

Supply chains: Incorporating reliability into policy

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International Transport Forum at the OECD

- ▶ An **inter-governmental organisation** with 54 member countries focussing on transport
- ▶ A **think tank** for global transport policy issues
- ▶ An **annual summit** of Ministers



Key messages

- ❑ Take into account all elements of sustainability**
- ❑ Focusing on reliability can improve sustainability of supply chains**
- ❑ Reliability should be incorporated into transport policy**



Sustainability and transport


❑ Economic viability

- ❑ Efficiency is key in contributing to growth

❑ Social welfare

- ❑ Safe and equitable access to jobs, education, healthcare
- ❑ Impact on cost of goods

❑ Environmental carrying capacity

- ❑ Transport consumes massive amounts of finite resources
 - ❑ Should not surpass key environmental thresholds
> limit opportunities for future generations
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Sustainability and supply chains: challenges

❑ Economic viability

- ❑ Uncertainties (Volatility in oil prices, slack demand)



Global freight volumes suggest continuous uncertainty

USA external trade by sea, total (tonnes)
(% change from pre-crisis peak)

EU27 external trade by sea, total (tonnes)
(% change from pre-crisis peak)



Jul-08

June-12

Jul-08

June-12

Source: International Transport Forum statistics

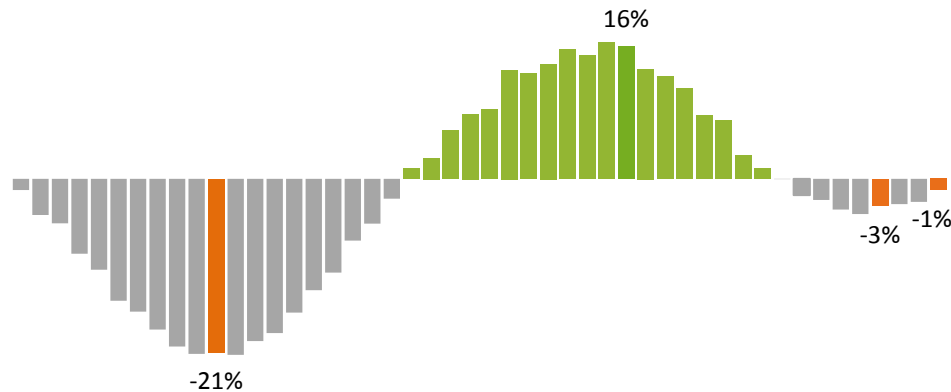


Global air freight as a lead indicator

**USA external trade by air, total (tonnes)
(% change from pre-crisis peak)**



**EU27 external trade by air, total (tonnes)
(% change from pre-crisis peak)**



Jul-08

Jun-12 Jul-08

Jun-12

Source: International Transport Forum statistics



Supply chains and sustainability challenges

Economic viability

- Uncertainties (Volatility in oil prices, slack demand)
- Congestion



Road Congestion

- ❑ Continued dependency on road freight
 - ❑ Options for shifting to other modes limited
- ❑ Infrastructure investments necessary but not sufficient
- ❑ Significant impact on efficiency
- ❑ Unmanaged road capacity no longer an option
 - ❑ Identify & target strategic bottlenecks
 - ❑ Regional planning key in port-hinterland networks
- ❑ Focus on managing networks for reliability, users' needs

Supply Chains and Sustainability Challenges

❑ Economic viability

- ❑ Uncertainties (Volatility in oil prices, slack demand)
- ❑ Congestion

❑ Social welfare

- ❑ Supply chain contribution to cost of goods
- ❑ Impacts on safety



Road safety

- ❑ Around 1.3 million people die on roads every year
 - ❑ 20-50 million injured
- ❑ Truck involvement
 - ❑ 10-25% in OECD countries
 - ❑ Up to 70% in developing economies
- ❑ Multiple causes, including speed, non-respect of traffic laws, over-loading and equipment failure
- ❑ Huge cost for society and impact for well-being

