Doppelmayr

The Next Level of Mobility

Ropeways as a means of urban transport

Contents

In the interests of readability, we dispense with the use of gender-specific wording in this brochure.

Thomas Pichler
Executive Director
Doppelmayr Holding SE

How urban mobility becomes future-fit

Our living spaces are experiencing extremely fast-paced development, and ever more people are moving away from the countryside and into the city. Urban populations are growing fast and so is the need for mobility, for expansion of the necessary transport infrastructures and the creation of new ones. At the same time, the increase in motorized traffic has a negative impact on quality of life for city dwellers. Simply “carrying on as before” cannot be the answer. Combining the individual means of transport in one attractive, multimodal transport concept will therefore be key.

A means of transport that can resolve many challenges in the urban environment at a new level thanks to its unique characteristics is the ropeway. It possesses a series of advantages that enable it to harmonize with and complement other modes of transport extremely well. Ropeways can expand a city’s transport infrastructure as well as connecting major hubs with the transport network. This makes ropeways an ideal addition to existing mobility systems. The ropeway accesses a completely new level above the existing infrastructure, which can continue to be used for city life. Obstacles such as rivers or hills are crossed with ease.

»Ropeways can expand a city’s transport infrastructure.«

Mexico City, La Paz, Luxembourg and other cities have successfully resolved the transport challenge with ropeways. In the Paris metropolitan area, a ropeway is set to expand the city’s public mobility. By making use of the Plus-1 Level, i.e. the space above street level, there is no additional burden on existing traffic. In mountain areas, ropeways have a successful track record spanning many decades, and provide reliable transportation for millions of people on a daily basis. The goal is to tap into this potential in the urban environment as well – for resource-efficient, sustainable urban mobility geared to the future.

Mobility in cities is being rethought

The worldwide trend toward urbanization harbors many challenges for mobility in our cities.

While the demand for living space is high, room on the ground is limited, and existing transport infrastructures are frequently overloaded. Aspirations such as flexibility, independence or climate compatibility should be taken into consideration when planning a diverse mobility offer. Social, technical and financial constraints affect the design of the mobility offer, with a view to reducing the dependencies on individual modes of transport, for example.

Mobility through the ages

For centuries, journeys made on foot provided the basis for the structural development of cities. These defined the maximum extension of the built-up urban area as well as the width of roads and pathways. It was not until transportation became motorized in the 19th century that cities were able to expand. In many places, this led to major interventions in urban structures that had evolved over centuries.

»The urban mobility of the future calls for cross-modal transport solutions.«

Dipl.-Ing. Dr. Stephan Tischler
Civil Engineer for Spatial Planning and Development
Senior Scientist in Transport Engineering, University of Innsbruck

In view of the negative impacts of automobile-centric urban development that have become visible over time, human needs are increasingly becoming the focus of transport planning. However, road space is limited, and growing aspirations in terms of amenity value reduce the area available for transport.

Efforts are now aimed at no longer aligning urban mobility with just one mode of transport but instead establishing cross-modal solutions. The deciding factors for economically efficient and both ecologically and socially compatible urban transport are the acceptance and utilization of offers. Depending on the external parameters, such as route length and traffic volume as well as spatial and legal concerns or financial resources, complex requirements can emerge where different transport systems are not equally well suited for the specific application.

Topographic and urban planning parameters also need to be considered as well as transport requirements and integration into the existing transport network. The possibility of implementation in stages and the impacts of construction and operations on the environment are to be included in the evaluation when selecting a transport system.

Multi- and intermodality

The flexible use and combination of different modes of transport are of central importance for many people. This is also reflected in the concept of the “15-minute city”. The basic idea behind this strategy is that the inhabitants of a city should be able to reach central amenities (stores, workplaces, health and education facilities, etc.) within 15 minutes either on foot, by cycling or using public transport. The coordinated interaction of the individual modes of transport is key here. Dependencies on a single mode of transport – be it the automobile, the bicycle or local transit – increasingly dissolve.

Ropeways as an addition to the urban transport network

In light of the requirements outlined above, ropeways can represent an addition to the public transport offer in cities. For passengers, the strengths of ropeways lie in their high reliability, safety and ride comfort. As they are largely independent from other traffic participants, ropeways are mostly unaffected by disruptions to the rest of the transport system and therefore ensure mobility when motorized modes of transport become gridlocked on the ground. When integrated into local transit networks and transport hubs, ropeways provide an addition to the public transport offer.
An important decision-making tool for or against a new transport system should always be to give equal consideration to all possible transport solutions.

