Sustainable Logistics Strategy and Action Plan for Ukraine
Outline of this Presentation

- Overview of Logistics in Ukraine and background to strategy
- Current Challenges and Key Areas for Improvement
- Policy Implications
Efficient logistics are critical to growth when trade accounts for > 100% of GDP.

Location at the crossroads of major transport routes provides a unique opportunity to develop transit services.

The development of the transport sector is an integral part of the Association Agreement between Ukraine and EU.

Transport capacity is underutilized, the available infrastructure and services are substandard, and end users face high logistics costs.

Ukraine ranks 80th (out of 160) in the 2016 Logistics Performance Index.
GOAL OF THE SUSTAINABLE LOGISTICS STRATEGY

The work was initiated in 2016 with financial support from:
- *Korean Green Growth Trust Fund and*
- *Public-Private Investment Advisory Facility (PPIAF),*
both managed by the World Bank

The overall goal of the Strategy is to help Ukraine in:

- realizing Ukraine’s logistics potential;
- enhancing multimodality and interconnectivity;
- maintaining, modernizing, and expanding efficient and energy-efficient logistics and freight transport;
- improving transport/logistics related skills and services; and
- enhancing trade facilitation.
SUSTAINABLE LOGISTICS STRATEGY COMPLEMENTS THE NATIONAL TRANSPORT STRATEGY FOR UKRAINE

Core Logistics

Freight Logistics

Supply chain management

Material flow between companies

Transport markets

Transport flows

Traffic markets

Infrastructure

Sustainable Logistics Strategy

Modal Strategies

Road transport

Air transport

Railways

Maritime

Ports

IWT

Corridors

NTS 2030

WORLD BANK GROUP
SEVERAL WORLD BANK BACKGROUND STUDIES WILL BE MADE AVAILABLE IN EN & UA

Three on Institutional Mechanism in Logistics Policy Making (all in 2017):
   (i) Sustainable Logistics practices; (ii) Greener and More Efficient Logistics in UA; (iii) Transit Transport in UA

Three Supply Chain Analyses (all in 2017):
   (i) Agrologistics; (ii) SCA of metals and mining; (iii) Container Logistics in UA

Two Railway Logistics studies (2016-2017)
   (i) UA rail logistics strategy scoping study; (ii) Railways, IWT and Seaports

A Diagnostic study on Sustainable Road Freight Transport (2017)

Two City-Port Logistics studies (all in 2017):
   (i) Odessa city-port interface; (ii) City-Port Interaction in Odessa

Two Inland Waterways and Ports studies (2017)
   (i) IWT in Ukraine; and (ii) Railways, IWT and Seaports
Strong institutions, effective public sector coordination, and government support at the highest levels required

Logistics involves coordination among many actors providing a wide range of services and subject to multiple legal and regulatory frameworks & institutions

Effective regulation is essential to ensure appropriate competition, administration of transport infrastructure, Customs revenue, safety issues, and supply chain security

Improving logistics involves addressing multiple and often conflicting goals for economics (fiscal policy vs. profitability), social issues (e.g. traffic safety and security) and the environment (emissions)
URGENT NEED TO RENEW UA ROAD FREIGHT FLEET
IMPROVING PROFESSIONALISM, ROAD MAINTENANCE, AND GOVERNMENT Oversight is Key to an Efficient Road Freight Transport

- The market comprises many small firms and the fleet is old:
  - 74% employ < 9 persons; 95% turn over < 1 M€; individuals and own-account share is almost 90%; > 70% of operators are not licensed;
  - 75% of trucks are 10+ years old and < 10 tons; ½ are of RU or UA origin.

- The result is low fuel efficiency, increased pollution, and excessive overloading practices, facilitating illegal activities and tax evasion.

- Corruption is rife and prices low, inhibiting participation by larger and perhaps more professional foreign operators.

- Road freight sector in UA is difficult to monitor and enforce rules with very limited resources and poor inter-agency organization.