Supply chains and sustainability challenges

❑ Economic viability

- ❑ Uncertainties (Volatility in oil prices, slack demand)
- ❑ Congestion

❑ Social welfare

- ❑ Supply chain contribution to cost of goods
- ❑ Impacts on safety

❑ Environmental carrying capacity

- ❑ Energy use/GHG and air pollution (land and sea)
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Air pollution

- ❑ Transport key contributor to the overall air pollution
- ❑ Control strategies are known but implementation lagging in non-OECD countries
- ❑ Need to address concentration of air pollutants in port cities and port areas



Responses

❑ Regulatory

- ❑ E.g. mode-specific emission and energy efficiency agreements and standards

❑ Reorganization of supply chains

- ❑ Shifts in production composition
- ❑ Relocating production (especially for low value goods where transport component is large)

❑ Operational

- ❑ Slow steaming
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Supply chains are slowing down



“There is this big, ugly thing in the middle of the supply chain slowing down” –Ron Widdows,
CEO Rickmers Holdings

Supply chains are slowing down - impacts

- ❑ Logistics business with inability to deliver goods on time
- ❑ Inventory levels affected – more stocks are held in compensation for uncertainties
- ❑ Companies need to adapt their operations either through the way they operate or building in buffer stocks



Reliability carries a premium



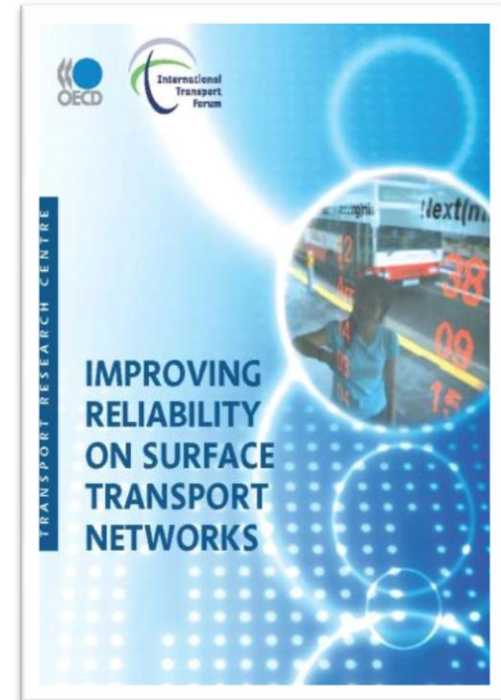
“We like speed but spend most of our time making the supply chain predictable” –Jeff Langenfeld,
VP, International Logistics,
Walmart

