



# GreenBuzz Zurich

Enabling Sustainability Leadership



## Innovation Breakfast: Moving Around - How Mobility and Spatial Planning Can Influence Our Lives



## The biggest network of sustainability leaders in Zurich



We are a family of professionals who drive change in business for a more sustainable planet.

### Our Main Partners



responsAbility



swisscontact

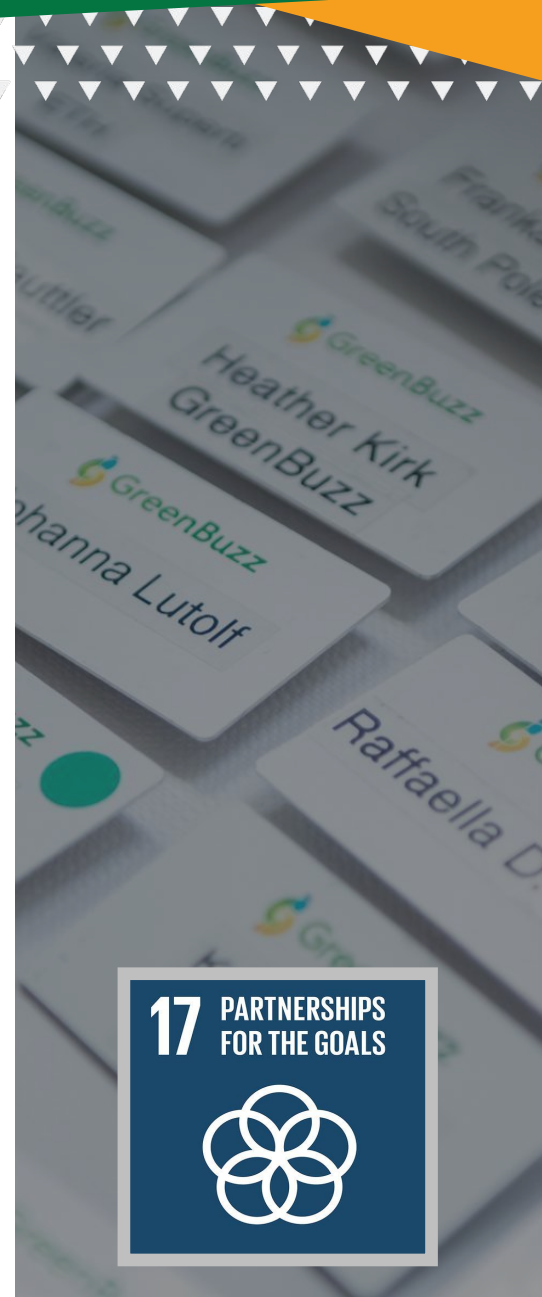


Schweizer



Universität St.Gallen

17 PARTNERSHIPS  
FOR THE GOALS



## About Us

### Our Reach in Zurich



Public events and learning format



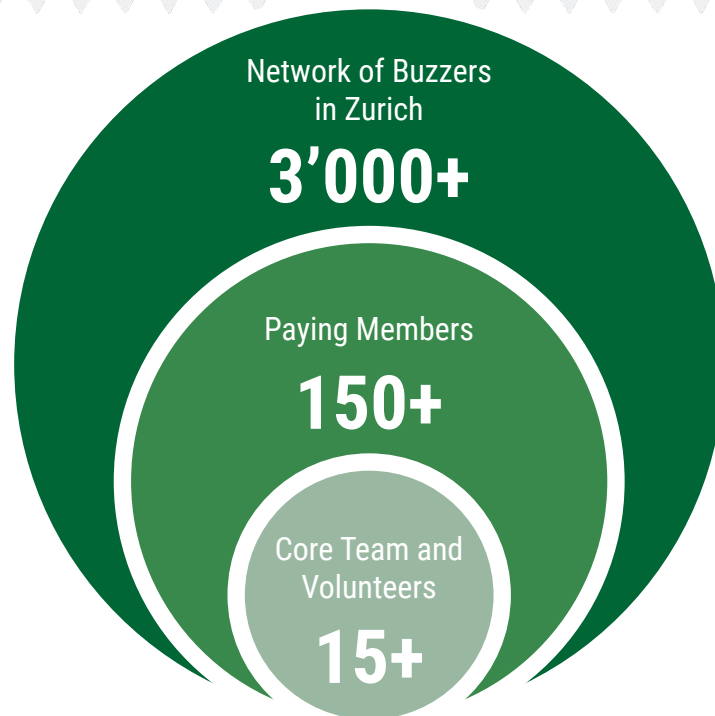
«Buzzers» in Zurich



Partner Organisations



Successful Intrapreneurs and Entrepreneurs



### International Impact



5 local initiatives in 3 countries: Zurich, Bern, Geneva, Berlin, Amsterdam - Total 7000+ «Buzzer»