- The no. of professionals fell from > 1 million in 2011 to < 850,000 in 2016, in part reflecting emigration to higher-paid jobs abroad.
GOVERNMENT OVERSIGHT IS VITAL TO BUILD UP AN EFFICIENT ROAD FREIGHT TRANSPORT SECTOR

- A controlled introduction of *i*) operator licenses; *ii*) registration and a simple certification process for own-account transport operators; *iii*) more resources committed to inspections; and *iv*) legislation coupled with strengthened enforcement to limit corruption would reduce illegal activities and improve control over the sector.

- This would also meet the terms of the EU Association Agreement.

- Improved data on road transport operators, vehicle fleets and traffic integrated into a comprehensive, on-line database needed quickly.

- The GoU should improve compliance with international road transport conventions and increase access to multilateral and bilateral transport permits; the latter requires carriers’ investments into more modern vehicles, too.
BRINGING UA TRUCK FLEET TO MEET INTERNATIONAL STANDARDS BY 2030

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount (EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative gross investment need</td>
<td>5.9 Billion*</td>
</tr>
<tr>
<td>VAT for imported trucks at 20 %</td>
<td>1.1 Billion**</td>
</tr>
<tr>
<td>Residual value of obsolete fleet</td>
<td>0.5 Billion***</td>
</tr>
<tr>
<td>Reduction in fuel costs</td>
<td>2.4 billion****</td>
</tr>
<tr>
<td>Net financial impact for carriers</td>
<td>3.9 billion*****</td>
</tr>
</tbody>
</table>

**Emissions reduced by:**

<table>
<thead>
<tr>
<th>Emission</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>74%</td>
</tr>
<tr>
<td>CO</td>
<td>61%</td>
</tr>
<tr>
<td>HC</td>
<td>53%</td>
</tr>
<tr>
<td>NO\textsubscript{x}</td>
<td>53%</td>
</tr>
<tr>
<td>CO\textsubscript{2}</td>
<td>28%</td>
</tr>
</tbody>
</table>

*) Interest rate 10 %, 10-year loan, prices for new vehicles
**) This level of VAT would slow down the fleet renewal considerably
***) 90,000 units at 4,500 Euros a piece
****) at constant price for diesel at € 0.7/liter
*****) Compared to vehicle performance in 2017, i.e. 12.1 billion vehicle kilometers
EX. OF FISCAL MEASURES TO SPEED UP FLEET RENEWAL

Renewing the UA truck fleet is an urgent priority, without which the UA logistics sector will soon face enormous problems.

The GoU should facilitate to process by (re)considering the:

- Current 20 percent VAT on imported vehicles
- $\approx$ EUR 200 charge for a technical certificate, and
- $\approx$ EUR 300-400 cost of registration, along with the
- acceptance by Customs of the true and properly documented purchase price of imported vehicles as declared value
- Reasonable derogations from EU financial standing requirements should be found, and applied across the board
GREATER PRIVATE SECTOR PARTICIPATION WOULD INCREASE EFFICIENCY OF THE RAILWAY SECTOR

- Ukrzaliznytsia (UZ) struggles e.g. with aging locomotives and rolling stock, a depreciated infrastructure, and the sharp decline in transit.

- A large share of the investments in freight operations should come from the private sector, underlining the need to introduce decision-making with market-based development and competition such as:
  - contracting out logistics services to shippers,
  - granting track access rights to encourage new private operators, and
  - involvement in the renovation of rolling stock and terminals.

- Better rail and intermodal services would reduce costs and time, and mitigate the adverse effects of excessive road transport, incl. congestion, deterioration of roads, emissions and accidents.
SPEEDING UP PORT OPERATIONS, REDUCING CHARGES, IMPROVING LAND ACCESS AND EASING REGULATIONS INHIBITING SHIPPING WOULD IMPROVE PORT LOGISTICS

- Ukraine’s ports are viewed as below global average, well below the performance by Ukraine’s competitors, and deteriorating over time

- Getting an UA port to the Top 100 in world container shipping by 2030 is technically possible, as only ¼ of port capacity is in use
  - but it will require significant commercial and fiscal efforts as well as regulatory improvements, and higher degree of containerization

- Key steps to speed port operations would be to eliminate capacity/service bottlenecks on Black Sea container and Ro-Ro shipping, achieve faster and less costly turnaround of vessels at ports, and improve spatial planning and land use