Reliability carries an premium

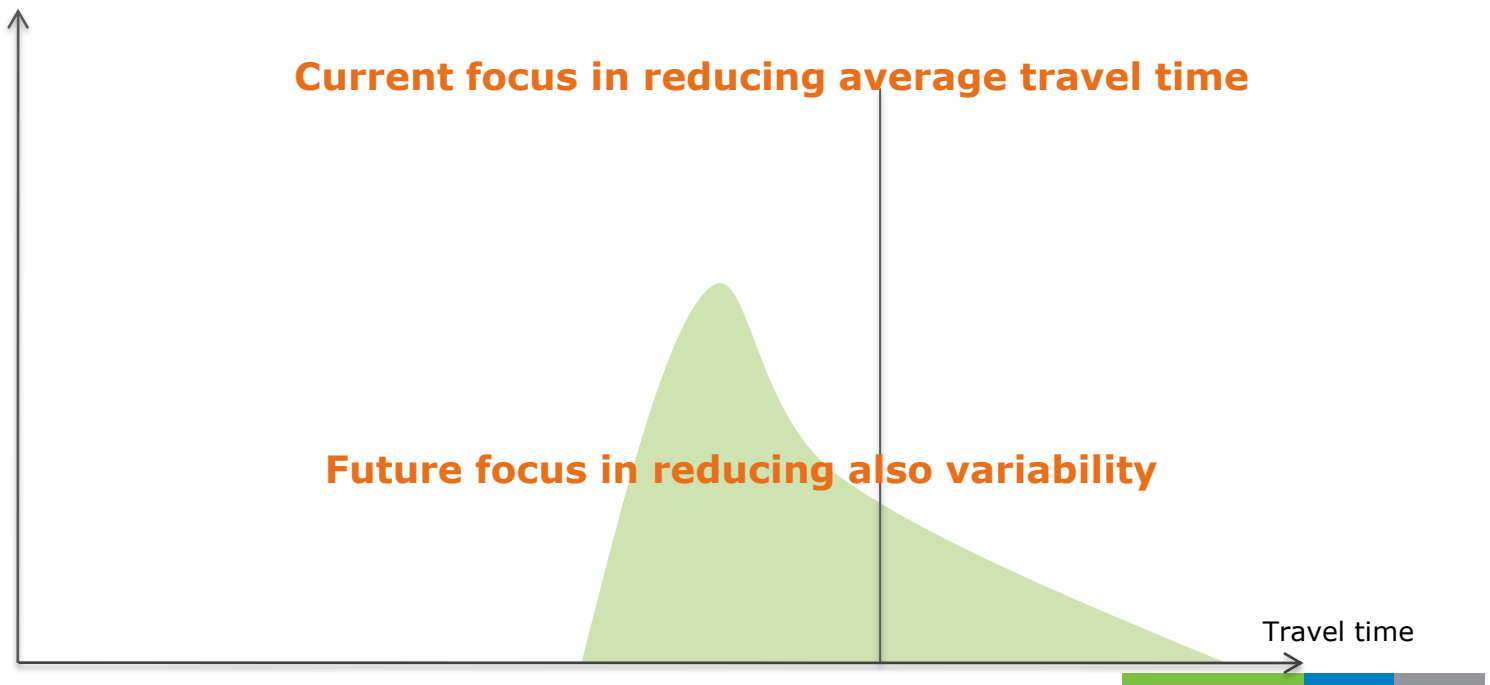
- ❑ Reliability may matter more than speed
 - ❑ Cost of unreliability rival those of congestion