## Become an Individual Member

GreenBuzz  
**Friend**  
Be part of our community

**95.-**

CHF per year

Get free and discounted tickets for GreenBuzz events, and get inspired by meeting other members of our community.

GreenBuzz  
**Connect**  
Create powerful connections

**195.-**

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Learn about sustainability trends, mingle with like-minded people at exclusive member events, and co-shape our activities.

GreenBuzz  
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Share your sustainability vision

**295.-**

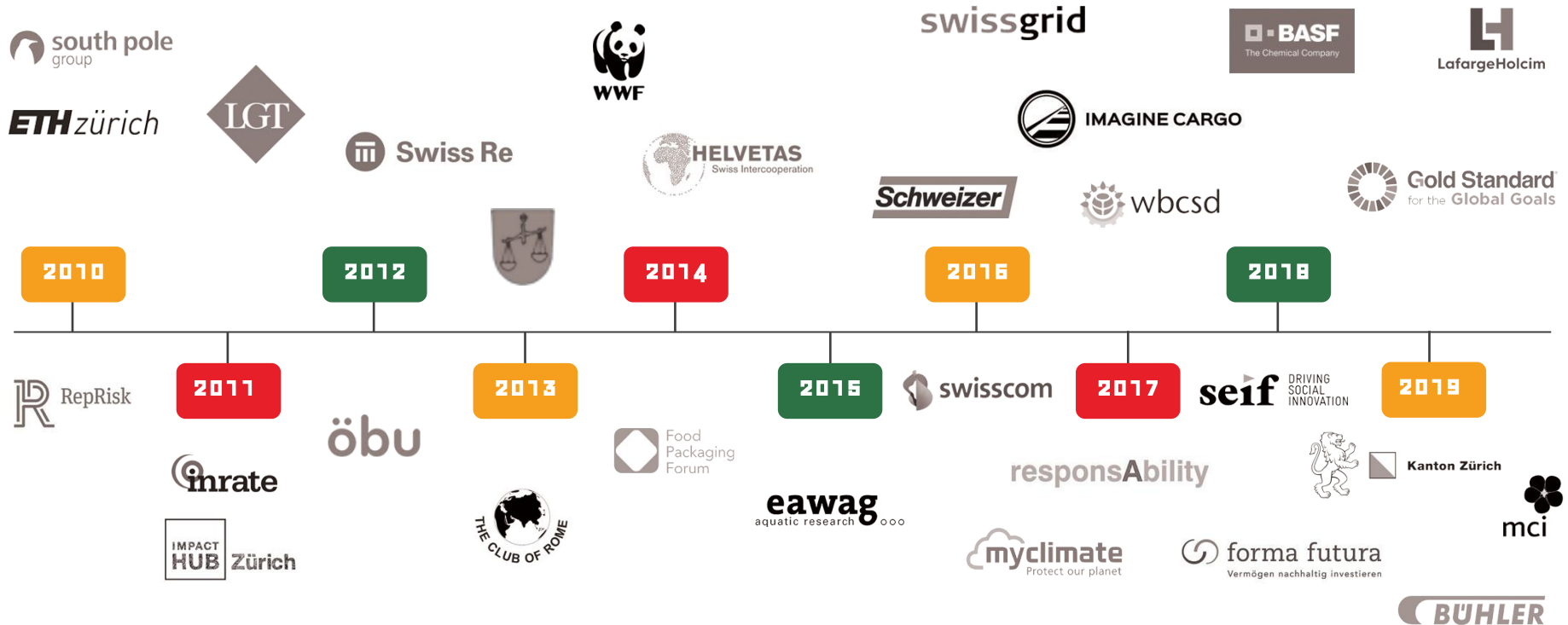
CHF per year

Be the ultimate sustainability champion and promoter – bring friends & colleagues and enjoy unlimited access to our events.