- Seaport charges are high; the objective of port pricing should be to minimize the cost of trade to Ukraine rather than to profit the GoU
REVITALIZING IWT* WILL REQUIRE CAREFUL PLANNING AND SIGNIFICANT INVESTMENT

- Volumes along Dnipro now 1/10 of the peak 66 million tons of the 1980s
- Realizing the IWT potential requires substantial private and public sector investments, but also regulatory and institutional changes
- The size of the market and the competitive position of IWT needs to be assessed, and a promotional agency to increase awareness of IWT and to attract clients to be established
- A long-term vision for IWT should be developed, including budget, and an assessment of training needs and provision
- Assessing Ukrvodshlyakh mandate and scope of work is needed to improve IWT management
- Top IWT infrastructure priority is the repair of the locks, followed by installation of navigational aids and works to secure the guaranteed water depth

*) Inland Waterway Transport
INFRASTRUCTURE INVESTMENT, IMPROVED LOGISTICS SERVICES AND LIBERALIZING TRADE TO HELP IN MEETING THE DEMAND FOR TRANSIT

- Transit through UA fell from half of int’l cargo in 2004 to 13 % in 2014, largely due to the reduction of RU traffic, but poor infra quality, high port charges, and service bottlenecks also contributed.

- Developing new transport corridors bypassing Russia and strengthening value adding logistics services are needed to increase transit revenues and ensure access to international markets.

- Greater use of multimodal logistics centers and advanced IT systems, and the use of advanced 3PL/4PL solutions would help.

- Also promotion of strategic transit corridors, competitive seaport services, improved border crossing practices (incl. functional Single Window), transit statistics and monitoring capacity, and liberalizing rules governing transit transport are essential.
A COMPREHENSIVE APPROACH IS REQUIRED TO IMPROVE MULTIMODAL TRANSPORT

- Raising the share of intermodality from 0.5% closer to the 15% in the EU will require a network of multimodal logistics centers and supply of cost-efficient services, but also demand for these services!

- GoU should (i) commission a study on logistics center capacity and location needs; (ii) create an appropriate legal framework; (iii) and develop the Dnipro ports and multimodal logistics centers

- To test the viability of multimodality, 3 scenarios were developed and there appears to be a strong economic and environmental case to:
  - Increase the share of ro-ro shipping e.g. in the UA-TR route;
  - Use more IWT on domestic bulk (e.g. grain) movements when distances exceed approx. 400 km; and
  - Introduce road-rail ”piggybacking” service on main domestic routes such as Odessa – Kyiv (480 km) or Odessa – Lviv (800 km)
THREE MULTIMODAL CASES EXAMINED
MULTIMODAL POTENTIAL: KEY FINDINGS

There is a strong economic and environmental case* to:

A. Increase the share of Ro-Ro shipping on routes similar to the studied one between Odessa/Chornomorsk – Istanbul

B. Increase Inland waterway transport (IWT) of bulk cargoes such as grain along the Dniepr on distances over 400 km

C. Introduce road-rail "piggybacking" operations on main domestic routes exceeding 400 kilometers

   such as on Odessa – Kyiv or Odessa – Lviv routes compared to EURO 5 trucks, not to speak of EURO 1 trucks

*) The analysis excluded cargo handling, vehicle/vessel maintenance and capital costs, or costing of externalities. No costs for infrastructure investments nor cost savings on reduced wear and tear, congestion or other externalities on the road network were included, either
A. ODESSA/CHORNOMORSK – ISTANBUL ROUTE: RO-RO SHIPPING VS. EURO 1 AND 5 TRUCKS

- Operational cost* for 37,000 units much lower by Ro-Ro:
  - 14 M€ less than EURO 1
  - 4 M€ less than EURO 5

Comparing with competitive Ro-Ro tariffs in The Baltic Sea, Ro-Ro shipping would be cheaper than using trucks

- Ro-Ro shipping takes 37,000+ units off the road and emits:
  - CO: 95 % less than EURO 1 and 75 % less than EURO 5
  - CO\(_2\): 80 % less than EURO 1 and 20 % less than EURO 5
  - 2 to 3 x HC and No\(_x\); and >12 times more PM emissions

*) Incl. Fuel, manning and port charges; Excl. cargo handling, maintenance and capital costs
B. 1 MILLION TONS OF BULK OVER 600 KM UA