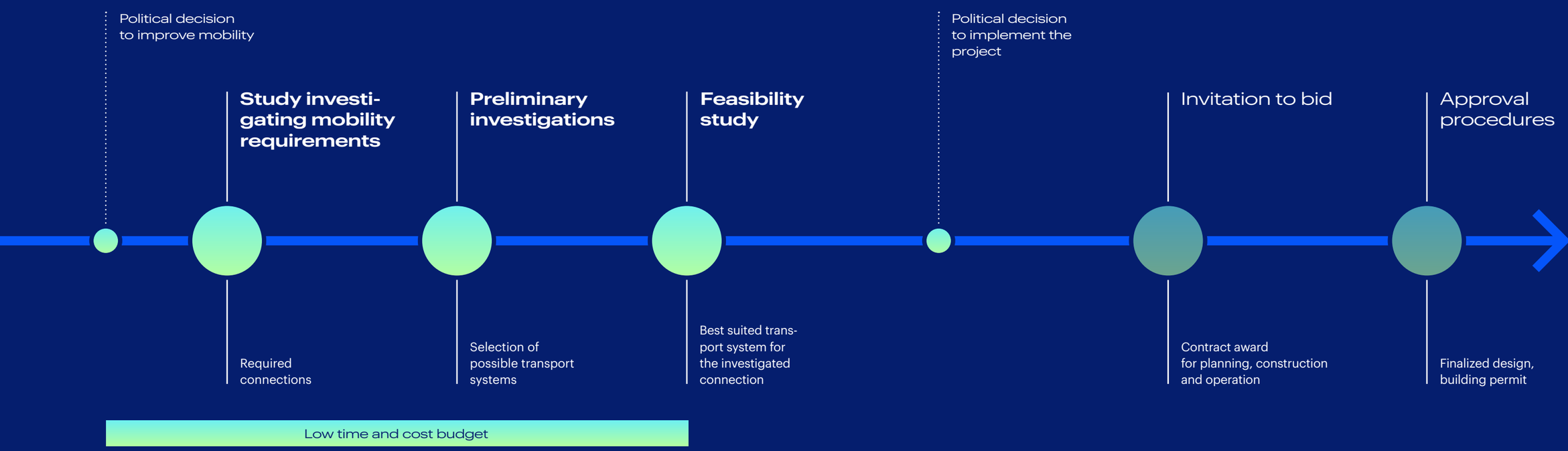
From the idea to implementation

Urban infrastructure projects require meticulous preparation and planning.

An urban transport project calls for good analysis and planning work. The process begins with the political will to improve the mobility offer in areas of a city.

Identifying the mobility requirements and analyzing suitable modes of transport as well as carrying out a subsequent feasibility study lays the foundation for the decision on implementation. The time and cost expenditure for these planning steps are manageable and do not require a large budget.

Project Timeline



A powerful tool for planners

Lucia Manzi
Associate Director of Steer

Lucia Manzi has over 20 years' experience in transport infrastructure, focusing on commercial, economic and planning issues for developers and financial institutions around the world. Since joining Steer, she has led the feasibility studies of numerous projects including a number of urban transport concepts in Italy, Austria, Montenegro, Principality of Monaco and Canada.

Worldwide, 1.5 million people per week are moving to cities. By 2050, 70 percent of the global population will live in a city. Efficient, multimodal commutes will increasingly become the crucial key to every successful city's economic growth. Providing efficient, sustainable and flexible urban mobility will be a must for every public authority.

The better we move, the better we live and grow
An efficient and integrated transport network promotes equality. It is about being able to offer every city dweller a suitable transportation option. To satisfy the need for individual mobility, the collective interests of current and next generations have to be taken into account.

»The better we move, the better we live and grow.«

The challenge is always to efficiently integrate different public transport modes, as well as balancing between capacity, costs, efficiency and timescale for implementation. For a successful project, a robust feasibility study is the essential building block for a smooth implementation process, a strong business case, and a balanced risk allocation between parties.

With their ability to overcome physical and topographical obstacles, with continuous and reliable operation as well as their small physical footprint and short construction time, urban ropeways are an incredibly powerful element to the transport planner's toolbox and the city's successful growth.

Reinhard Fitz
Head of International Business Development, Doppelmayr Seilbahnen GmbH

Mobility enthusiast with over 20 years' experience in ropeway project development.

Today, we already have a mature technology at our disposal that enables us to respond rapidly and cost-effectively to challenges, and that is the ropeway. We see ourselves as partners for cities and planners when it comes to aligning requirements with the possibilities ropeways have to offer and developing integrated transport concepts.

The focus of planning is always on:

1. Integrated transport project development
2. Collaboration between politicians, transport and urban planners
3. Optimization of the local transit network for passengers and operators as well as the creation of social benefits.

While ropeways do not provide everything that other modes of transport can, they do offer a lot that other modes of transport cannot. That's why ropeways always have to be conceived and planned as an integrated addition to existing transport systems.

Further info

The Câble C1 line will act as a link within the Parisian public transport network.

Île-de-France Mobilités opts for the ropeway

A key factor for the success of public transportation is the linking, expansion and supplementation of existing transportation systems.