***Be a sustainability champion!***

- Get free and/or discounted tickets
- Get access to member-only events
- Get a personalized metal name badge
- Be part of the best local community of sustainability professionals!

## Become an Organisational Partner of GreenBuzz Zurich



«In their growth, GreenBuzz Zurich has come to represent a driving force of influential sustainability professionals.»

Wolfgang Hafenmayer. Former Managing Partner LGT Venture Philanthropy

## Upcoming Events

- October 23rd: Workshop: **Sustainability Reporting** with Sustainserv
- October 24th: Workshop: **Pitching for Purpose** with KSP
- October 29th: **Energy Transition** - Filling the Gap
- November 19th: Workshop: **ESG Implementation**
- December 12th: Dinner: **Earthling Ed** goes GreenBuzz Zurich
- January (TBA): **Unconference** for Sustainability Professionals
- January 23rd: **Circular Plastic Economy**
- February (TBA): **Blended Finance**
- March (TBA) **Technology and Sustainable Food Production**

# Event Programme

08:00 – 08:15 Registration, coffee and light breakfast

08:15 – 08:30 Welcome by GreenBuzz Heather Kirk and host WWF Ion Karagounis

08:30 – 08:45 Scenarios of Urban mobility planning – Linus Grob

08:45 – 08:55 Impact of Densification – Dr. Andrea Del Duce, ZHAW School of Engineering.

08:55 – 09:05 Prof. Claudio Büchel from Hochschule für Technik Rapperswil

09:05 – 09:15 Daniel Sutter from Infrac

09:15 – 09:25 Han Van de Wetering from the Atelier für Städtebau GmbH

09:25 – 09:30 Wrap up – Heather Kirk GreenBuzz

09:30 – 10:00 Coffee and discussion





# GreenBuzz Zurich

Enabling Sustainability Leadership

c/o WWF Schweiz, Postfach 660, 8010 Zürich

[www.greenbuzz.global/zurich](http://www.greenbuzz.global/zurich)

[info.zurich@greenbuzz.global](mailto:info.zurich@greenbuzz.global)

**Ion Karagounis**

**WWF**

**<https://youtu.be/hCoPjWD6HBU>**

# Linus Grob

## SBB



SBB CFF FFS

# Greenbuzz: The Element of Space in Future Mobility Scenarios

Linus Grob, Zürich, 02. October 2019





Reliable mobility service provider.

## Strong railway.

Attractive development partner.



- Digital and personal.
- One of Switzerland's most trusted companies (Swissness).

- Large transport capacity on little space, especially in urban centres.
- High level of efficiency without congestion on long routes, with large volumes/regular traffic.
- The backbone of public transport and logistics, contributes to basic mobility supply.

- For mobility, stations (as hubs, mobility hubs and destinations) and site developments.
- Smart mobility for smart cities.



