Sustainable Public Transport and Mobility

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Working Party on Rail Transport / Transport Trends and Economics
Chapter 1 gives a brief review of the state of sustainable urban transport and mobility and the challenges for the capitals of ECE member States.

Chapter 2 gives an account of general trends in the ECE region relevant to sustainable urban transport and mobility development and provides information on more than 40 urban transport and mobility indicators of ECE capitals.

Chapter 3 presents urban transport and mobility profiles of 36 capitals.

Chapter 4 concludes by highlighting general findings and outlines the ways forward.
Sustainable Urban Transport and Mobility

Urbanization & Public Transport demand
The world urban population is expected to increase by 72% per cent by 2050, from 8.6 billion in 2011 to 6.3 billion in 2050. Urbanization needs efficient and sustainable public transport networks.

Accessibility and Congestion
Access of the urban population to the most efficient and effective way to employment opportunities, health and education facilities by reducing congestion and its negative effects, should be main objective of a sustainable public transport network.

Road Safety
The development of sustainable public transport is interrelated with the reduction of road fatalities and therefore increase of road safety. Residents of public transport-oriented communities with high rates of use have significantly lower per capita traffic fatality rates compared to residents of more automobile-dependent, sprawled communities.

Climate Change
Hundreds of millions of people in urban areas across the world will be affected by climate change. More than half of the world’s greenhouse gas emissions come from urban areas. Sustainable public transport leads the fight against cities’ air pollution.

Affordability
Sustainable public transport implies availability for all. Calculation of fares based on population purchasing power and on the need to ensure profitability of public transport is a difficult exercise. The main message of sustainability should be that all citizens afford public transport tickets.

Public Transport Financing
Sustainable public transport financing should focus on projects that improve the integration across urban services, increase public transport capacity and increase the access of the urban poor to employment opportunities and health and education facilities.

Well being: Cycling and Walking
The promotion of non-motorised transport (cycling and walking) for everyday physical activity is a win-win approach; it does not only promote health but can also lead to positive environmental effects, especially if cycling and walking replace short car trips. Sustainable Public Transport promotes cycling and walking.

UNECE - Transport Division
Urban and rural populations in 36 ECE member States, 1950-2025

Total population, Capital population and urban

Urbanization Review in 36 ECE countries, by urbanization rate (2011) and GDP per capita (2011)

Public Transport passengers in ECE region (2009-2011)

Urbanization & Public Transport demand

Totals:
- METRO, 19.8%
- TRAM, 16.3%
- BUS, 51.8%
- TROLLEY, 4.9%
- OTHER, 5.3%
- LIGHT TRAIN, 0.4%
- URBAN TRAIN, 1.5%
Different urban road safety trends in different countries

<table>
<thead>
<tr>
<th>BUS</th>
<th>TRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>crashes on bus lanes</td>
<td>road users do not give priority to trams</td>
</tr>
<tr>
<td>crashes involving blind spots</td>
<td>Not signalized crossings</td>
</tr>
<tr>
<td>buses causing rear-end collisions while braking</td>
<td>long braking distance of the tram</td>
</tr>
<tr>
<td>single vehicle crashes with injury for occupants</td>
<td>trams mix with road traffic</td>
</tr>
<tr>
<td>crashes as a consequence of bus driver distraction</td>
<td>It is not always the case that separate lanes exist that are also signal controlled</td>
</tr>
</tbody>
</table>
Affordability

GDP per capita (current US$, 2011) vs. Bus Ticket ($) for various cities:

- Berlin
- London
- Oslo
- Zagreb
- Athens
- Rome
- Brussels
- Bern
- Yerevan
- Baku
- Astana
- Ankara
- Ljubljana
- Moscow
- Portland
- Oslo

The graph shows a positive correlation between GDP per capita and bus ticket prices, indicating that cities with higher GDP per capita tend to have higher bus ticket prices.
Number and Value of ADB projects in Transport

EBRD's modal distribution of its 2012 transport approvals

Public Transport Financing

UNECE - Transport Division
Well being: Cycling and Walking

Cycling lanes in the Metropolitan area (in kilometers, 2011)

- Oslo: 2125
- Bratislava: 750
- Ottawa: 688
- Warsaw: 340
- Dublin: 275
- Budapest: 240
- Zagreb: 229
- Brussels: 162.5
- Ljubljana: 127
- Rome: 120
- Vilnius: 113
- Reykjavik: 85
- Riga: 45
- Sofia: 30
Towards sustainable urban transport and mobility
### Serbia Belgrade

<table>
<thead>
<tr>
<th>Mode of Transport</th>
<th>Length (km)</th>
<th>Number of Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS</td>
<td>83</td>
<td>5,685</td>
</tr>
<tr>
<td>TRAIN</td>
<td>122</td>
<td>5,685</td>
</tr>
<tr>
<td>METRO</td>
<td>8</td>
<td>1,003</td>
</tr>
<tr>
<td>TROLLEY</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>URBAN TRAIN</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>LIGHT TRAIN</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>MINIBUS</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

**Number of Parking Spaces:** 60

Please describe a strategy or initiative implemented by your organization with positive results for the public transport of the city.

**Implemented:**
- **Electronic and fleet management system in public transport fleet (e-bus):** It is based on RFID technology with contactless smart cards, and fleet management is using GPS and CMMS for automatic vehicle location. [More information can be found here](http://example.com).

### Slovakia Bratislava

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>BUS</td>
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<td>622</td>
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<tr>
<td>TRAIN</td>
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<td>876</td>
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<tr>
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<td>9</td>
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<td>TROLLEY</td>
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<td>URBAN TRAIN</td>
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<td>71</td>
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<tr>
<td>LIGHT TRAIN</td>
<td>10</td>
<td>23</td>
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<tr>
<td>MINIBUS</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

**Number of Parking Spaces:** 750

Please describe a strategy or initiative implemented by your organization with positive results for the public transport of the city.

**Implemented:**
- **Slovakia City Card offers discounts and benefits for individual tourists and visitors to the city.** The holder of the Slovakian City Card can use public transport (tram, trolleybus, bus), and the card offer discounts until midnight of the last day of the card validity.
Thank You!