Aerial ropeways offer local public transit systems versatile solutions for addressing different urban mobility requirements. Their fast, straightforward, and efficient integration into transport networks has proven successful in cities worldwide. As part of multimodal networks, with an ability to overpass any obstacles on the ground, aerial ropeways are becoming increasingly popular in European cities. An illustrative example is the Câble C1 line in the greater Paris region, which is being implemented by Île-de-France Mobilités, the regional public transport authority, and will go into operation in 2025.

Multimodality

The Câble C1 will cover a distance of 4.5 kilometers southeast of central Paris, connecting four cities of the Val-de-Marne department and linking to Métro line 8, which leads to the heart of Paris. Around 20,000 people as well as 6,000 working commuters will benefit from this reliable connection, which is fully integrated into the existing transport network. Its transport capacity of 2,000 passengers per hour and direction in the final phase will considerably relieve road congestion.

The new line will cross a busy national road, run along the high-speed railway line, and overpass the rail freight transport route. At its five stations, it will offer seamless transfers to bus lines, the Métro and bike parking stations. The Câble C1 will efficiently extend Île-de-France´s transport network.

2,000 p/h/d
capacity

6 m/s
speed

4,500 m
length

18 min
time saving per trip

18 h/day
operation

»Since 2016, we have dedicated ourselves to elevating public transport services throughout the Île-de-France region like never before. We are committed to not only enhancing the existing transport network but also creating new connections. Today, with immense pride, I see the Câble C1 come to fruition, a pioneering urban ropeway system that's set to deliver an efficient and innovative transport solution to address the constraints of the region.«

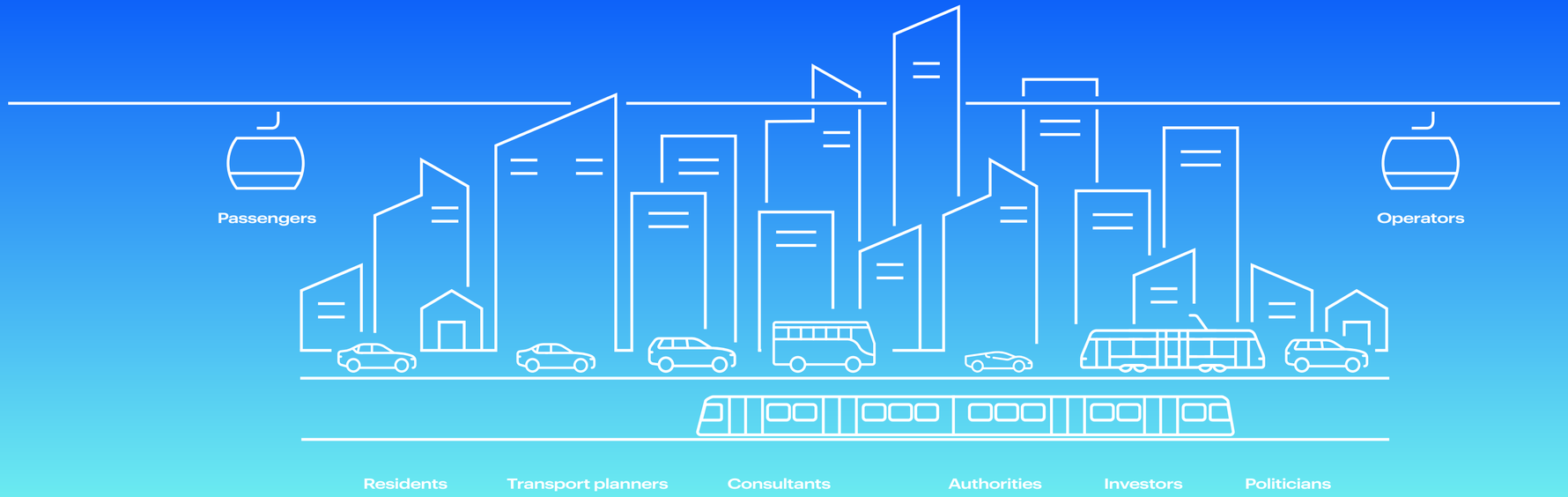
Valérie Pécresse
President of the Île-de-France Region and Île-de-France Mobilités

Access to the exclusive Plus-1 Level

When transport routes on the ground are overloaded and circumstances prevent expansion or new construction, it's time for new approaches.

The aerial ropeway opens up an entirely new level for urban transport. Its special characteristics enables the ropeway to expand transport networks, fill gaps, provide relief at specific points and overcome obstacles.

Passengers benefit from consistent trip times, maximum safety and all-round traveling comfort. That's "The Next Level of Mobility".



Barrier-free
The ropeway is an affordable mode of transport for all groups of passengers. Thanks to its completely barrier-free design, the ropeway can be used by mobility-impaired passengers without any difficulty. Strollers, wheelchairs or bicycles can also be carried.