# Mobility in Switzerland faces considerable challenges.



Population growth



Sprawl



Uncompetitive public transportation



High emissions & land use



**Heavily  
influenced  
by technology**

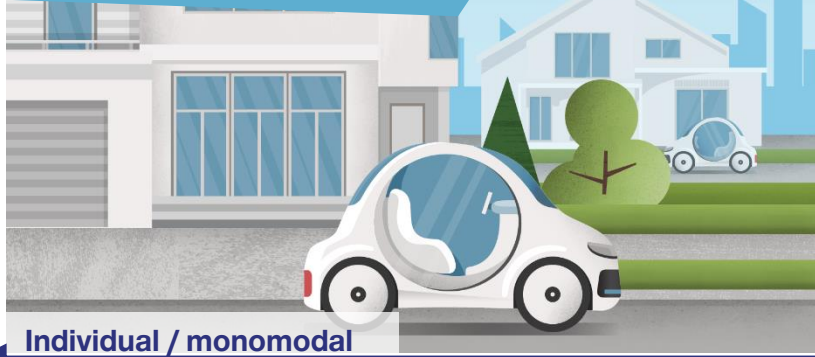
**Individual / monomodal**

**Collective / multimodal**

**Slightly  
influenced by  
technology**



# 1 Automated private transport



Heavily influenced by technology

Individual / monomodal

Collective / multimodal

Slightly influenced by technology



# 1 Automated private transport



Individual / monomodal

Heavily influenced by technology

# 2 Mobility connected in new ways



Collective / multimodal

Slightly influenced by technology

# 1 Automated private transport



Individual / monomodal

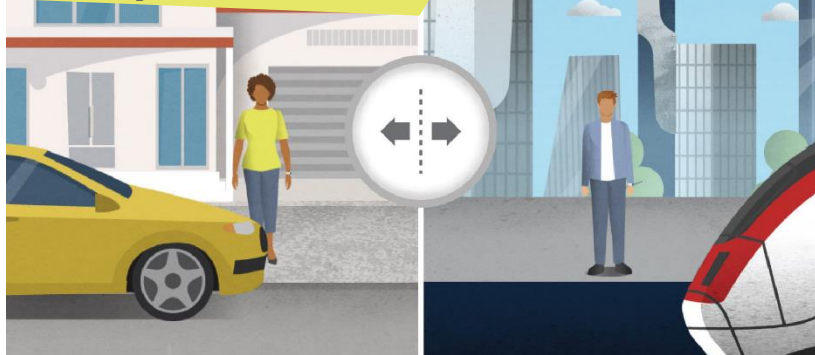
Heavily influenced by technology

# 2 Mobility connected in new ways



Collective / multimodal

# 3 Separate transport systems



Slightly influenced by technology

# 1 Automated private transport



Individual / monomodal

Heavily influenced by technology

# 2 Mobility connected in new ways



Collective / multimodal

# 3 Separate transport systems



Slightly influenced by technology

# 4 Integrated public transport\*



\*and subsidised rail freight traffic

# 1 Automated private transport



Individual / monomodal

Heavily influenced by technology

# 2 Mobility connected in new ways



SBB's  
«Desirable Scenario for Switzerland»



Multimodal

# 3 Separate transport systems



Slightly influenced by technology

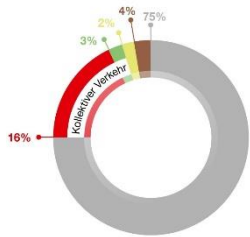
Integrated public transport\*



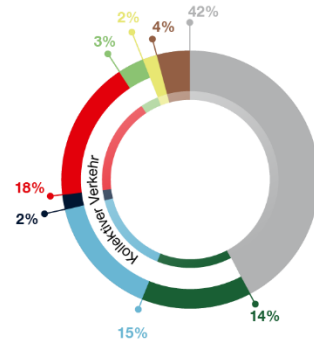
\*and subsidised rail freight traffic



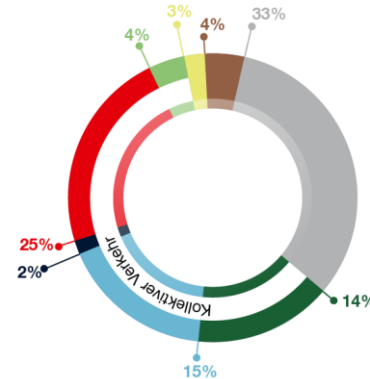
# Key assumption: Massive increase of collective transport.



