

Ropeways as part of multimodal networks

Urban ropeways operating in concert with conventional means of transport

Mobility is the lifeblood of conurbations. However, we seem to have reached the limits of conventional forms of urban mobility and their smooth coordination. How can we safeguard the future – what are the options? How can urban ropeways contribute to achieving multimodal mobility?

Scarce resources – limited space

How can we improve mobility in cities? Anyone who is confronted with tackling the problems of urban traffic unfortunately finds themselves with few possible solutions. A lack of funds and the dwindling amount of municipally owned land are not only holding back large transport expansion projects but also limiting the “smaller” investments and structural modifications. This impacts central conurbations – and increasingly the peripheries along with their sometimes equally critical transport deficits.

Multimodality – The key to successful transport networks

So what does the apparently irresolvable patchwork of the current transport situation call for? Even more PR in the battle for opinion leadership in matters of urban mobility? Hardly! In order to find new approaches to transport concepts with long-term prospects for expansion, we instead need to place the emphasis on modifying structures to accommodate multimodal systems. How can this be achieved? How can the problem of ever-increasing urban traffic be addressed by expansion measures that make for more flexible transport systems based on actual needs?

How can truly functional multimodality be achieved? The answer is simple while apparently complex: It can only succeed with comprehensive coordination of all the relevant transport processes. Experience to date with the linkage of very heterogeneous transport operations, e.g. in Rotterdam and Amsterdam, shows where the attention has to be focused: on a kind of “connected intelligence”, i.e. continuous, sensor-based, digital and at the same time decentralized traffic control – with a needs-based, coordinated steering of busses, streetcars, ropeways, rail and all forms of private transport. It’s a fact that ropeways can be easily integrated into transport networks. It is further facilitated by the comprehensive digitalization concept from Doppelmayr.

Expansion of urban mobility through ropeways

Ropeways began to use the airways for the mass transportation of goods and passengers over 160 years ago – long before the airplane came along. However,

there is scant awareness of this fact among the wider public. Although ropeway engineering, through its worldwide use in very extreme terrain and under the toughest environmental conditions, has evolved to become a highly sophisticated transport technology, it is often – wrongly – regarded as merely a means of transport for leisure activities. Urban ropeways are an ideal addition to urban transport networks. They can help to extend existing networks as well as to fill gaps within networks. With ropeways, it is possible to reach areas difficult to access which are built up, or mountainous and they even can cross wide rivers or existing transport infrastructure.

Despite all this, in Central Europe, ropeways in the urban environment continue to be a rather exotic option and are less numerous than in conurbations in Latin America, North Africa or the Middle East, for example. Why is this? The main resistance to urban ropeways mostly comes from local residents living near future installations. They fear a visual disturbance or an impairment of privileged neighborhoods. In order to dispel opposition more attention is paid to concerns of this nature. It has been shown that urban ropeways become accepted once the installation is up and running and benefits become obvious.

Ropeway projects as relief for fast-growing conurbations

Urban ropeways are good transport solution for urban environments. As ropeways operate above street level, they require far less space than modes of ground transport. Ropeways can be relied on to provide the required transport performance without being affected by traffic congestion or disruptions of terrestrial transport. They are extremely safe in operation and without local emissions thanks to their electric drive. Their investment and running costs are much lower than for new rail projects. This frequently makes them superior to land-bound systems offering comparable capacity. In comparison with rail transport, ropeways have much shorter construction times and occupy far less space for construction, particularly in the case of subways. In addition, operations are far more flexible when it comes to adapting to rapidly fluctuating passenger numbers. Also it is possible to take bicycles, wheelchairs, strollers and luggage into the cabin and even pallets can be transported. The cabin floor is at level with the platform in the station which makes boarding and alighting easy for all user groups. Automated loading and unloading systems ensure smooth operations for goods transport without restricting passenger transport. Another factor which is equally important for residential areas is that ropeways generate much less noise than rail cars or road traffic. The fact that commuters find ropeway travel more attractive than riding the bus or the train is due in large measure to the quieter and smoother motion. A last important point: Digital control systems allows ropeways to run largely autonomously and therefore require less operating personnel. Digital data from Doppelmayr ropeways can be transferred and embedded into existing data networks. This allows for the use of data, for passenger information as one example.

In Europe, a whole series of major urban ropeway projects have been set in motion. One of the most interesting projects in this regard is the “Câble A – Téléal”. This is the first ropeway project in the Île-de-France region located southeast of central Paris and northeast of Paris-Orly airport. The 110-million-euro project has a total length of 4.5 kilometers and includes five stations, which are directly connected to other means of public transport such as the Métro, bus or regional train. The ropeway is going to have a transport capacity of 1,600 passengers per hour and direction, who will travel comfortably in 10-seater cabins. In future, the ropeway will connect four different municipalities in the Département Val-de-Marne with an immediate catchment area of around 20,000 people and about 6,000 jobs.

The ropeway is designed for a total of 3.2 million passengers a year and will provide the fast-growing regional population of the residential districts with better access to the Paris Métro network. It will also mean better links to bus and regional trains along the route, relieve traffic on two heavily congested roads leading to the Paris inner ring road. Parking will be provided at the ropeway stations. The ropeway will be integrated into the region’s existing fare system. The consortium responsible for the overall supervision of all the planning and the building contractors involved will be headed by Doppelmayr. The system is scheduled to go into service in mid-2025.

The new ropeway will be highly beneficial for commuters in the peripheral areas: Access to Paris transport network will be easier and more comfortable. And road traffic on access roads to Paris will be reduced by the modal shift towards public transport. The ropeway is going to present an important element for the improvement of public transport links. It is a significant expansion of the region’s transport network. The project provides vital guidance on how to solve similar problems in other areas in the outskirts of Paris. For this reason, it is also attracting a lot of attention from the Paris city and transport administration and – even farther-reaching – from the French government.

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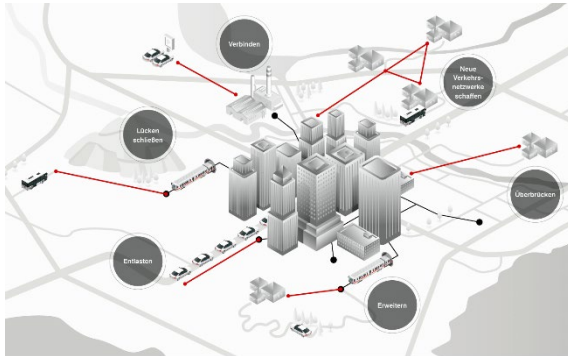
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Caption 1: Functions of urban ropeways as part of a multimodal infrastructure.
(Graphic: Doppelmayr)



Caption 2: The world's biggest urban ropeway network is located in La Paz/Bolivia. It provides an impressive illustration of the versatility, diversity and possibilities that ropeways offer.
(Photo: Doppelmayr)



Caption 3: "Câble A – Téléal" is the first ropeway project in the Île-de-France region and marks another step toward the multimodal expansion of the overall transport system in the area around Paris.
(Visualization: www.cable-a-televal.fr)



Caption 4: In Bogotá/Colombia, the TransMiCable in the Ciudad Bolívar district closes a gap in the bus network and noticeably reduces road congestion.
(Photo: Doppelmayr)