Cost-effective
Optimized construction processes using standardized elements for towers and stations enable ropeways to be planned and built within a short timeframe. In comparison with other means of transport, the costs of construction are manageable and also pay off in daily operations. With a small structural footprint, standardized layout concept, low energy consumption, plus optimized operations and maintenance, a ropeway is impressively cost-effective.

Integrated
Ropeway stations can be integrated into the urban environment with ease, in terms of both their architectural design and incorporation in urban planning and station use concepts. Examples can be found worldwide: stations that have been incorporated in existing buildings, underground stations, or multifunctional stations housing offices, shops and restaurants.

Connected
Ropeways can be seamlessly integrated in order to expand or upgrade a transport network. Integration is made easier by the fact that existing timetables do not have to be modified as the ropeway operates continuously. That means improvements in the mobility offer can be performed quickly and simply.

Digitalized
Smart cities call for mobility solutions that are completely integrated into digital data and information networks. Capturing digital operating information enables optimal integration of the ropeway. Operators also have the possibility of monitoring processes and continuously optimizing them. Functions like Wi-Fi, infotainment and much more are all part of a comfortable and connected urban ropeway experience.

Environmentally friendly
A ropeway is an environmentally friendly means of transport. There are no local emissions thanks to its electric drive. And with the use of renewable energies, operations can even be almost entirely carbon-neutral.

Time-saving
Passengers gain time with the ropeway because it runs continuously and has an impressive transport capacity. Traffic jams, hustle and bustle, and congested roads are alien to it. The ropeway glides above it all and brings its passengers – commuters, families or tourists – direct to their destination quickly and reliably. The result is a very short and plannable journey at any time.

Reliable
For many decades, ropeways have enjoyed a successful track record of operating under the most challenging climatic conditions. In cities around the globe, they carry millions of people day in, day out in compliance with the highest safety standards. They have established themselves as a safe and reliable means of transport.

Space-saving
As only the towers and stations require space on the ground, ropeways have a low structural footprint. This makes construction possible even in built-up urban environments. By using the Plus-1 Level, other traffic infrastructure on the ground is relieved and can be partially dismantled. The freed-up space makes the urban living space more attractive for public use.

Reliable, efficient, unmanned: With AURO, you shape tomorrow's autonomous mobility today.

Further info

Transformation in Mexico City

Línea 1 of Mexico City's Cablebús provides the 600,000 residents in the Cuautepec district direct access to the local public transit network.

The urban ropeway has been improving mobility around Cuautepec since 2021. The ultramodern D-Line from Doppelmayr expands the urban transport system in the 22-million metropolis to a new level. The ten-kilometer installation brings passengers via a direct route to one of the city's biggest transport hubs, Indios Verdes. From there, they can conveniently transfer to bus and subway.

The first line of the Cablebús shortens traveling time for many commuters by more than half. That boosts the attractiveness of public transport and relieves congestion in the district. Passengers in the comfortable, digitally connected cabins glide above traffic jams and arduous routes. The 10-passenger gondola is barrier-free and a means of transport for all.

Further info

4,000 p/h/d
capacity

6 m/s
speed

9,200 m
length

19 min
time saving per trip

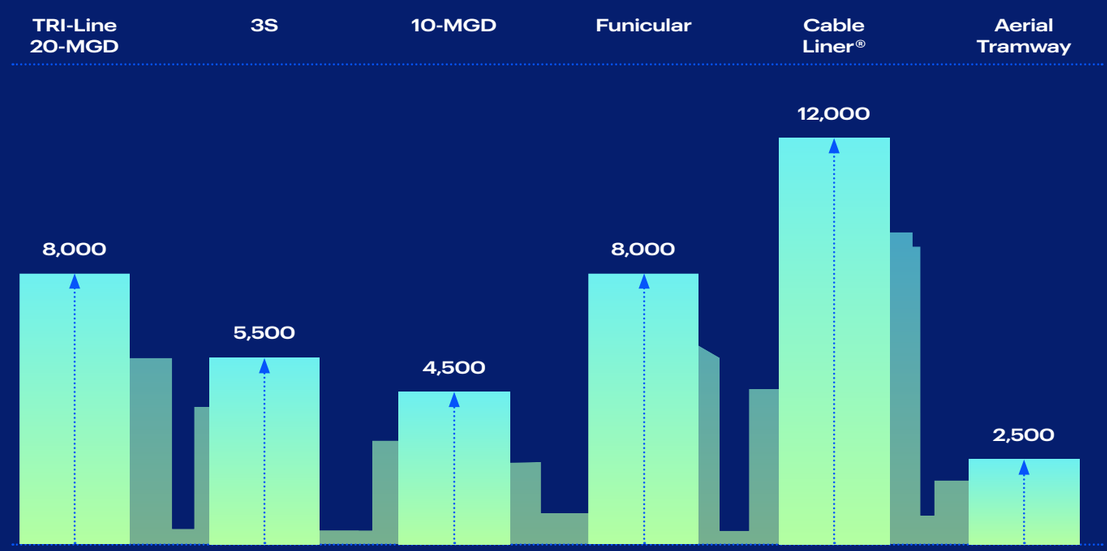
18 h/day
operation

In La Paz, the ropeway has become an indispensable part of everyday life.