**Pkm** 2016:  $\Sigma = 132$  Mia.



**2040:**  $\Sigma = 161$  Mia. (+22%)



**Long term:**  $\Sigma = 170 - 185$  Mia. (+ 30-40%)

- Motorised individual transport owned (conventional or AV)
- Car-Sharing (conventional or AV)
- Ride-Sharing (conventional or AV)
- Long-distance coaches
- Rail
- Local public transport (bus, tram)
- Bike (incl. E-bikes, scooters)
- on foot

**NTkm**  $\Sigma = 20.6$  Mia.

$\Sigma = 26.3$  Mia. (+27%)

$\Sigma = 27 - 29$  Mia. (+ 30-40%)

# What if 2m people lived in a station's walking distance?





Source: Petra Klima, MAS Thesis «Formierung im Korridor» (2019)



# Radical intermodality requires «Mobility Hubs».





**The station and its neighbourhood are key for mobility and urban development.**





## Our Key Hypotheses:

1. We need to bring about a radical shift towards collective transportation – and «more of the same» is not going to cut it.
2. We need to adopt an integrated view: across mobility and space, across different modes of transport and across borders.
3. Space can contribute both to encouraging the use of collective transport and to avoiding mobility.
4. Public support – of government agencies and voters – to change the mobility framework is key to achieve the necessary transition.

**Dr Andrea Del Duce**

**ZHAW School of Engineering**

# Densification and mobility demand in future scenarios

Innovation Breakfast: Moving around – How mobility and spatial planning can influence our lives

