

Railway systems and their transition
Lecture 7

Customers – Real Estate.

Peter Kummer
EPFL, Autumn Semester 2025
November 4, 2025



Today's agenda.

1. Intro
2. Pitch «Case Study» from last time
3. Customers real estate
4. Case Study “train station Uster”
5. Rail freight transport

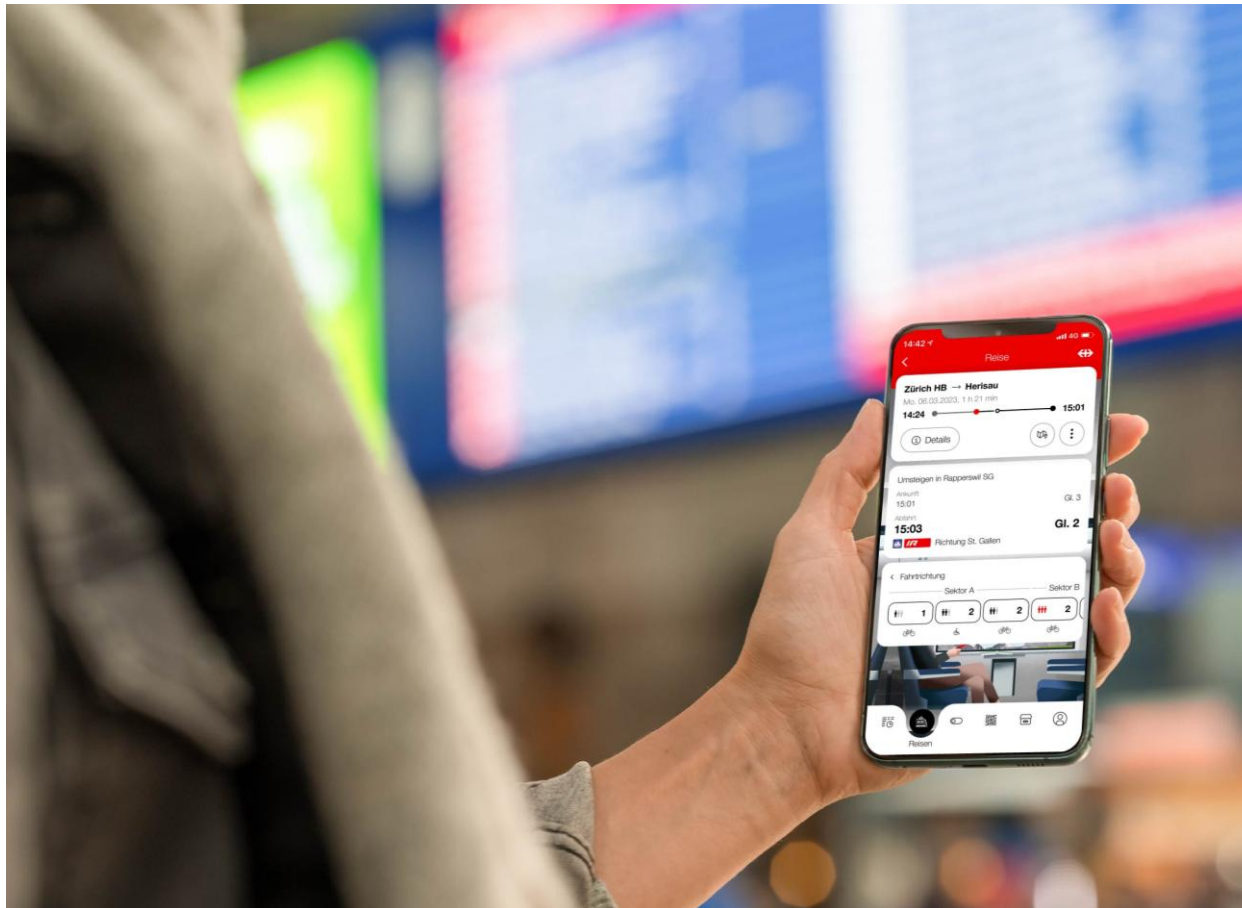


Case Study

Customers: Passenger Transport.

Student pitch

Increasing the attractiveness of public transport through an improved product range and enhanced customer interaction with the existing public-transport offering.



You are a product manager for SBB Mobile and have been tasked with further developing Switzerland's most widely used public-transport app.

Tasks:


- Where do you see SBB Mobile's strengths and weaknesses?
- In which direction would you further develop the app, and based on what considerations?
- What goals would you pursue?


Customers - Real Estate.

1. Introduction: Railway system and real estate
2. Real estate and its customers
3. Strengthening the overall system through real estate
4. Portfolio
5. Challenges


1. Introduction: Rail system and real estate


35'569 employees: As an integrated railway, we move Switzerland – every day.



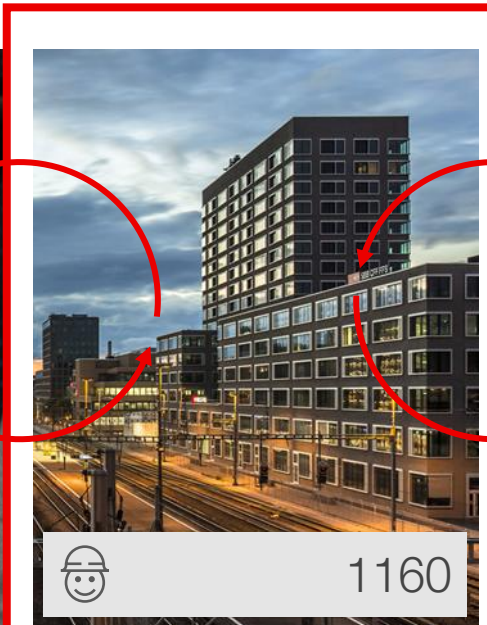
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Production
Passenger traffic
7947 trains/day



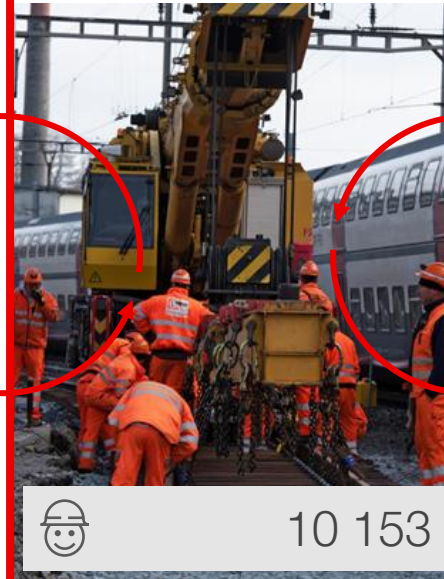
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Market
Passenger traffic
1.39 million travelers/day



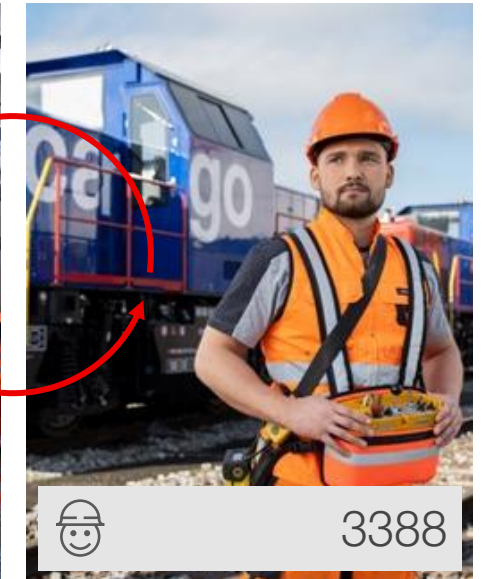
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Real estate
2500 buildings



 10 153


Infrastructure
3266 km network



 3388

Freight traffic
170 000 NT goods/day
NT 43.1 million

Corporate divisions: Subsidiaries (2230 FTE), IT (1444 FTE), Human Resources (812 FTE), other Group divisions (703 FTE)

 5189

Strategic directions of SBB Real Estate.

Ensure railway production



SBB Real Estate provides **office and industrial buildings** that create a functional, inspiring and economical working environment, with employee motivation and performance at the centre.

Upgrade stations



SBB Real Estate ensures **safe, clean and comfortable stations, promotes access to rail**, and develops stations and their surroundings into transport hubs with service offerings.

Develop the station surroundings



SBB Real Estate develops **areas exempt from railway operations together with the cities and municipalities**. It helps to sustainably improve the quality of life in Swiss cities. SBB Real Estate increases the number of affordable apartments in its own portfolio, thereby diversifying the portfolio and **strengthening SBB's financial health**.