- ❑ Users often face delays at interfaces

- ❑ Reliable but slow can be also greener



Shift in policy focus



Choosing the low-hanging fruit

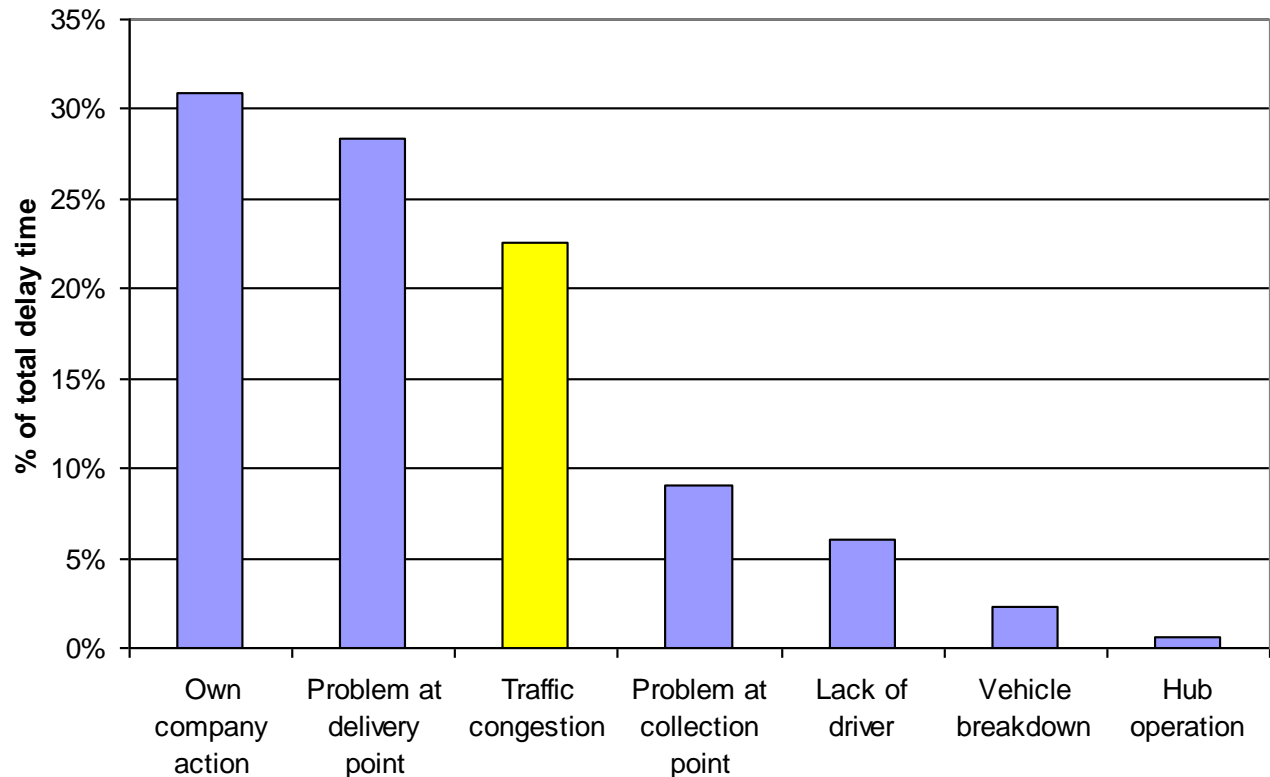
- ❑ A key policy challenge to create **incentive structures** that encourage **cost-effective solutions**

- ❑ Improvements can be delivered by both users and network providers

Transport is a component of process speed

- ❑ Easier to pay someone to move goods faster than to change the procedures within the company

“Own company actions”
the most important
source of delays



PIMP your transport policy

- Provision:** Increase physical capacity either through supplying extra capacity or improving the quality of existing infrastructure



Provision

- ❑ **Physical growth** through new, expanded or upgraded facilities (mostly bottleneck removal)

- ❑ **Higher network standards** can deliver higher reliability
 - ❑ E.g. long-life pavements reducing need for maintenance

- ❑ Providing additional capacity in infrastructure has limited remaining scope in traditional corridors
 - ❑ Time consuming, costly and politically difficult



PIMP your transport policy

- Provision:** Increase physical capacity either through supplying extra capacity or improving the quality of existing infrastructure

- Information:** Informing users enabling them to mitigate the adverse effects of poor predictability