Andrea Del Duce – Institute for Sustainable Development ZHAW

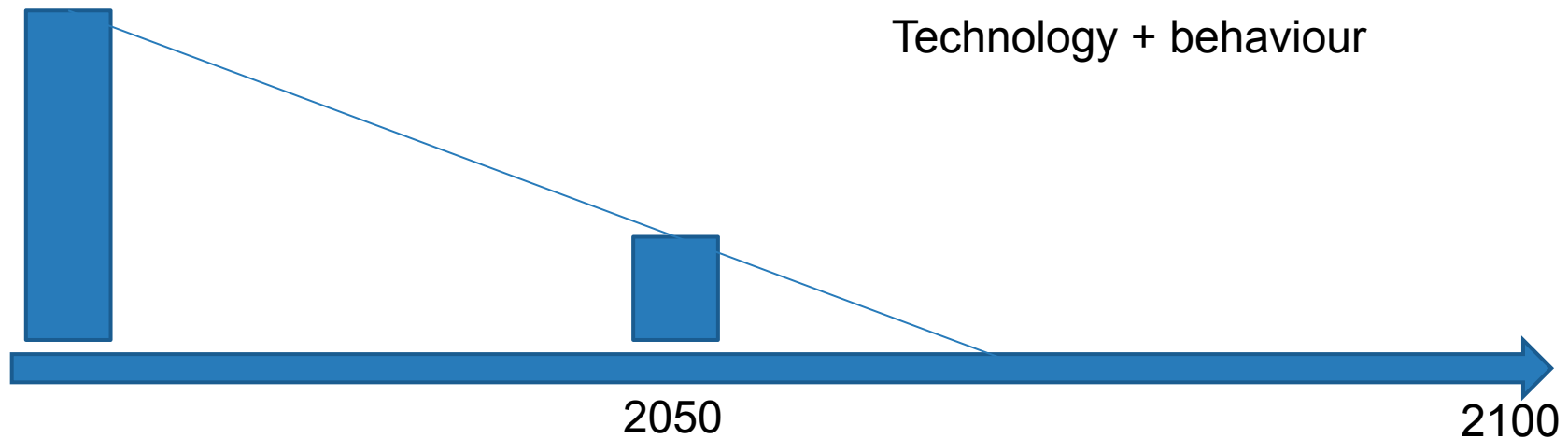
Jonas Bubenhofer – metron

2.10.2019

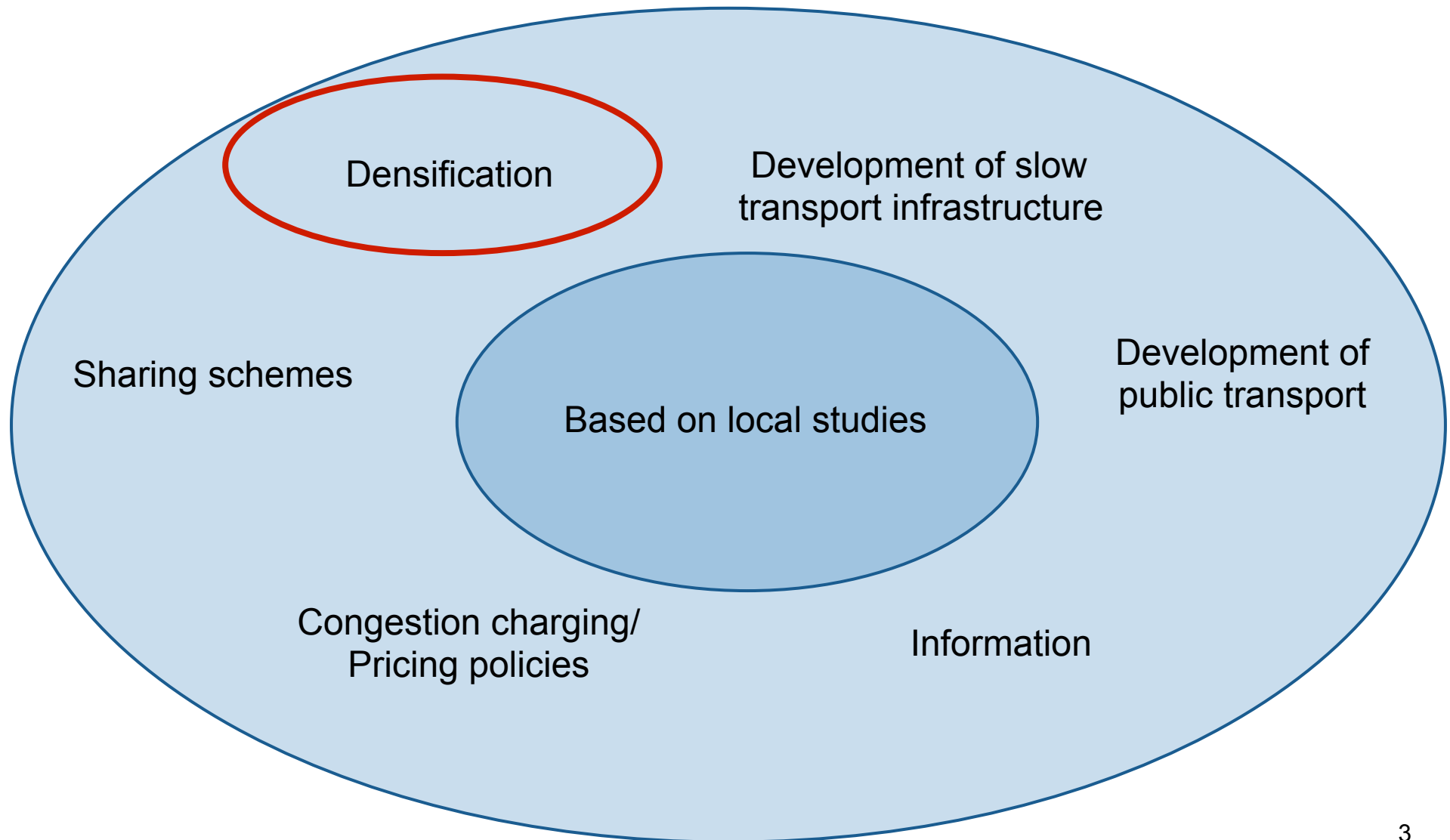
# SCCER JA - The evolution of mobility: a socio-economic analysis