↔ Renens

"Moyennement"
Moyenne générale ↑

Les Pancakes
Mafia

Actualité
Dernières nouvelles
Moyenne générale



their transition

2. Real estate and its customers



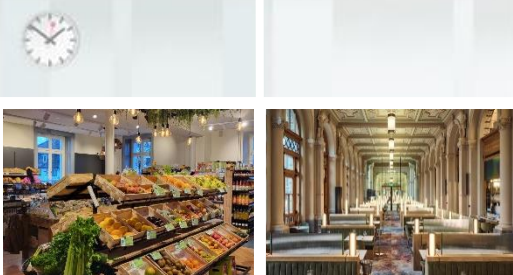
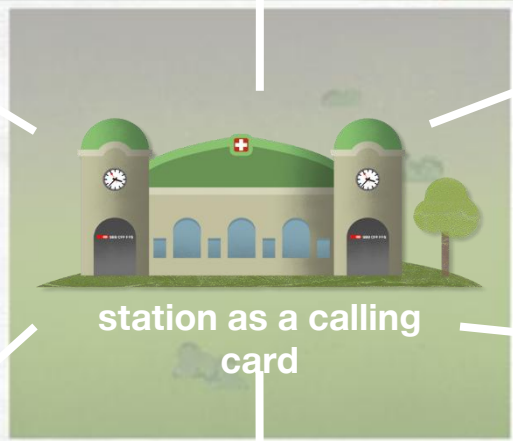
Customer toilets.



Bench.



Clean up and refurbish stations.



Tenant mix.

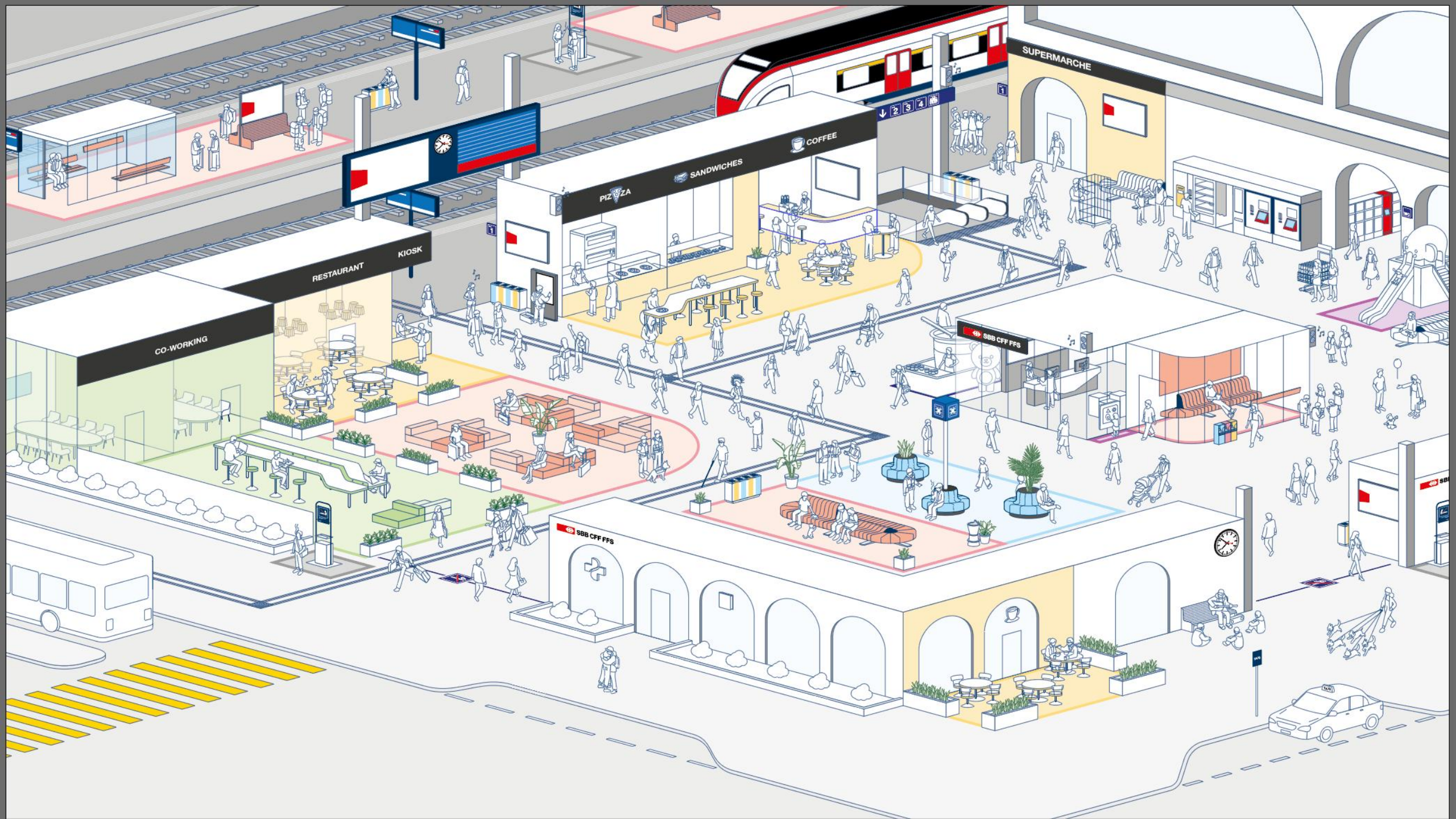


point of sale

Autumn 2025



Waiting area.



RESTAURANT

KIOSK

CO-WORKING

PIZZA

SANDWICHES

COFFEE

SUPERMARCHÉ

SBB CFF FFS

SBB CFF FFS

SBB

Customer experiences at the stations.

Customers stay at the station for different reasons and use it for a variety of activities: they change trains, shop, wait, eat, work, meet, ...



Customer experiences at the stations.

To cover the diverse activities and needs of customers in stations, SBB Real Estate must ensure the following:

- Safe and convenient access to rail and connecting mobility
- Sufficient space on the circulation surfaces
- Sensibly placed customer information and signage
- Furnishing elements in the right place
- Attractive mix of retail, gastronomy and services
- Lingering zones with quality of stay
- Clean toilets
- ...



**Brienzer Rutsch
Felsmassen begraben Hütte
unter sich**

Am Donnerstag kurz vor Mitternacht löste sich ein grosser Teil der Insel am Hang bei Brienz GR. So hat sich der Berg über Nacht verändert. (Video: BlickTV/Gemeinde Albulu/Alvra)



Zeit	Linie	Ort	Linien
00:42	Almend/Messe	Mattenhof Horw	Agrachstad Sarnen Giswil 14 A
00:44	Emmenbrücke	Gersag Emmenbrücke Kopf Sursse	11 B
00:51	Ehikon	Buchrain Flood D4 Glisikon-R. Holtzau Zug Bär	3
00:54	Oster	Stadel GDB	4
00:57	Almend/Messe	Mattenhof Horw Matt Hergiswil Stars	14
00:57	Malters	Wohhusen Weid Merschau Willisau	5 A
00:57	Malters	Wohhusen Entlebuch Langnau Korntalgen Bern	5 AB
00:58	Sarsse	Zoffingen Bern Lausanne Genève-Aéroport	8
00:59	Emmenbrücke	Gersag Waldbrunn Escherbach Lansburg	10 BC
10:00	Emmenbrücke	Rothenberg Station Sempach-N. Olten	9
10:00	Verscherhaus	Moggen Zerihum Meggen Schwyz Brunnen	10
10:00	Sarnen	Sachsen Burgag H. Meiringen Brienz Interlaken Ost	13
10:00	Zürich HB	Quartern Zürich Flughafen	5

Achtung: Fahrplanänderung Hochdorf-Sarnen a./B. bis 19.06.2023 um 04:00 Uhr. Prüfen Sie ihre Verbindung im Online-Fahrplan.

kiosk



←
Abfahrt
Bahnhofplatz

Crissier
Renens centre
Mex VD, Faraz

54	36	17
32	38	19

Voie 2 - 7

Ecublens
Renens sud
Chavannes-près-Renens

33	25
32	31

Galicien

SBB CFF FFS

Préinformation travaux: Le train sera restreint entre Lausanne et Genève pendant du 06.24. 21:00 au 10.06.24 08:30. Cela concernera les IR30, EG et TGV, les R6 circuleront selon un horaire modifié. Merci de consulter l'horaire en ligne.

Horaires	Voie
11:00	
11:01 R1 Grandson Bussigny - Vuflens-la-Ville - Cossonay-Penthalaz - Eclépens	1
11:02 RE33 St-Maurice Lausanne - Vevey - Montreux - Vevey-Chillon	3
11:02 RE33 St-Maurice Lausanne - Vevey - Montreux - Villeneuve VD	3











Customer experiences outside the station.