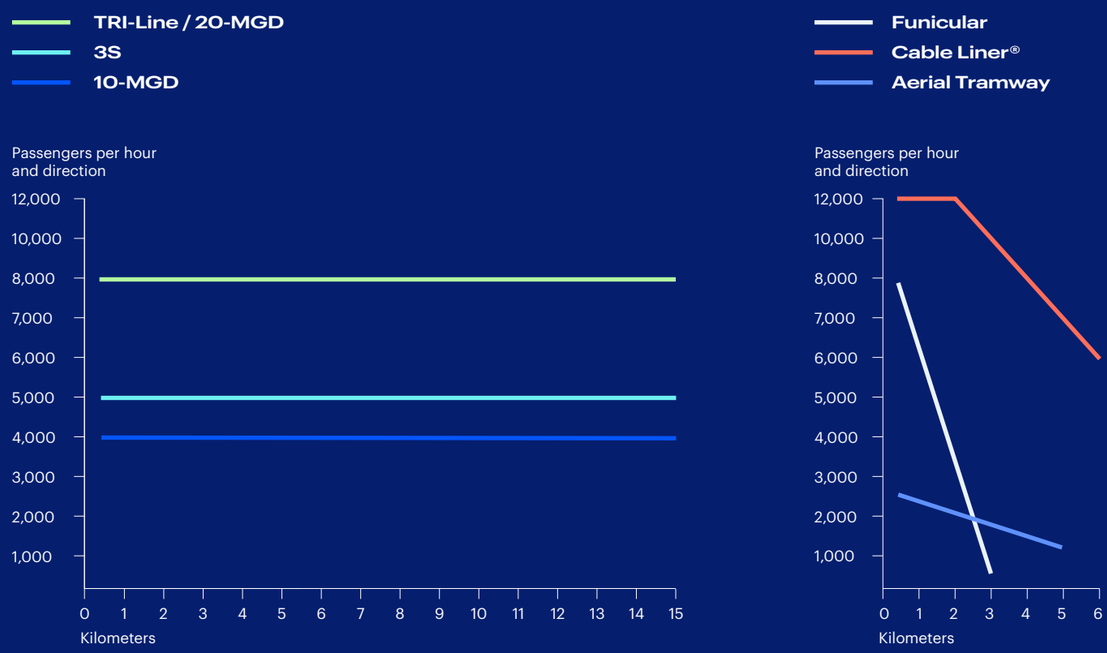
The right system for every requirement

Maximum transport capacity

Passengers per hour and direction



Ratio of maximum transport capacity to distance



The figures are based on real values taken from existing installations.

What matters to passengers

Flexible cabin concepts enable mobility for all.

How does the urban environment influence the design of ropeway cabins?
The cabin is the key passenger touchpoint – the part of the ropeway with which the passenger interacts directly. In cities, there is an even greater focus on barrier-free design and inclusive transport. In concrete terms, this means, for example, level walk-in, ample space and seating arrangements for people with impairments as well as for passengers with strollers or bicycles. A means of communicating with operating personnel also plays an important role.

Urban ropeways run virtually round the clock. That's why it's important to keep maintenance and cleaning processes as straightforward and effective as possible. That starts with the choice of cabin materials, which have to be as durable as possible and, to an ever-increasing extent, have to meet sustainability criteria. Cabins therefore need to be comfortable and at the same time low-maintenance in order to ensure high availability.

Which technologies can be incorporated in a ropeway cabin?
Modern cabins are comfortable, spacious and smart. They offer the latest information and communication technology, such as Wi-Fi, CCTV, intercom systems and info displays showing passengers their connections in the local transit network. In addition, free places can be indicated to boarding passengers by means of digital information signs on the outside of the cabin. Everything is basically possible!

The climate inside a cabin plays an important role for passenger comfort. Different concepts can be used, ranging from passive ventilation to actively controlled air-conditioning, depending on environmental conditions and customer wishes. For optimal results, temperature and humidity in the cabin can be monitored, for example.

Our passengers are our greatest asset. That's why we use a modern control system that provides optimal assistance for operational processes. CCTV, access monitoring and reliable emergency communications in the cabins ensure maximum safety. The control system delivers a high degree of automation with position monitoring and speed control options.

The STELLA cabin enables us to carry up to 20 passengers per vehicle for the first time on a monocable system. This is made possible by the comparatively low cabin weight, which we achieved with the aid of a lightweight aluminum construction. That gives us and our customers maximum flexibility if we are asked to incorporate heavier technology. STELLA also scores with maximum modularity.