Information

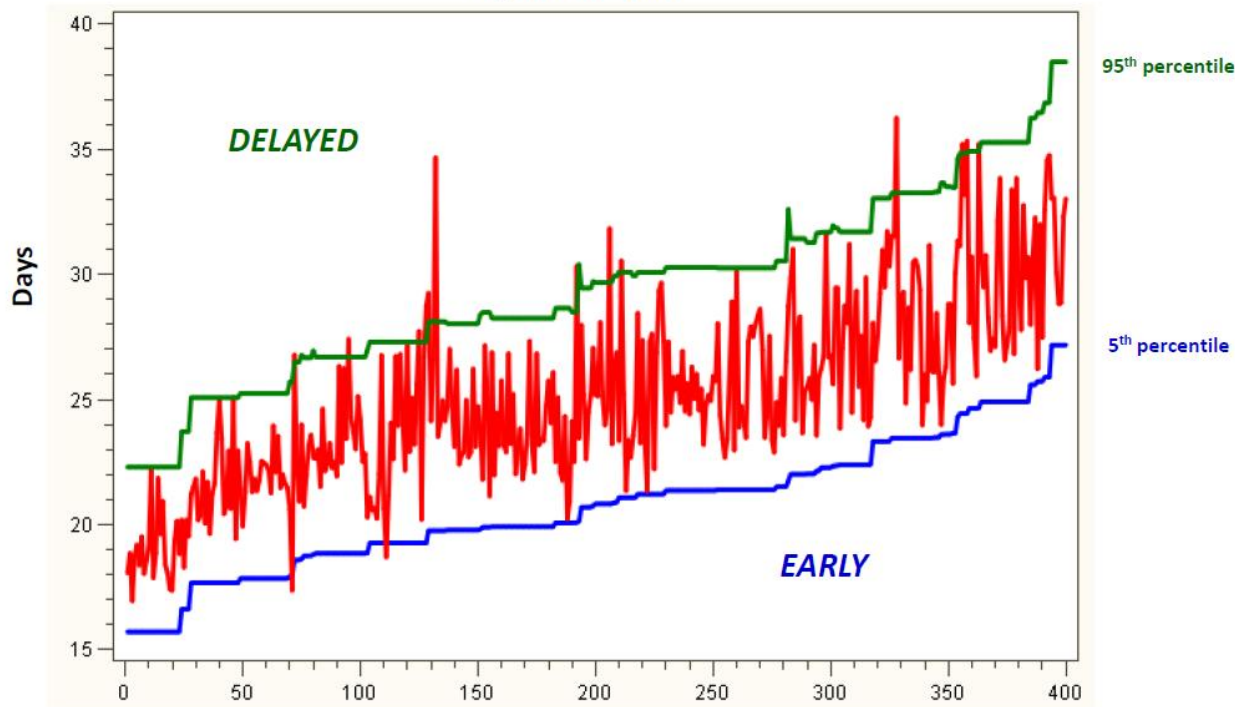
- ❑ Monitoring reliability is a policy signal and needed to inform policy

- ❑ Diverge information is needed for different users
 1. **Government** to design cost effective policies
 2. **Network managers** to enhance service provision
 3. **Users (carriers)** to adapt behaviour accordingly or to mitigate adverse effects of poor reliability
 4. **Logistics managers** handling the total trip not just part of the trip (supply chain)



“Fluidity index” by Transport Canada

Hong Kong to Toronto via PMV
September 2010



Evidence-based information leads to greater **accountability and transparency** in the supply chain and will benefit all gateway users

PIMP your transport policy

- Provision:** Increase physical capacity either through supplying extra capacity or improving the quality of existing infrastructure

- Information:** Informing users enabling them to mitigate the adverse effects of poor reliability

- Manage:** Better management of existing infrastructure



Managing existing infrastructure



“Before building new infrastructure, we need to make sure the existing works as it was meant”

– Catharina Elmsäter-Svärd, Minister of Infrastructure, Sweden

Managing existing infrastructure

- ❑ **Pro-active management**
- ❑ **Active management**

- ❑ Government can have a **facilitating role**
- ❑ **Managing interfaces**
 - ❑ Ports and hinterland connections
 - ❑ Borders
 - ❑ Network providers
 - ❑ Organizational interfaces



PIMP your transport policy

- ❑ **Provision:** Increase physical capacity either through supplying extra capacity or improving the quality of existing infrastructure