Customers spend time in the station surroundings for various reasons and use it for a variety of activities: they live, work, shop, linger, attend events, stroll, eat out, take advantage of educational opportunities, meet, ...



Surroundings of the station

Customer experiences outside the station.

In order to be able to cover the diverse activities and needs of customers outside the station, SBB Immobilien must ensure the following points:

- **Lively areas through publicly accessible offers**, which include retail, gastronomy and services as well as schools and health services
- **Optimal connection to public transport** thanks to central location and thus contribution to increasing the modal split
- **Apartments near the center**

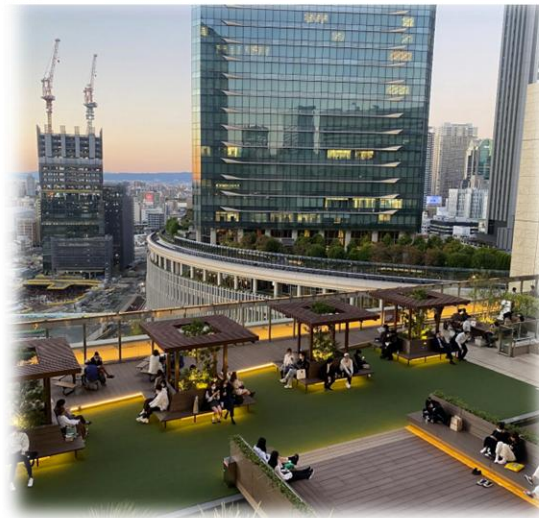






Excursus: What do other railway companies do?

Japan: «The station is the place that connects people to each other». (1/2)



- The Japanese State Railways was privatized in 1987, and today there are a total of 7 railway companies in Japan.
- The East Japan Railway Company (JR East for short) is one of the world's largest railway companies for passenger transport and a leader in Japan.
- In addition, there are various private railways¹.

¹Siehe: [Introduction of private railway companies | Japan Private Railway Association](#)

Japan: «The station is the place that connects people to each other». (2/2)



- When it comes to design, "local first" applies.
- In the small stations, the **municipality receives 15% of the available space**. Among other things, course venues, music schools or NPOs are placed there.
- "Business to benefit the masses first": The selection of rental concepts is consistently based on the **benefit for the majority of customers** (customer segmentation).
- The "customer first" concept is very firmly anchored in Japanese railway companies.
- "calm offers" increase the time spent at the station.
- The principle of "**Develop it beautifully**, repair and clean it immediately" is put into practice.

Austria.



- The Austrian Federal Railways (ÖBB) is the largest railway company in Austria, it is fully owned by the Republic of Austria.
- Today, practically **all plots are given up under building rights**, in-house developments are the exception.
- The large stations function primarily as shopping centers with rail connections.
- The guiding principle is: "Everything that is too far away from the core business is done in the operator model".



Germany.

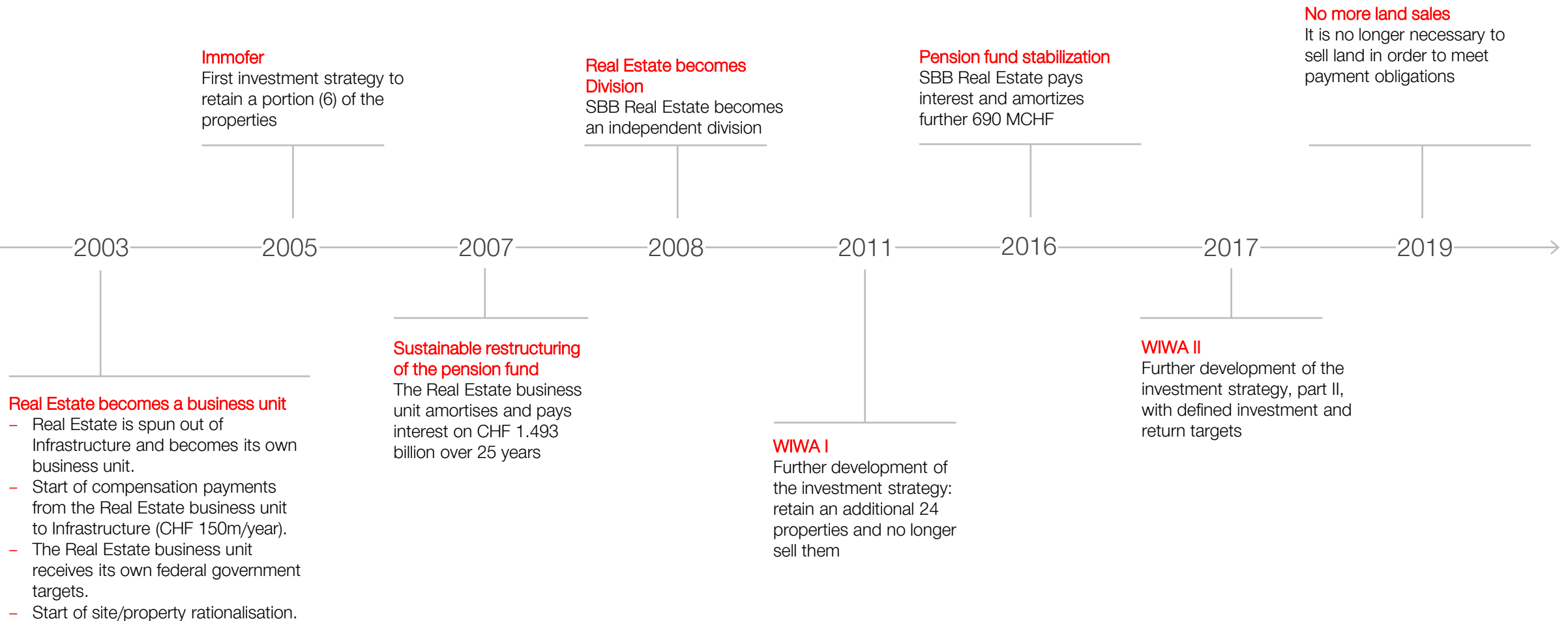


- Deutsche Bahn (DB) was founded in 1994 as a public limited company and is owned by the state.
- At the stations, DB uses **pop-up spaces** with rotating concepts rented for about every 3–4 months
- When allocating space, DB is planning a "**regional corner**" at the main station, where regional providers can be concentrated at one location in the station
- A specific "**green station**" concept has been developed for small stations. Sustainable station buildings are created with modular components.
- The focus is on the quality of stay at the stations. Different offers serve different usage needs depending on the location.

3. Strengthening the overall system through real estate



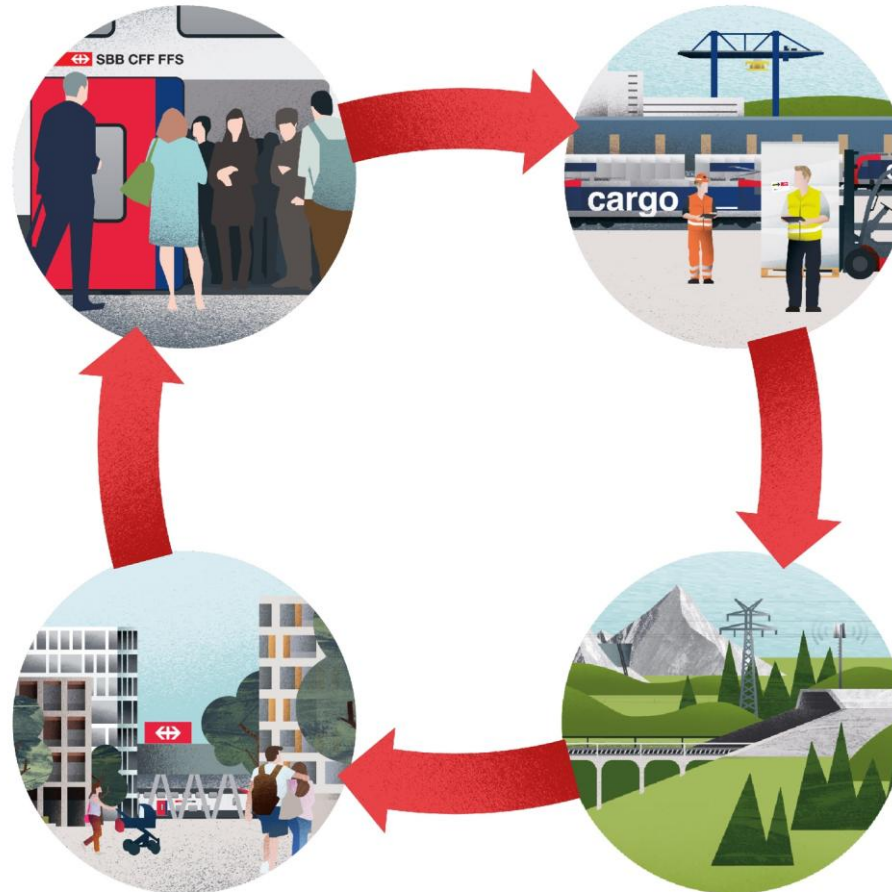
The formation of the SBB Real Estate division and its investment strategy to retain the properties.