$$CO_2 \downarrow Total \propto driven\ km * CO_2\ emissions/km$$

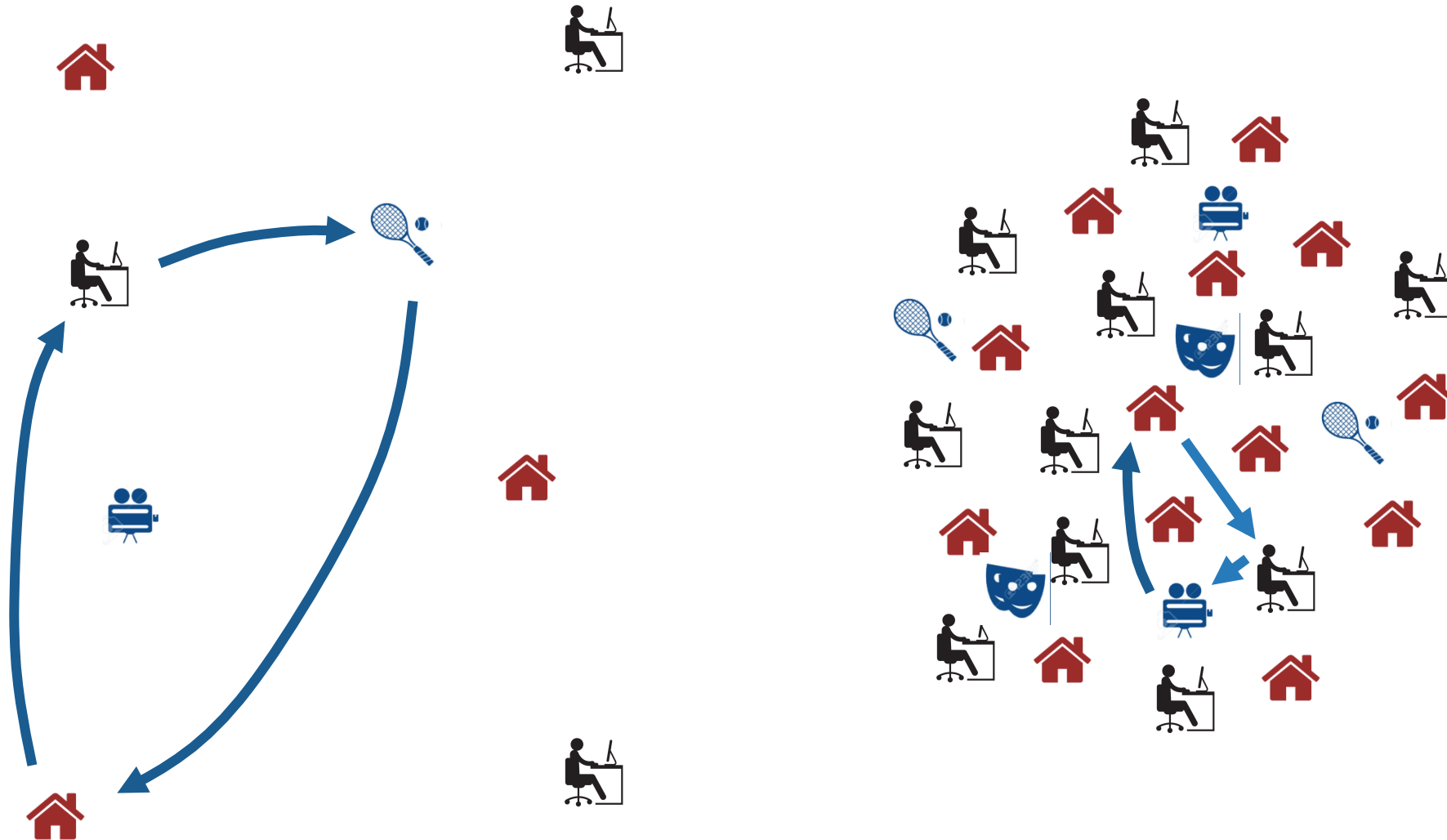
CO<sub>2</sub> emissions



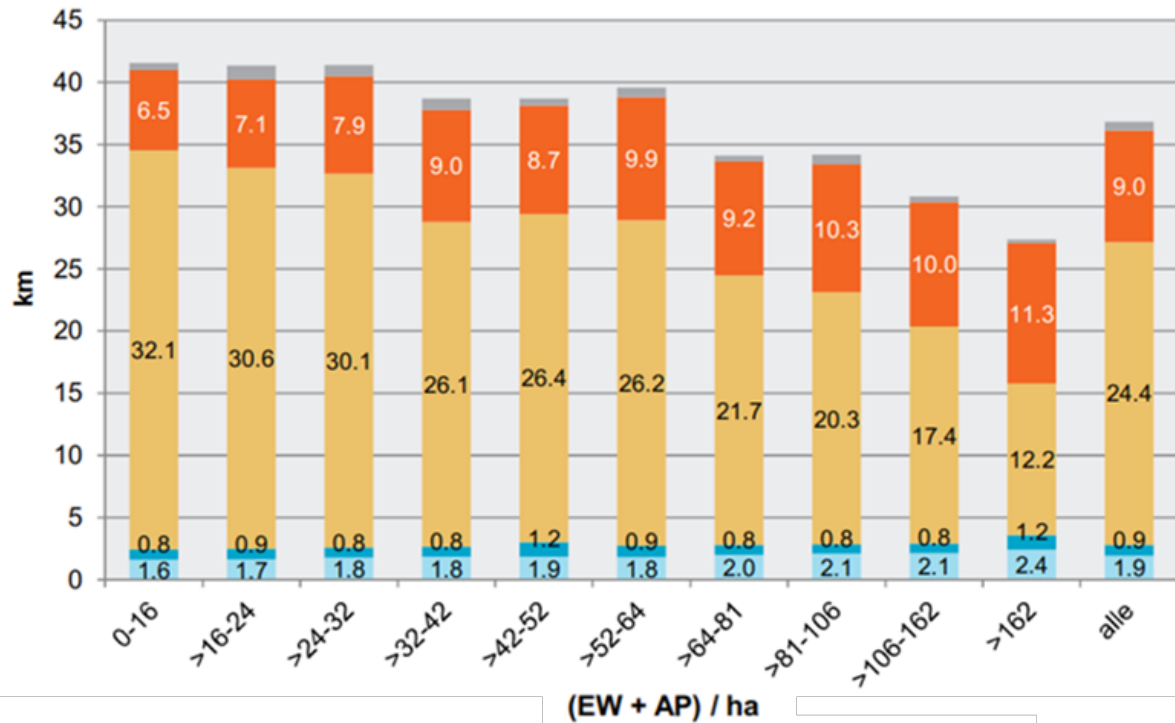