What sets STELLA apart from other cabins?
STELLA can be used on both monocable and tricable systems. With this cabin, we achieve transport capacities of up to 8,000 passengers per hour and direction – that's a record in the industry! In addition, STELLA can be delivered with doors on both sides, which opens up flexible options for passenger flow management for the future in urban environments.

Further info

»The cabin is the key passenger touchpoint.«

Christoph Grob
CWA VP Sales/Marketing

Fully automated, quiet and cost-effective

The automated people mover (APM) from Doppelmayr is a rope-propelled, track-bound system that allows flexible use in the urban environment.

Faster and more sustainable: The Luton DART Cable Liner® provides travelers with a comfortable and time-saving link to London Luton Airport.

»Rope-propelled technology impresses – worldwide.«

Doppelmayr's Cable Liner® is a low-noise premium APM that enables maximum ride comfort. Thanks to a central electric drive, the system does not emit any greenhouse gasses locally and impresses with low maintenance requirements.

As a result, the Cable Liner® is particularly cost-effective and is optimally suited to airports, city centers, leisure parks and exhibitions as well as for expanding local transit networks. The option of creating an individualized design for the Cable Liner® opens up exciting ways for operators to implement their own ideas in terms of external perception. No matter whether it's in Luton, Oakland, Doha or Las Vegas, rope-propelled technology impresses – worldwide.

Further info

Benefits at a glance:

- Flexible use in the urban environment
- Fully automated and reliable
- High availability and cost effectiveness thanks to low maintenance
- Very quiet, pleasant ride experience
- No local carbon emissions
- Customized design possible

Mobility for all

For us, barrier-free design means meeting the needs of every passenger.

We think barrier-free design from an integrated perspective: from the street to the cabin and back again. Barrier-free station concepts with facilitated passenger flows as well as transfers to other modes of transport encourage the use of the local transit network.

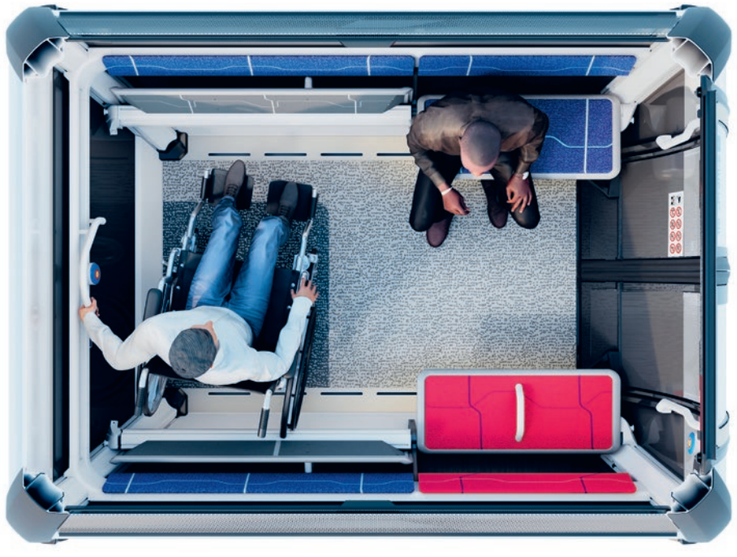
The requirements to be met by the cabins in the area of barrier-free design are therefore dependent on inclusive use for people with impaired mobility. The spacious, modular cabin interior provides room for bicycles, wheelchair users and luggage. The automatic doors and level walk-in ensure safe and barrier-free access for all passengers. Passenger information systems are also designed for maximum inclusion, comfort and safety.

»When designing a cabin, functionality takes top priority.«

Concept request barriere-free ropeway station

Optimized passenger flows and short walking distances are a feature of the consistently barrier-free ropeway station. It is equipped with elevators and escalators, combined with audio and visual equipment, and guidance systems based on the “two-sense principle” (at least two of the three senses of sight, hearing, and touch should be addressed).

When designing a cabin, functionality takes top priority. A cabin concept for maximum inclusivity starts with information signs and color markings. High-quality transmission is also important for acoustic information. Special seating for people with movement disorders can then be quickly identified and used. In these areas in particular, the emergency call button must be easy to reach and big enough for every user. Extra handrails make boarding and disembarking as well as sitting down and getting up, or standing during the trip easier for passengers.



Example of barrier-free cabin design.

Everything from a single source

With Doppelmayr, you can count on a reliable partner at your side.

More than 25 years of global experience proves that Doppelmayr is an established and valued operations services provider.

With an O&M (Operations & Maintenance) service contract, we take care of the customer's responsibilities and obligations in this regard. In addition, we offer facility management and landscaping, ticketing, marketing and customer experience management – everything from a single source, tailor-made to each customer's needs. The outstanding commitment of our professionally trained on-site teams is the main factor for a track record that speaks for itself.