Contribution of SBB Real Estate to the integrated railway system.

SBB Passenger Transport ensures that more than **1.3 million SBB customers** have easy access to public transport every day and travel comfortably from A to B. In safe, clean and punctual trains.

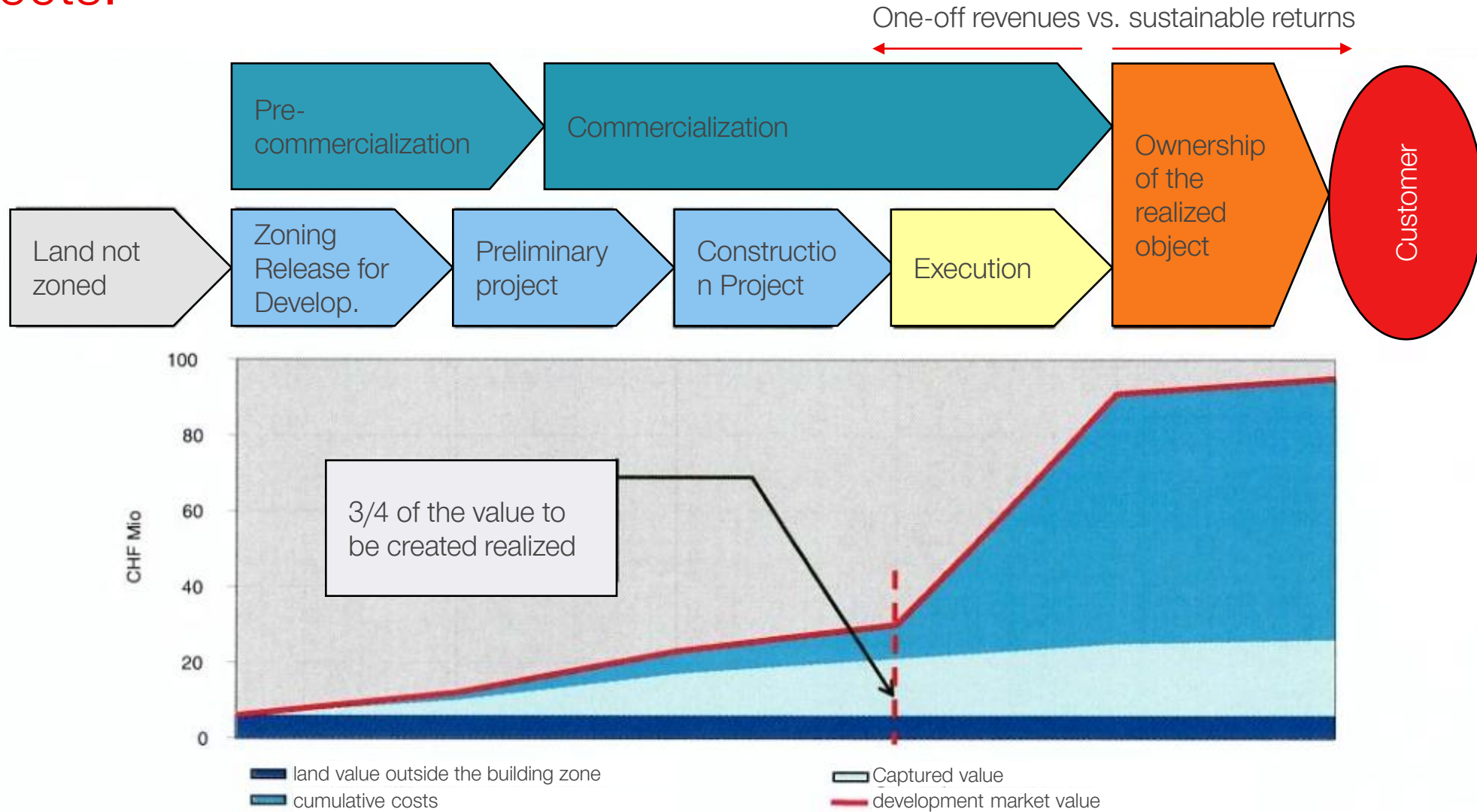
SBB Real Estate guarantees **safe, clean and comfortable stations**, promotes access to rail and develops stations and their surroundings into **transport hubs** that increase the attractiveness of public transport and the quality of life in cities and communities.



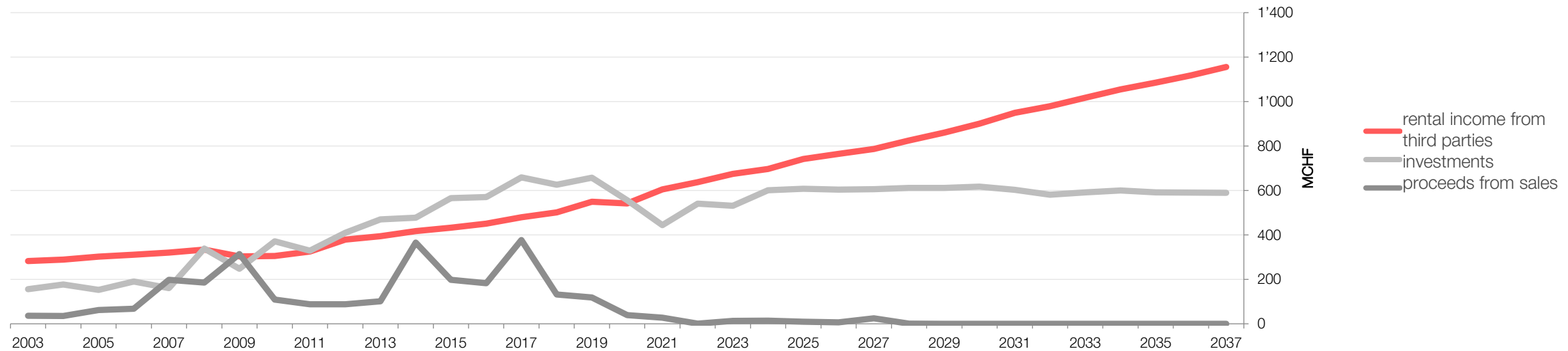
SBB Freight Transport contributes to the supply and disposal in Switzerland. Rail freight transport **relieves the Swiss road network** and emits less CO2 than other modes of transport.

SBB Infrastructure **builds, operates and maintains the rail, traction power** and telecommunications network for railway operations. To optimize the infrastructure network, it frees up central operating areas in the city centers and relocates plants to operationally optimized locations.

Value creation potential in the development cycle of real estate projects.



Revenues: important for debt reduction.