- Fuel/energy & manning costs per year in total*:
  - Rail ≈ 2 M€  IWT ≈ 3 M€
  - Euro 5 ≈ 10 M€  Euro 1 ≈ 21 M€

- Rail & IWT emissions similar; 50-100 % less than in EURO1
- Rail: 2 times higher NO\textsubscript{x} and 20 % higher CO\textsubscript{2} than EURO 5
- IWT: 5 times higher PM and 30 % higher NO\textsubscript{x} than EURO 5

*) Excl. cargo handling, maintenance and capital costs
C. 11,250 TRAILER UNITS OVER 480 KM IN UA

• Fuel (energy) & manning costs per year:
  - Rail ≈ 0.5 M€ Euro 5 ≈ 2.0 M€
  - IWT ≈ 2.5 M€ Euro 1 ≈ 3.5 M€

• EURO 1 clearly the least cost effective and the most polluting
• IWT not feasible for trailer units, but might be for containers
• Rail: 2 to 3 times higher CO₂, NOₓ and PM than EURO 5
• IWT: 9 x NOₓ; 30 x PM; 6 x HC and 1.2 x CO than EURO 5

→ There is a strong case to test piggy-backing
BUILDING SKILLS AND COMPETENCIES IN THE LOGISTICS SECTOR
URGENT NEED TO UPGRADE SKILLS AND COMPETENCIES THROUGH BETTER EDUCATION AND TRAINING

- The need to upgrade logistics skills is evidenced by UA’s rank 95 out of 160 countries in the 2016 LPI on logistics competence.
GREATER PRIVATE SECTOR PARTICIPATION IS NEEDED IN EDUCATION AND TRAINING

- A plan for vocational training, higher education and certification in logistics should be developed as a private-public partnership.
- The level of skills in e.g. aviation or railway technology fairly high, but that in logistics is generally poor, and research in it is limited.
- Upgrading English proficiency for staff at logistics services users and providers, and government officials is a high priority.
- The GoU should support research participation in international science, technology and industry projects and programs - Such as Horizon 2020, Interreg, Twinning of EU; or COST.
- More visits to leading international logistics trade fairs needed.
- Creating institutions such as National Logistics Skills Council and an Academic Council on Logistics under the MoE to be considered.
IMPLEMENTING THE LOGISTICS STRATEGY AND ACTION PLAN
EFFECTIVE IMPLEMENTATION OF LOGISTICS STRATEGY REQUIRES COORDINATED GoU EFFORTS

- GoU to maintain statistics, ensure a clear mandate and means for the Logistics Coordination Council, follow up on KPIs, and improve the moral and financial standing and competence of civil servants

- GoU is also determined to expedite implementation of the EU-UA AA

- Generating better statistics requires substantial financial, organizational and IT resources, and allocation of responsibilities to improve the availability and reliability of data, incl. the SSSU

- GoU action needed to improve enforcement coordination of National Police and Ukrtransbezpeka in effective transport safety inspections

- MoE is the key Ministry in developing skills and competencies

- State Fiscal Service and other border agencies: more transparent with regards to determination of reference prices for customs value, incl. full integration of the Customs Single Window

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TENTATIVE COSTS FOR SUGGESTED IMPROVEMENTS IN UA LOGISTICS TILL 2025 – WITHOUT INVESTMENTS IN BASIC INFRASTRUCTURE

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>A. Government responsibilities across logistics sub-sectors</td>
<td>110</td>
<td>90</td>
<td>200</td>
<td>0</td>
<td>200</td>
</tr>
<tr>
<td>B. Logistics service provision</td>
<td>1 800</td>
<td>1 900</td>
<td>3 700</td>
<td>3 400</td>
<td>300</td>
</tr>
<tr>
<td>C. Educators costs in D.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Skills &amp; Competencies</td>
<td>25</td>
<td>20</td>
<td>45</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>E. Multimodal transport</td>
<td>50</td>
<td>100</td>
<td>150</td>
<td>90</td>
<td>60</td>
</tr>
<tr>
<td>A.-E. Total incl. investments in road fleet modernization</td>
<td>1 985</td>
<td>2 110</td>
<td>4 095</td>
<td>3 520</td>
<td>575</td>
</tr>
<tr>
<td>A.-E. Total excl. investments in road fleet modernization</td>
<td>785</td>
<td>810</td>
<td>1 595</td>
<td>1 020</td>
<td>575</td>
</tr>
</tbody>
</table>
OUTLINING SUITABLE KPI’S FOR THE LOGISTICS STRATEGY:

