



ADVANCING
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REPORT

COMMUTER RAILWAY LANDSCAPE



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INTRODUCTION

In 2006 and 2016, UITP published “Landscape of regional and commuter railways in Europe”.

This study provided a definition of regional and suburban railways (RSR) and a picture of this business field. It confirmed the critical importance of regional and suburban railways in Europe, which account for 90% of total railway passengers and carry 10 times more passengers than air travel.

As a global organisation, UITP was naturally keen to complement the study in order to provide an extensive and global picture of “non-urban railway” systems. However desirable this attempt might have been, it was not achieved for various reasons:

- Lack of data availability for most indicators collected for Europe
- Lack of terminology consistency about the reality of “regional and suburban railways”
- Lack of access to railway companies able to provide support

The official UITP definition of RSR was modified in 2014 and is as follows:

Regional and suburban railways serve the needs of passengers in and around conurbations and regions. Such services are mostly organised in accordance with PSO arrangements, generally contracted by an infra-national government level (region, Land, province, canton, voivodeship...). The services typically feature the following characteristics:

- Average distance between stations : 1-25 km
- Commercial speed : 40-60 km/h
- Max. one-way trip time : 1 hour
- A high proportion of unstaffed stations : >50%
- Regional railways can run (partially) on a single track.

Even if no explicit reference is made to European legislative texts in this definition, it has to be recognised that this definition corresponds to the reality of Europe and can be significantly difficult to apply in other regions with different geographical, demographical, economic, social and land use characteristics.

For instance, a regional railway service in Australia will mean travel over distances as long as several hundred kilometres. Some of the latest metro lines introduced in China will have features more akin to RSR than to metros in Europe (ex. Shanghai line 16: 4.5 km average distance between stations; many lines more than 2km).

Faced with such methodological challenges, it was decided to opt for an approach based on the function of railway services rather than their organisation and metrics. After a careful examination of passenger railway markets in a number of countries, the decision was taken to consider “commuter railways” (functional definition) rather than suburban and regional railways¹.

¹ Only for Japan, Ukraine and Russia, it was not possible to split specifically commuter railway data. Only long distances (high speed and/or night sleeper services) were removed from the figures. For these countries, the data are therefore for suburban and regional services.

WHAT IS COMMUTER RAILWAY?

The term was coined in North America and is rather self-explanatory: it means mass passenger rail services used on a daily basis by people living further away from the regular urban mass transit catchment area (suburbanites) and used mainly for the purpose of reaching their work or study location in a city centre area. Such mass-transit rail services operate between a (large) city centre and middle to outer suburbs and/or satellite towns. The concept therefore includes spatial and functional aspects.

In order to serve their functions properly, commuter railways differ from urban mass rail transit such as light rail or metro systems. Commuter rail service would typically:

- Be operated with wider rolling stock,
- Accommodate more seats and less standing space,
- Offer on-board amenities such as toilets, armrests and tablets,
- Feature a lower frequency of service,
- Share track with long-distance or freight trains,
- Not be fully grade-separated (level crossings).

This concept correlates broadly with the functions of S-Bahn, RER, Cercanias services in Europe, even if space and urban sprawl considerations are of a different nature and magnitude in North America or other continents.

COMMUTER RAILWAY AROUND THE WORLD

As described earlier, in this study we are concentrating on commuter railway systems in different countries outside of Europe. These services are provided in 29 countries, serving around 100 specifically identified metropolitan areas + all major cities of Japan, Russia, Ukraine, Israel, Korea and Taiwan have a more extensive geographical coverage.

The countries are geographically distributed as follows: Asia (8), followed by Latin America (6), MENA (4), Africa (3) and North America, Eurasia and Oceania (each with 2). The dataset does NOT provide detailed information on Costa Rica, Cuba (where the systems provide only occasional and infrequent services), nor Turkey, for which the full data was not made available.

CONCLUSIONS

With urban sprawl occurring in most of the parts of the world, commuter railways play a significant role in **ensuring low-carbon and efficient day-to-day mobility** for billions of people every year.

Nearly 27 billion journeys are made annually using commuter railways, in addition to the 9 billion in Europe. This is in total **over ten times more than the total number of air passengers** in 2016 (3.5 billion, IATA).

As in Europe, the commuter railway market in this study (out of Europe) can be characterised as being:

- *very important from the business perspective for the operators, due to the volumes of passengers and train-kilometres at stake;*
- *promising in terms of potential development and as an alternative to private cars for daily life trips between suburban areas and city centres.*

During the data collection phase, numerous projects were reported: new lines (Israel, Argentina, China, Indonesia...), the extension, modernisation of the infrastructure and fleet (South Africa, Argentina, Taiwan, Russia, etc.)

- *challenging, as the above opportunities put much stress on the output capacity of infrastructure and assets which were very often designed decades if not even a century ago, and not necessarily prepared for such intensive exploitation;*

Aggregated data provides a **general picture of the market**:

- 159 systems, predominantly operated by publicly-owned national or regional companies
- A growing share is tendered out competitively and generally awarded to transnational groups (French or Hong Kong based). Japanese, British (post-Brexit focus on international business?) are expected to take an interest in the market, and there is no reason why German and Italian companies cannot also be involved.
- An interesting feature is the operation responsibilities taken on by rolling stock suppliers in some markets (Canada, Mexico, South Africa etc.)

- Japan is by far the largest commuter railway market in the world and has a very specific market organisation and business model with vertically integrated private companies.

Except for Eurasia and Japan, commuter railways are only **available in a limited number of cities**, and many large or megacities with severe urban sprawl and congestion would benefit from the availability of such services. Meeting the climate-change objectives set by the COP21 can only be achieved by a massive modal shift towards rail. Along with the development of other public transport modes, **commuter railways are set to grow** in future to fulfil the mobility needs in ever-popular suburban areas.

This is an official Report of UITP, the International Association of Public Transport. UITP has over 1,500 member companies in 96 countries throughout the world and represents the interests of key players in this sector. Its membership includes transport authorities, operators, both private and public, in all modes of collective passenger transport, and the industry. UITP addresses the economic, technical, organisation and management aspects of passenger transport, as well as the development of policy for mobility and public transport worldwide.



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