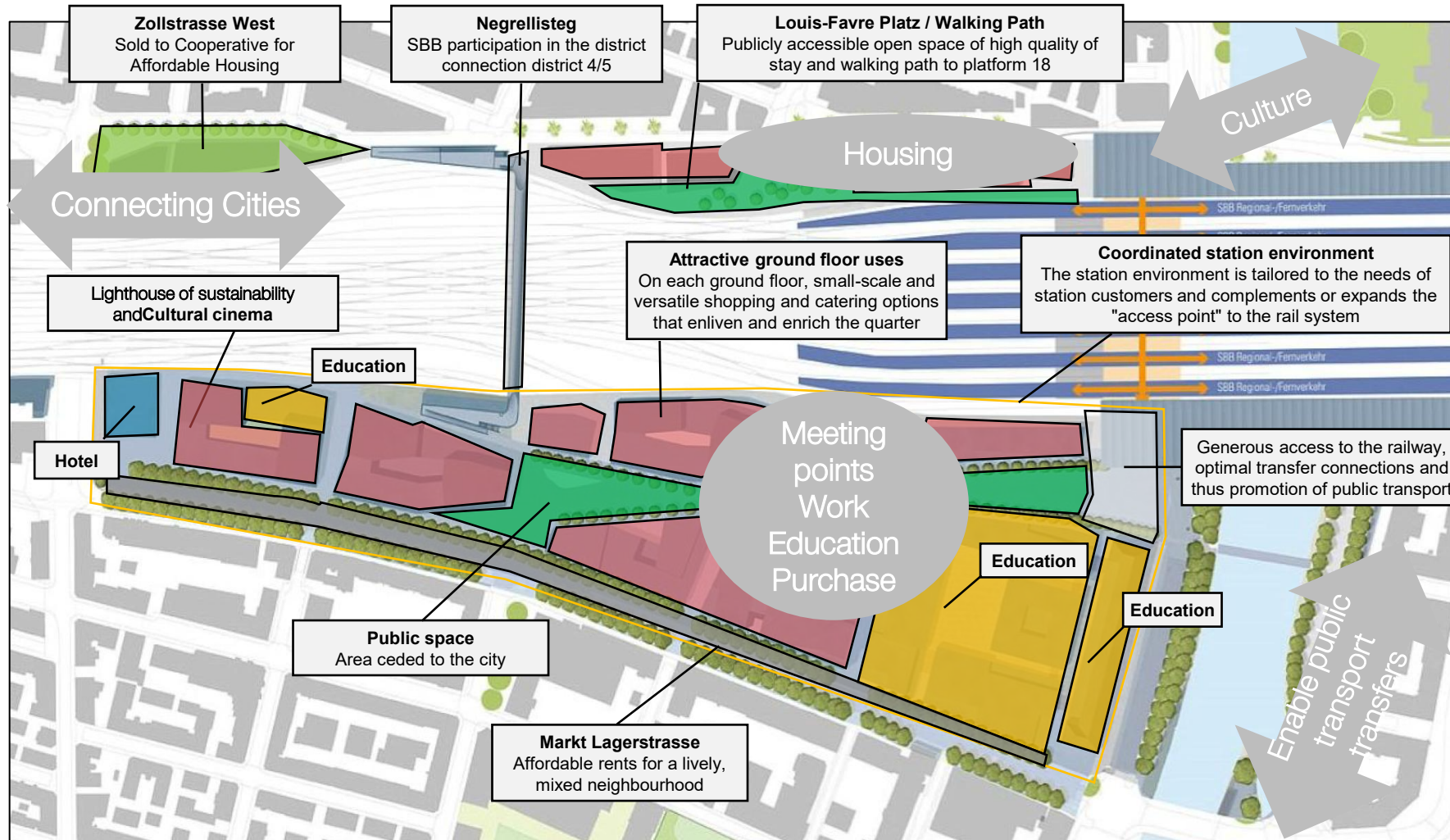


A new district in the vicinity of the station: Europaallee, Zurich.

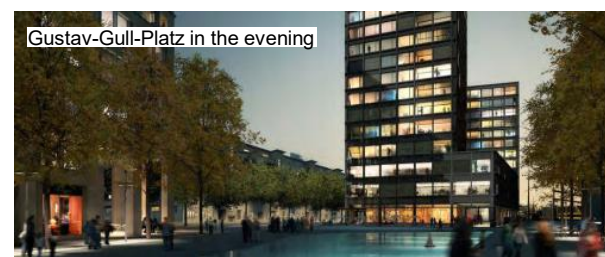
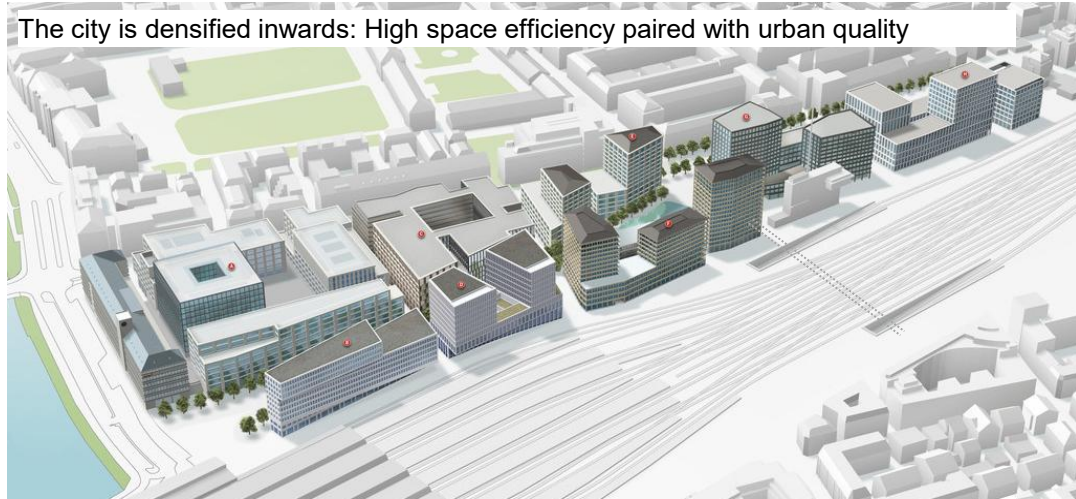


- The area is **located directly next to Zurich's main station** and was previously used for infrastructure for SBB and Swiss Post.
- In December 2004, a design plan for the area was submitted, on January 18, 2006, the Zurich City Council approved the design plan, and in the referendum on September 24, 2006, a majority of Zurich voters also said yes to the project.
- The Europaallee was **realised in stages from 2009 to 2020**.
- The **infrastructure facilities** have been **relocated**.
- A **new district was created** with a diverse mix of uses: shopping, service, gastronomy and leisure facilities on the ground floor, residential and office use on the other floors and a location for universities.

Europaallee: Site plan and uses.



Europaallee – Overview.

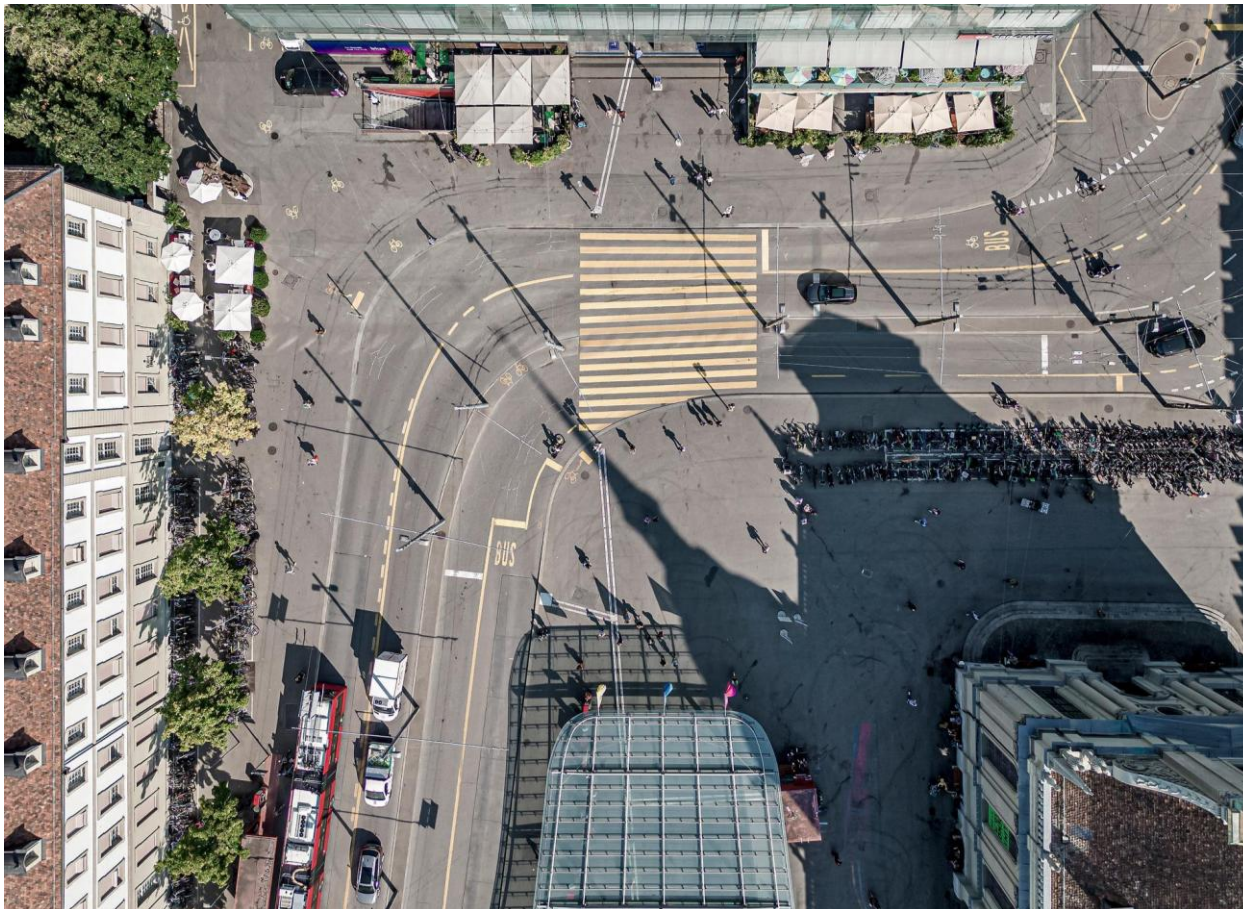


Renens station: Upgrading of the station environment.