WORK-IN-PROGRESS
ALIGNING THE KPI’S WITH THE NTS 2030

Several of the 20 numerical targets in the NTS 2030 are relevant also for Sustainable Logistics Strategy, such as the ones below:
(subject to amendments and defining the target values)

<table>
<thead>
<tr>
<th>Private carriers market shares in rail transport: 30 - 40% in 2025, up to 60 - 70% in 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>The transport sector one of the top 5 industries in its attractiveness in the labor market</td>
</tr>
<tr>
<td>UA seaports in Top 100 of the largest container ports in the world</td>
</tr>
<tr>
<td>Increasing the modal share of inland waterways to ___________;</td>
</tr>
<tr>
<td>Transit of containers and other cargoes 1 million TEUs in 2025 and 2 million TEUs in 2030</td>
</tr>
<tr>
<td>Increasing the share of intermodal transport to at least 10% in 2025, and at least 20% in 2030</td>
</tr>
<tr>
<td>UA in Top 50 of the Logistic Performance Index in 2025, and in Top 20 in 2030</td>
</tr>
<tr>
<td>Increase of road vehicle weight from 34 tons to 112 tons</td>
</tr>
<tr>
<td>Private investment to upgrade the rolling stock - about __ billion UAH per year</td>
</tr>
<tr>
<td>Reducing macroeconomic losses from transport accidents by 70%</td>
</tr>
<tr>
<td>Reducing the number of traffic fatalities/accidents per 100,000 people by 70%</td>
</tr>
<tr>
<td>Reducing the number of serious injuries due to traffic accidents per 100,000 people by 70%</td>
</tr>
<tr>
<td>Reduction of GHG emissions from mobile sources (2015 Paris Agr.) by 60% compared to 1990</td>
</tr>
<tr>
<td>Reducing the total aerial pollutants from mobile sources in 2030 by 30% compared to 2015</td>
</tr>
</tbody>
</table>
## EU PROVIDES A POTENTIALLY USEFUL SET OF KPI’S

Excerpt from EU Transport Scoreboard 2016

Measure or KPI; data for years 2013-2014

<table>
<thead>
<tr>
<th>Internal market</th>
<th>Market share of all but the principal freight rail undertakings (%)</th>
<th>UA</th>
<th>LT</th>
<th>PL</th>
<th>DE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transposition of EU transport directives (%)</td>
<td>AA??</td>
<td>98</td>
<td>98</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Employment share in high growth transport enterprises (%)</td>
<td>??</td>
<td>19</td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

| Investments and infrastructure | Quality of railroad infrastructure | 4.1 | 4.5 | 2.9 | 5.7 |
|                              | Quality of port infrastructure    | 3.3 | 4.9 | 4.0 | 5.7 |
|                              | Quality of air transport infrastructure | 3.8 | 4.2 | 4.0 | 5.9 |
|                              | Quality of roads                  | 2.2 | 4.9 | 3.6 | 5.9 |
|                              | Average time to import/export by sea (days) | > 15 | 10 | 15 | 8 |

| Energy Union and innovation | Private expenditure in R&D in transport (%) | < 0.1 | 0.0 | 0.3 | 7.3 |
|                             | Electrified railway lines (%)         | > 44 | 7 | 62 | 59 |
|                             | Share of renewable energy in transport fuel consumption (%) | ?? | 5 | 6 | 7 |
|                             | New passenger vehicles using alternative fuels (%) | ?? | 0.3 | 1.4 | 0.9 |

| People | Hours spent in road congestion annually | ?? | 28 | 27 | 30 |
|        | Road fatalities per million inhabitants | 104 | 91 | 84 | 42 |
|        | Rail fatalities per million train-km    | ?? | 1.7 | 1.4 | 0.1 |

THANK YOU!

Prof. Lauri Ojala
lojala@worldbank.org