We set the highest demands on safety, quality, reliability and cost efficiency. At the same time, we provide maximum transparency as well as flexibility and integrate seamlessly into existing local transit structures.

Further info

© IFS

Out of all TFL modes of transport, the ropeway ranks top for passenger satisfaction.

Close to the heart of Londoners since the Olympics

For over ten years, Doppelmayr has been running and maintaining the IFS Cloud Cable Car, originally built for the London 2012 Olympics, on behalf of TFL (Transport for London). Carrying around 1.5 million passengers a year between North Greenwich and the Royal Docks, this mode of transport proves itself on a daily basis.

Today, the ropeway is valued by tourists, residents and business people alike. Out of all TFL modes of transport, the ropeway ranks top for passenger satisfaction. During the 2012 Summer Olympics, the 10-passenger gondola provided a fast, convenient connection between the various venues. Since then, it has made a significant contribution toward development of the district around the Royal Docks.

Testimonial

»Our relationship with Doppelmayr over more than a decade has been one of the main reasons the London Cable Car has been so successful.«

Josh Crompton
Head of London Cable Car
Transport for London

2,500 p/h/d
capacity

6 m/s
speed

1,103 m
length

6 min
time saving per trip

16 h/day
operation

Social impacts of new mobility

New mobility solutions not only have a positive effect on climate but also increase quality of life for city dwellers.

Ropeway systems can connect remote, difficult-to-access parts of the city to the mobility network. An attractive mobility offer gives rise to jobs and prevents population exodus. Structurally weak areas become thriving and livable places to live and work.

Users, residents and employees are involved in the process right from the start of planning in order to deliver an economically efficient system and achieve optimal satisfaction.

Equality and inclusion

The ropeway is the ideal means of transport for people with physical and health impairments. Barrier-free concepts offer seniors, people with disabilities and families complete freedom to travel independently. And in the most sustainable way possible, with no local carbon or particulate emissions.

Small carbon footprint for a great future

Alongside economic and social aspects, ecological sustainability is a key benchmark for the future viability of transport systems.

Assuming an operating lifetime of 30 years, a ropeway produces less than a quarter of the tons of carbon dioxide equivalent generated by the other means of transport. This means it has the smallest carbon footprint of all local public transit systems and offers great potential for helping to decarbonize our cities.

The University of Düsseldorf and sustainability experts from denkstatt GmbH examined and compared the carbon footprints of different modes of transport on the basis of an in-depth scientific life cycle analysis (cf. study Green City Deals). To ensure unequivocal comparability, the mobility requirements were combined to form a functional unit (same transport capacity, identical operating hours, etc.). This impressively highlights the strengths of the ropeway in the urban environment.

Further info

Carbon Footprint

Extract from the study »Green City Deals«

Scenario: Línea Roja, La Paz (BOL)
Capacity utilization: 69% (2,059 PPHPD)
Time frame: 30 years, cradle-to-grave

	Ropeway	Streetcar	Large bus	Minibus
	100 %	350 %	400 %	450 %
	48,204 tCO_2eq	215,094 tCO_2eq	242,197 tCO_2eq	267,167 tCO_2eq
	Production*: 14.5 % **Distribution: 3 %** **Use: 82.5 %**	Production*: 2.5 % Infrastructure: 29.7 % Distribution: 0.1 % Use: 67.7 %	Production*: 2.1 % Infrastructure: 7.1 % Distribution: 0.1 % Use: 90.7 %	Production*: 3.2 % Infrastructure: 12 % Distribution: 0.2 % Use: 84.6 %
	• Electric drive • Direct route (2.3 km) • 1 unit (109 cabins parallel) • Ø 16.57 hours/day • Useful life 30 years	• Electric drive • Fastest route (12.3 km) • 8 units parallel • Ø 16.57 hours/day • Useful life 4.42 years • 55 units over 30 years	• Fossil fuel drive, EURO 6 • Fastest route (12.3 km) • 16 units parallel • Ø 16.57 hours/day • Useful life 3.95 years • 122 units over 30 years	• Fossil fuel drive, EURO 6 • Fastest route (12.3 km) • 68 units parallel • Ø 16.57 hours/day • Useful life 3.95 years • 518 units over 30 years

*includes material, production and recycling after end of life. The infrastructure has been included under production for the ropeway.
The results of the study were subjected to a review process by three independent institutes.

Toward a livable future

From manufacture through operation to demolition: The ropeway shows its strengths throughout its entire product life cycle.

The Green City Deals study shows that the complete life cycle of transport systems has to be considered if you want to be able to assess the actual impacts on the environment and therefore the effects on city life. The following benefits of ropeways can make a significant contribution toward a more sustainable urban living environment.

Environmentally friendly drive:
The ropeway is electrically driven and therefore locally emissions-free. The high efficiency of the different electric drives that can be employed enables resource-efficient and quiet operation of the installation.