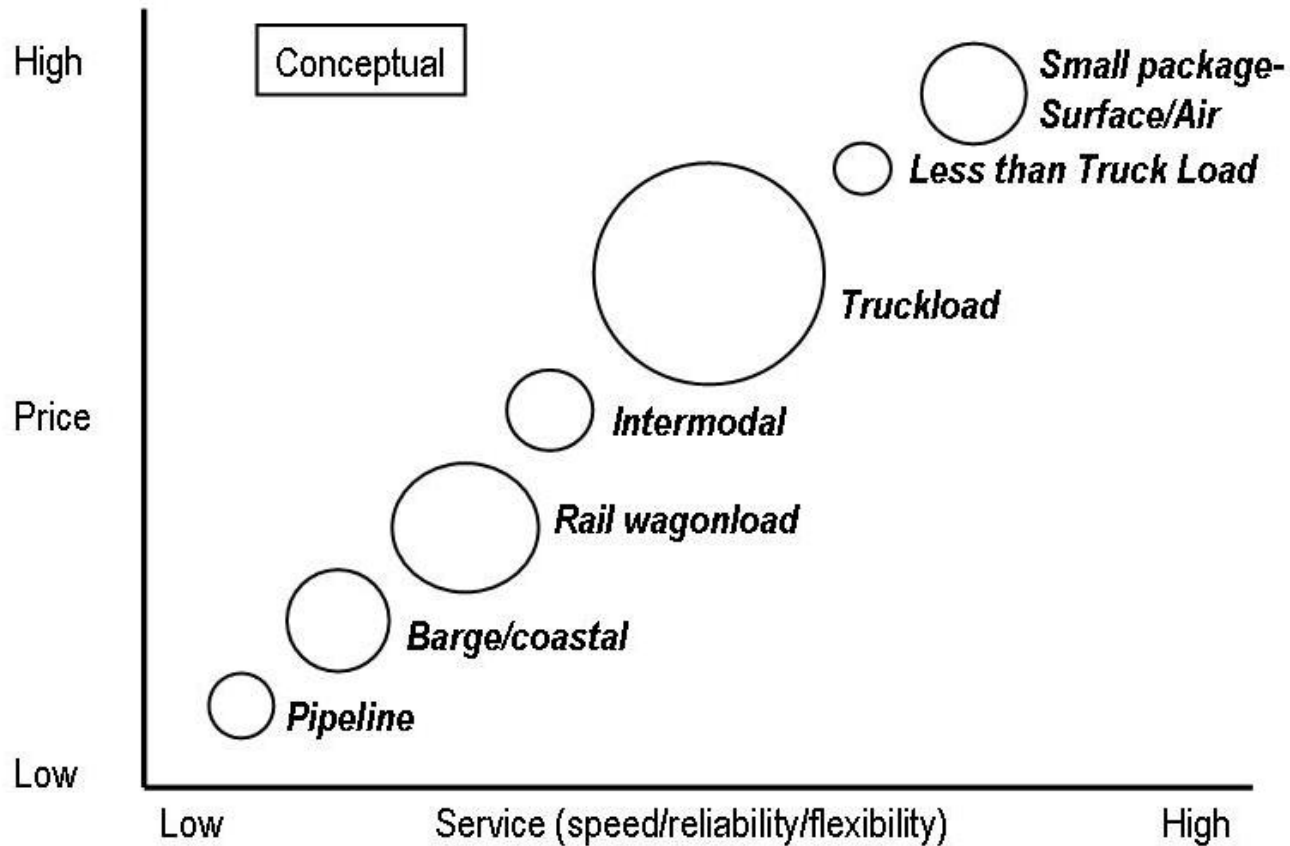
- ❑ **Information:** Informing users enabling them to mitigate the adverse effects of poor reliability

- ❑ **Manage:** Better management of existing infrastructure

- ❑ **Price:** Charging directly for reliability to achieve more efficient levels of reliability



Price-reliability spectrum, with circle size illustrating traffic volume (USA)



Conclusions

- ❑ **Take into account all elements of sustainability**
- ❑ Focusing on **reliability can improve sustainability of supply chains**
 - ❑ Improves efficiency
 - ❑ Reduces congestion, cost of goods and environmental footprint
- ❑ Focus on **interfaces** and better **management**
 - ❑ Governments may have a facilitation role
 - ❑ Enhanced interface coordination and corridor management
- ❑ Provide **information** for all users



Thank you

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