- The "Entrepôts" **sector**, owned by SBB, is located close to Renens station and was used as a **logistics centre**.
- In the new Parc du Simplon district, **new apartments, offices and commercial premises** have been built. SBB's new offices are located in two buildings.
- Located south of the tracks, the Parc du Simplon is fully connected to the adjacent districts. A new pedestrian bridge improves access to Renens station.
- In addition, **the station building** was upgraded, the station square was redesigned and a new district connection was created.

SBB Real Estate is developing railway stations and their surroundings into attractive mobility hubs.



- Together with the cantons, cities and municipalities, SBB real estate is continuing to **develop** stations and their surroundings into **attractive transport** hubs and promoting access to the railway.
- For the development of mobility and railway sites, SBB real estate **supports concepts** for long-term integrated mobility and site developments and overall regional perspectives.
- SBB real estate **involves the population** in the design of new living spaces by means of a participatory planning process in order to be able to respond to their wishes and requirements
- SBB real estate **offers a balanced** range of retail and services at the stations and their surroundings.
- SBB real estate is involved in low-cost housing construction and cooperates with cooperatives.

4. Portfolio

The focus is on the optimal balance of the overall portfolio – not maximizing returns but focusing on customer needs.



Services without return

- Bike+Rail
- Toilet facilities that do not cover costs
- Quality of stay
- Building culture
- Ecology

Services with reduced profitability

- Affordable rents for educational institutions
- Affordable apartments
- Park&Rail facilities in the service of public transport connections
- Short-term parking ("Kiss&Ride")

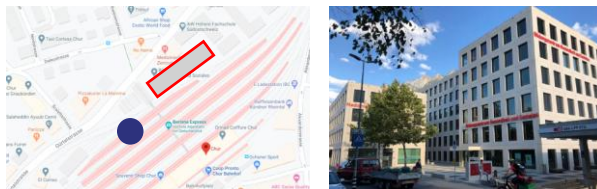
Services with profitability

- Office and retail spaces

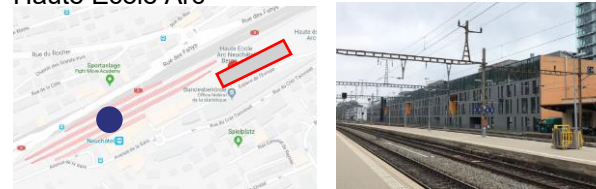
Diversification strengthens the real estate portfolio.

- Education is an important element in risk diversification, as demand does not fall during economic downturns. SBB aims to attract educational institutions as tenants in properties close to major regional transport hubs.
- Educational institutions are well-suited for station locations and SBB's portfolio. They diversify the portfolio, reduce urban motorised private traffic and increase the modal split of public transport.

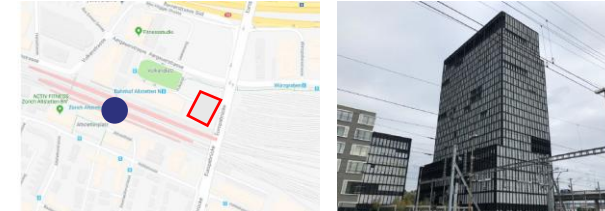
Chur, Gürtelstrasse 48:
ibW Höhere Fachschule Südostschweiz



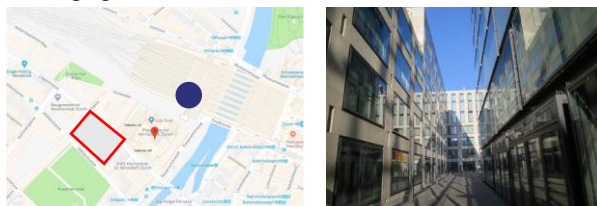
Neuchâtel, Espace de l'Europe 7, 11
Haute Ecole Arc



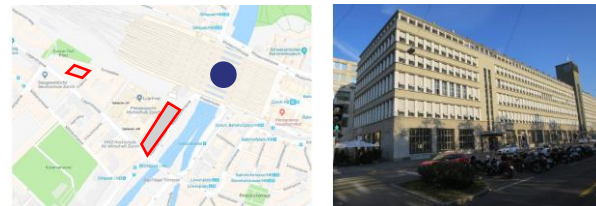
Zürich Altstetten Westlink: Klubschule Migros



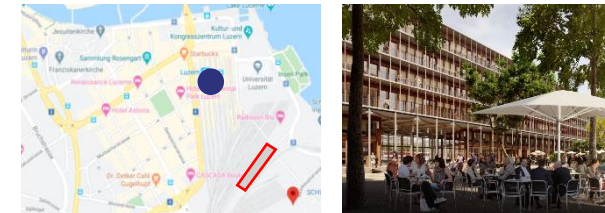
Zürich Europaallee:
Pädagogische Hochschule Zürich



Zürich Europaallee:
KV Business School & Juventus

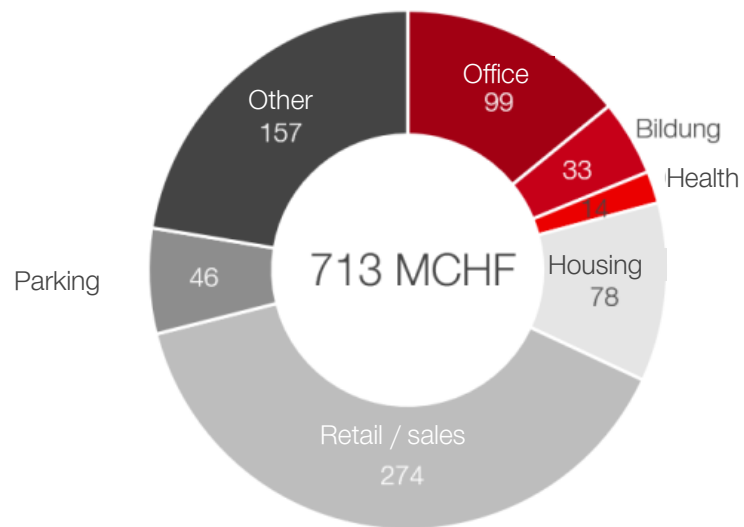


Luzern Rösslimatt: HSLu

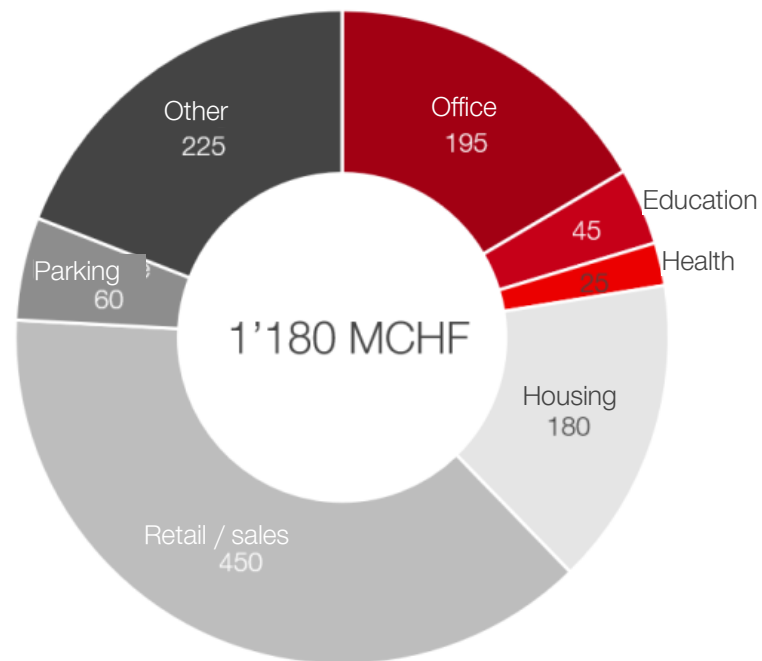


● Bahnhof □ Bildungseinrichtung

Diversification of types of use: important for a balanced distribution of risk.



Rental income 2024



Projection of rental income 2037

5. Challenges.

The biggest challenges for SBB Real Estate.



- **Focus on participation:** SBB Real Estate’s construction projects should be broadly supported and enjoy high acceptance. However, objections often block projects.
- The political framework has tightened: there are currently debates about high rents, and **SBB is under intense public scrutiny.**
- **Profitability threshold:** SBB Real Estate’s projects must be profitable, otherwise they will not be built. The risk threshold is considerably higher than for private developers because the SBB’s economic viability requirements as a railway company are very stringent.
- Moreover, site **releases are often complex** because multiple parties are involved. Within SBB there are frequently disagreements over land use.