Space-saving design:
In contrast with other modes of transport, ropeways do not occupy large areas on the ground as they glide in the air. That leaves more room for green spaces and nature conservation.

View study

Rainwater retention through green roofing:
The stations on a ropeway can be fitted with green roofs. As well as lending themselves to aesthetic integration into their surroundings, these solutions help to retain rainwater through natural storage and slow release.

Promotion of biodiversity:
Green roofs and station design are conceived to provide new habitats for flora and fauna. That helps to promote biodiversity and conserve local ecosystems.

Reuse of the ropeway installation:
A particularly sustainable aspect of ropeways is the fact that they can be reused at another location. In the case of the BUGA cable car in Mannheim, all parts were reused. That reduces the consumption of resources and the installation's ecological footprint.

»Even before you have built a streetcar, its carbon footprint exceeds that of a ropeway that has run for 30 years and been dismantled again.«

Prof. Dr. Jörg Niemann
Professor at Düsseldorf University of Applied Sciences for the Teaching and Research Field of Engineering Management

Further info

Positive changes in everyday life

Bolivia is home to the world's biggest urban ropeway network: Mi Teleférico. Its ten lines connect the cities of La Paz and El Alto, carrying around 300,000 passengers on a daily basis.

Since 2014, aerial ropeways have been part of everyday life for the residents of La Paz and El Alto in Bolivia. Up until 2019, the Mi Teleférico saw continuous expansion and now comprises ten lines with an overall length of over 30 kilometers. Every day, the ropeway network is used by some 300,000 people in the South American metropolises – as a means of getting to work, going shopping or going to school. The ropeways are also very popular with tourists.

Faster, more reliable, more convenient
The ropeway network consists of 10-passenger detachable gondolas and is the number one means of transport in the cities of La Paz and El Alto. Where buses once laboriously plowed their way through the streets, 1,396 cabins now glide easily above the city. For residents and visitors, that means they can rely on arriving on time – and completely relaxed, with stunning views into the bargain.

27,000 p/h/d
overall capacity of all lines

6 m/s
speed

33 km
length

34 min
time saving per trip
(Línea Amarilla)

17 h/day
operation

Further references

TransMiCable
Bogotá, Colombia

Many residential districts have now been fully integrated into the public transport network thanks to the ropeway connecting them to the BRT system Transmilenio. The integrated ticketing system means that passengers can use the ropeway, BRT services and other means of public transport on one ticket.

Further info

Uruapan
Uruapan, Mexico

Over 30 million passengers in a catchment area of 350,000 people and a length of 8.4 kilometers: That's the urban ropeway Uruapan, an arterial route which is set to revolutionize the local transit system in one of Mexico's oldest cities from the end of 2025.

Further info

Arrêt Pfaffenthal – Kirchberg
Luxembourg

22-minute time saving: That's the gain for commuters taking the direct funicular link from Pfaffenthal railroad station to the Kirchberg commercial district in Luxembourg. The funicular is fully integrated into the free local transit offer and brings up to 7,200 passengers per hour and direction to their destination.

Further info

Portland Aerial Tram
Portland, USA

The Portland Aerial Tram connects OHSU's largest campus on Marquam Hill with its South Waterfront campus. The city's transport network ticket can be used on the aerial tram and its lower terminal is a transport hub for bus and streetcar.

Further info

FAQs

What you always wanted to know about urban ropeways.

What does a ropeway cost?

10 %

of the costs of a subway and
33% of the costs of a new streetcar.

The completion/construction costs of a ropeway are a fraction of the costs of other modes of transport: 1/3 of a steetcar; 1/10 of a subway.

Every ropeway is a custom solution. For that reason, the costs of completion are very project-specific and dependent on a large number of parameters, such as purpose, transport capacity, vertical rise, number of stations, route length and alignment.

How environmentally friendly are ropeways?

0.1 kW

is consumed per kilometer
ropeway trip and passenger.

A ropeway trip is the equivalent of drying your hair for five minutes. Ropeways are environmentally friendly. They are electrically driven – so no local emissions and noise – and have a comparatively small ecological footprint. Only cycling or walking is environmentally friendlier.

How long does it take to build an urban ropeway?

2 years

Ropeway projects have a completion time of roughly two years. In comparison with other modes of transport, a ropeway project can be completed relatively quickly.

Stations, for example, can be integrated into existing buildings or infrastructure, or built above streets. Towers have a low space requirement and allow flexible incorporation in their surroundings. The time taken to build the world's biggest urban ropeway network in La Paz with 10 lines was only 6 years.

What is the maximum wind speed in which ropeways can operate?

Up to
110 km/h

Continuous monocable systems can normally still be run in wind speeds of 60 to 70 km/h. Tricable ropeways can even withstand winds of up to 110 km/h. Ropeways have to shut down temporarily in the event of a storm.

Check out more info in the FAQs on our website.

Doppelmayr Group
doppelmayr.com

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