting for 8% of global passenger and freight transport activity (in passenger kms & tonne kms), railway represents only 2% of the transport sector emissions and is therefore a particularly efficient and sustainable mode of transport. The railways benefit from a decisive advantage of frugality, which is a cardinal virtue for tackling the effects of climate change:
• **Frugality in energy consumption**: whether you think in terms of energy per capita or globally, railway and public transportation is extremely efficient: passenger rail transport requires less than 1/10th of the energy needed to move an individual by car or by airplane.

• **Frugality in land use**: whether in urban or rural area, the occupation of that might otherwise be used by the public is minimal. The promotion of public transport as well as rail freight will give back to citizens the possibility to enjoy more public space with less noise, pollution, more traffic fluidity and a greater level of safety;

• **Frugality in terms of life cycle**: the lifetime of railway, but also tram vehicles, can be up to 30 years, minimising the need for regular reinvestment in non-renewable resources;

• **Frugality because those systems are scalable**: it is possible to upgrade the level of service by only changing parts of the system and not relying on wholesale, disruptive and expensive system changes.

To achieve this, railways need investment for maintenance of infrastructure, renewal of rolling stock so as to make travel by train attractive, comfortable, secure and reliable to the end users. Railways also need the level-playing field assurance that all modes pay not only for the use of the infrastructure they need, but also for the impacts that they generate (e.g. road pricing, congestion charges, taxes on kerosene, etc).

Modal shift to railway and public transport is the solution, since individual vehicles will not be the solution, even if they become electric.

Humankind will increasingly live in urban areas where mass transit and soft mobility is the solution. Europe has not yet dared to test the current model because of its strong economy. In developing countries however there is recognition that something must be done. Morocco for example is developing high speed rail (system view) as are Turkey and China is already expanding its high-speed network with driverless trains.

All the more reason why we must continue, and with greater agility, to innovate.

It is through innovation that we will create railways as the backbone of future decarbonised mobility worldwide. Improving connectivity has a strong meaning for the railway and for the public transport sector. The requirements for low carbon emission transport are more and more stringent and will drive efficiency improvements in the transport chain.

All this will only be possible if we ensure smooth interfaces between railway and public transport. Both have been working together, sometimes within the same companies for the delivery of mobility services, but so far they don’t consider their networks as having the duty to be interconnected by design.

Solutions should be found through TOD (Transit Oriented Development). Town planning and mass transit must work hand in hand in providing urban areas which are people friendly and provide for maximum accessibility. This will then free up public space for soft mobility: walking, cycling, or simply enjoying the open spaces.

Modal shift should become desirable. Railways should be attractive to the end user and using them become the second nature thing to do.

Ongoing technical developments are creating enablers that will make this vision possible.
- The first enabler is that railways are increasingly thinking and designing their services in the same way that data networks are designed and managed. This is because this data network logic is now part of our daily life and that we have the tools at our disposal to implement it.

- The second enabler is multi-modality relying on 5G technologies. Big data management will make multimodality possible to an extent we cannot imagine now, provided that the technical bodies take up their full responsibilities to implement a 5G data transmission backbone. To this end, UIC is working on the Future Railway Mobile Communication System (FRMCS) that will abolish the boundaries between public transport and railway network.

Those two processes will enable the development of a completely new customer experience, which, when combined with political support and commitment towards a decarbonised transport sector, will draw a clear perspective for change in our collective mindset.

That’s the perspective of this conference. I am convinced that your engagement during the day, the interactions you have with your fellow delegates and the points, for or against what you hear, that you make, will help to draw a solid case for a faster decarbonisation of transport by a savvy – a frugal – use of what we have now at our disposal, or that will to hand in a short period of time.

Thank you.