6. Conclusion: real estate.

Take aways Real estate for the railway.



- Prerequisite for smooth railway operations (offices, industrial buildings, maintenance facilities, interlockings, signalling rooms, etc.)
- Ensure safe, clean and comfortable access to the rail system (stations) **and connect rail with the rest of the transport network** (stations as transport hubs).
- Secure customer satisfaction at the start and end of every rail journey (through the stations).
- **Can generate recurring annual additional revenue** (from rental income) and **thereby strengthen the railway's financial health.**
- **Influence the rail operator's image both positively** (clean stations, attractive station precincts) and negatively (run-down stations, profit-only developers).

Case Study.

Customer-centric design of stations.

Case Study Train station Uster.



Basic information.

Strategic cornerstones of SBB Real Estate.

Portfolio Stations

The train station is
the calling card
of SBB

- Position the station as a representative entrance and exit gate
- Offering more comfort at the station
- Ensuring sustainable station maintenance

Developing the station
into a transport hub

- Densification of the railway station and its surroundings
- Enabling transfer connections
- Align transport hub with settlement/urban development

Offer more services
to customers

- Ensuring a balanced tenant mix and a high income base
- Offering consumer products tailored to customer needs
- Enlivening stations with regional activities and unique concepts

Site plan Uster Station.



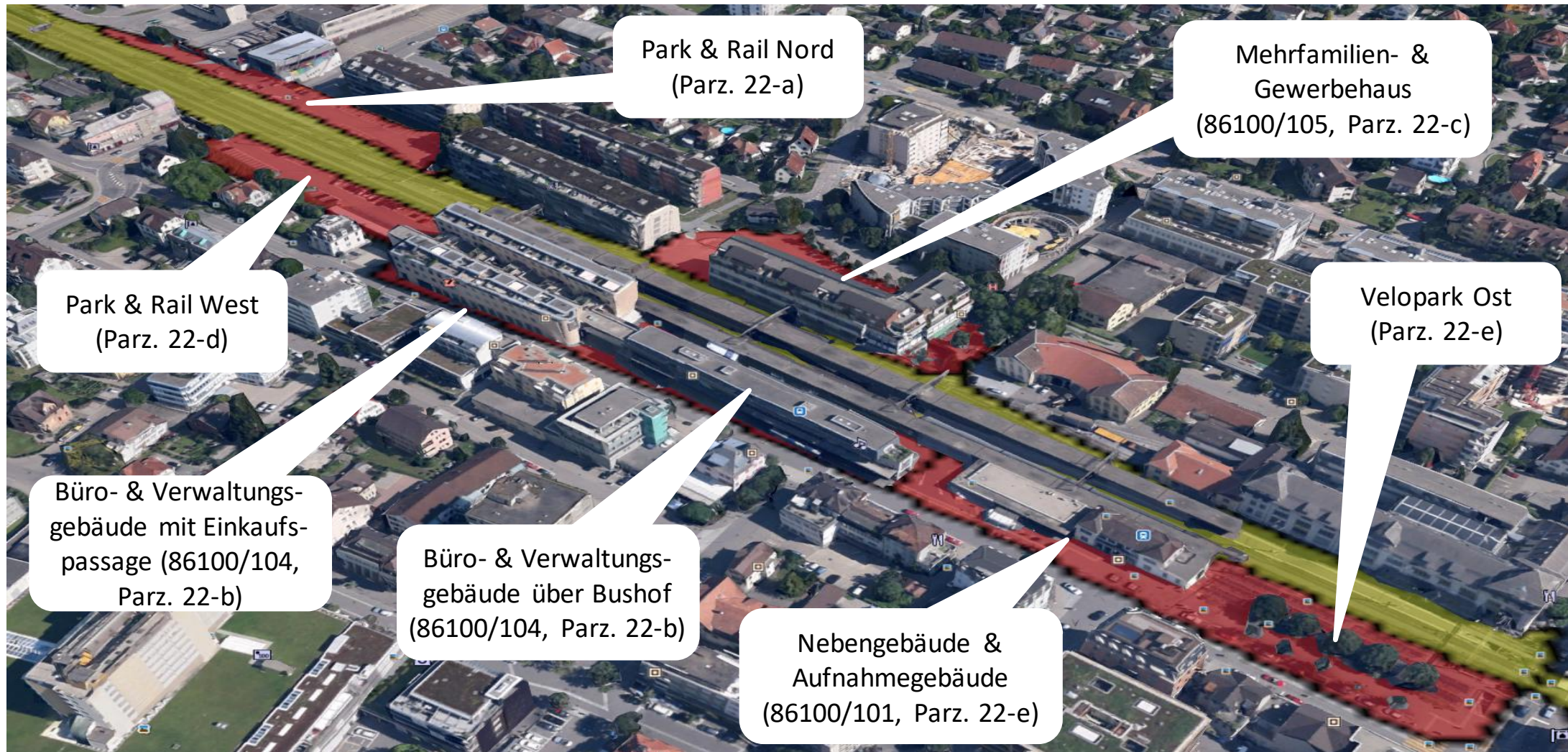
— Land border SBB Real Estate

— Pedestrian underpasses

Legende:

- | | |
|--|---|
| <ul style="list-style-type: none"> 1. Pedestrian underpass (east) 2. Bicycle parking (east) (city bike park) 3. Station building (entrance) 4. Ancillary building 5. Pedestrian underpass (central) 6. Office and administration building / bus station 7. Office and administration building / station concourse | <ul style="list-style-type: none"> 8. Pedestrian underpass (west) 9. Deliveries & waste disposal 10. Bicycle station (southwest) 11. Park & Rail (west) 12. Access road to Park & Rail 13. Park & Rail (north) 14. Bicycle station (northwest) 15. Multi-family residential and commercial building with goods shed |
|--|---|

Key data for Uster train station.



Framework conditions.

Corridor Framework Plan Zurich Oberland

As part of the expansion of the railway infrastructure (STEP 2035), the expansion of the Uster-Aathal railway line is planned. The project is to be realized by 2035. The routing routes for the trains of different types of transport are being examined, as well as the feasibility of the proposed solutions on the routes and in the junction. In the long term, a lane expansion in the direction of Dübendorf is planned for Uster. This requires an additional platform edge. The following variants are being examined:

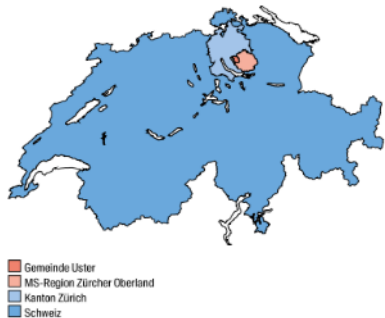
- Widening of the track road to the north / south (either or, see illustration)
- Elevated station above today's tracks (today's platforms only slightly changed)
- Underground station near the station (today's platforms only slightly changed)

According to current knowledge, implementation will take place from 2040 at the earliest / from 2050 at the latest as the last measure of the track expansion of Zurich-Dübendorf-Uster.



Market and environment analysis.

City of Uster



The municipality of Uster is located in the Zurich agglomeration and has 36,563 inhabitants (change 2021 to 2024: 2.9%). The share of high-income people (taxable annual income >75,000 CHF) was 39.3% in Uster in 2021 (Switzerland: 33.9%). The proportion of low-income people (taxable annual income <CHF 50,000) was 31.8% in 2021 (Switzerland: 37.0%).

From Uster, 1,639,183 inhabitants and 1,195,659 employees (full-time equivalents) in Switzerland can be reached within half an hour by car (for comparison, the city of Zurich: 2,034,827 inhabitants and 1,432,153 employees). By public transport, there are 902,002 inhabitants and 840,978 employees (full-time equivalents) within half an hour (for comparison, City of Zurich: 1,060,533 inhabitants and 925,423 employees).

The number of employees in the industrial and service sector (full-time equivalents) was 13,576 in 2023, of which 76.6% was in the service sector (Switzerland: 76.1%). Since 2020, the number of people employed in Uster has increased by 4.2%, with both the industrial and service sectors providing additional jobs. In the municipality of Uster, the number of workplaces has increased by 3.3% within three years to 2,509 workplaces in 2023.

Market and environment analysis.

Sales:

Overall rating: good to very good

On a weekday, almost 30,000 people frequent Uster station. In the immediate vicinity of the reception building (5 to 10 minutes walk) there are 2 shopping centres, one of them with Migros and Denner. A second Denner, within the same walking distance, is located on the north side of the station in the centre of Brunnehof. The station is the only place in the Zurich Oberland with ZöV status* and sufficient parking facilities. Since the sales areas in the office and administration building are not in a high-frequency location and are difficult to see from the outside, this location can only be described as good at best, especially on weekdays.

Office:

Overall rating: good

Around the station there are branches and branches of the three largest Swiss banks and Swiss Post. Due to the many new office buildings in Uster, the office space with a lower standard of fit-out at the train station has lost demand. The education and health services are also represented in the area around the station. In the immediate vicinity, there are the Uster Cantonal School, the Uster Vocational School and the Uster Higher Vocational Training, among others. In the health sector, Medbase, Uster Hospital, a dental centre, an allergy centre and a residential and care centre are represented in the immediate vicinity of the train station.

Housing:

Overall rating: good to very good

The surrounding quarters offer urban residential uses, especially on the upper floors. On the north side of the station, there are several residential buildings directly on the tracks. For families, the location directly at the train station is only classified as good, but for target groups such as DINKS, seniors, etc., the location is rated as very good.

Industry / Commerce:

Overall rating: poor to medium

Due to the highly frequented location (private and public transport), the inner-city station area is rated "poor" as an industrial or commercial location. Only for small businesses can the situation be rated as medium to good.

Customer satisfaction.

At Uster station, the satisfaction analysis shows an overall good result with an overall score of 84.3 points in Q3 2025. Signposting, the space available at the station, safety and the transfer are rated particularly positively - these aspects contribute greatly to the high level of overall satisfaction. The lingering zones are also rated well overall, with one important exception: the waiting areas perform the worst. Weak point number two is the bicycle parking spaces. Satisfaction with the parking spaces, on the other hand, is high. The commercial offer is also rated as good after a slump in Q2 2025. The perception of cleanliness, on the other hand, has decreased somewhat compared to Q2 2025.

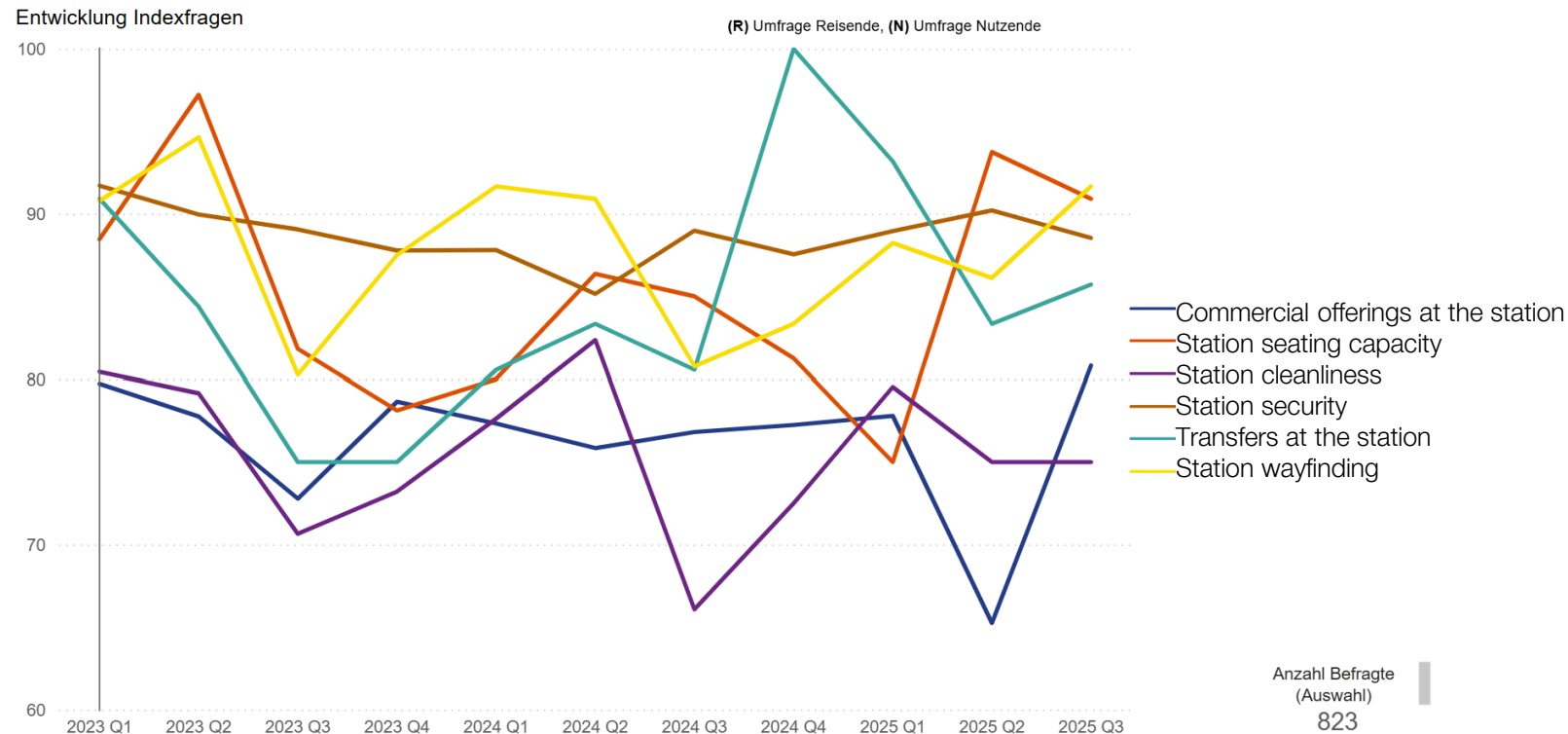


Abbildung 13: Entwicklung der Kundenzufriedenheits-Werte Bahnhof Uster

Building.

Condition

Entrance building(Bankstrasse 2)

The station building, which is listed as a historic monument, is in good structural condition. The windows were refurbished in 2000. The annex with the kiosk was added in 2011. The building's weak point is the doors, which were not replaced during the renovation. Due to the outdated building envelope and existing radiators, the flow temperatures are designed for up to 60 °C. The gas boiler dates from 2000 and is in good condition..

Office and administration buildings (Bankenstrasse 4-10)

The office and administration building was built in 1994. The building envelope is in good condition according to its age. The entrance door has major leaks and the windows are no longer up to today's thermal insulation value at around 24 years old. This heater dates from 1994 and is in good condition according to its age. The technical service life of the burner is short and that of the boiler is exceeded in 8 years. SBB owns two chillers that are responsible for air conditioning. The condition of the facility is good for its age (born 1997).

Multi-family and commercial building with goods shed (Industriestrasse 3)

The building dates back to 1982. The shell is not thermally optimally insulated, especially the window fronts, are no longer up to date. The building has a heat supply with a gas boiler. This is from 1999. The boiler and the heating groups should be renovated in the near future. There are no central ventilation systems installed. The lighting is mostly solved with FL tubes. There are no special devices installed.

Heritage preservation

Entrance building (Bankstrasse 2)

ISOS: According to the Federal Inventory of Sites Worthy of Protection in Switzerland (ISOS), Uster is classified as a site of national importance. The railway station area is part of the surrounding zone. This surrounding zone is designated with conservation objective B and, according to the explanations to ISOS, is therefore an "original structure, i.e. the historical structure of the rooms exists, the majority of the buildings have similar epoch-specific or regionally typical features". For environmental zones with conservation objective B, the following applies:

"Preserve the arrangement and design of the buildings and open spaces, and preserve essential elements and features for the structure in their entirety". The reception building is classified under 4.1.1 as a single object with conservation objective A: station building, two-storey building with corner risalites and arcade from 1856. In the case of individual properties with conservation objective A, the following applies: "Demolition prohibited, no new buildings; Detailed regulations for changes".

Canton: The reception building is classified by the canton of Zurich.

City: The reception building is listed in the municipal inventory.

Office and administration buildings (Bankenstrasse 4-10)

ISOS: Not mentioned as a single object.

Canton, City: Not classified.

(Multi-family and commercial building with goods shed Industriestrasse 3)

ISOS: Not mentioned as a single object.

Canton, City: Not classified.

Tasks.



Task 1

Create a SWOT analysis for Uster station.
At least three important points each.

Task 2

Improve the station regarding station concept and spatial quality:

- Ideas that strengthen the station as SBB's calling card: tidy, clear and convenient.
- Prioritize and assess measures according to effort and impact as well as possible pilot areas for rapid implementation.

Appendix Case Study.

Photos Uster train station. Entrance building and ancillary buildings.



Photos Uster train station.
Bike parking east / «Stadt-Pärkli».



Photos Uster train station. Station square.



Photos Uster train station. Office and administration building.



Photos Uster train station. Multi-family and commercial building.



Photos Uster train station. P+Rail Nord.