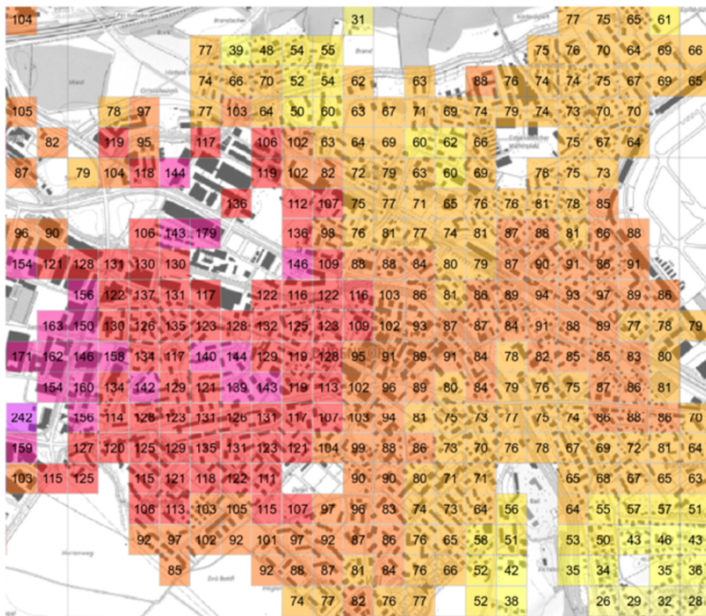
# CO<sub>2</sub> non-technical reduction interventions in Switzerland



# Densification



# Density and mobility in Switzerland



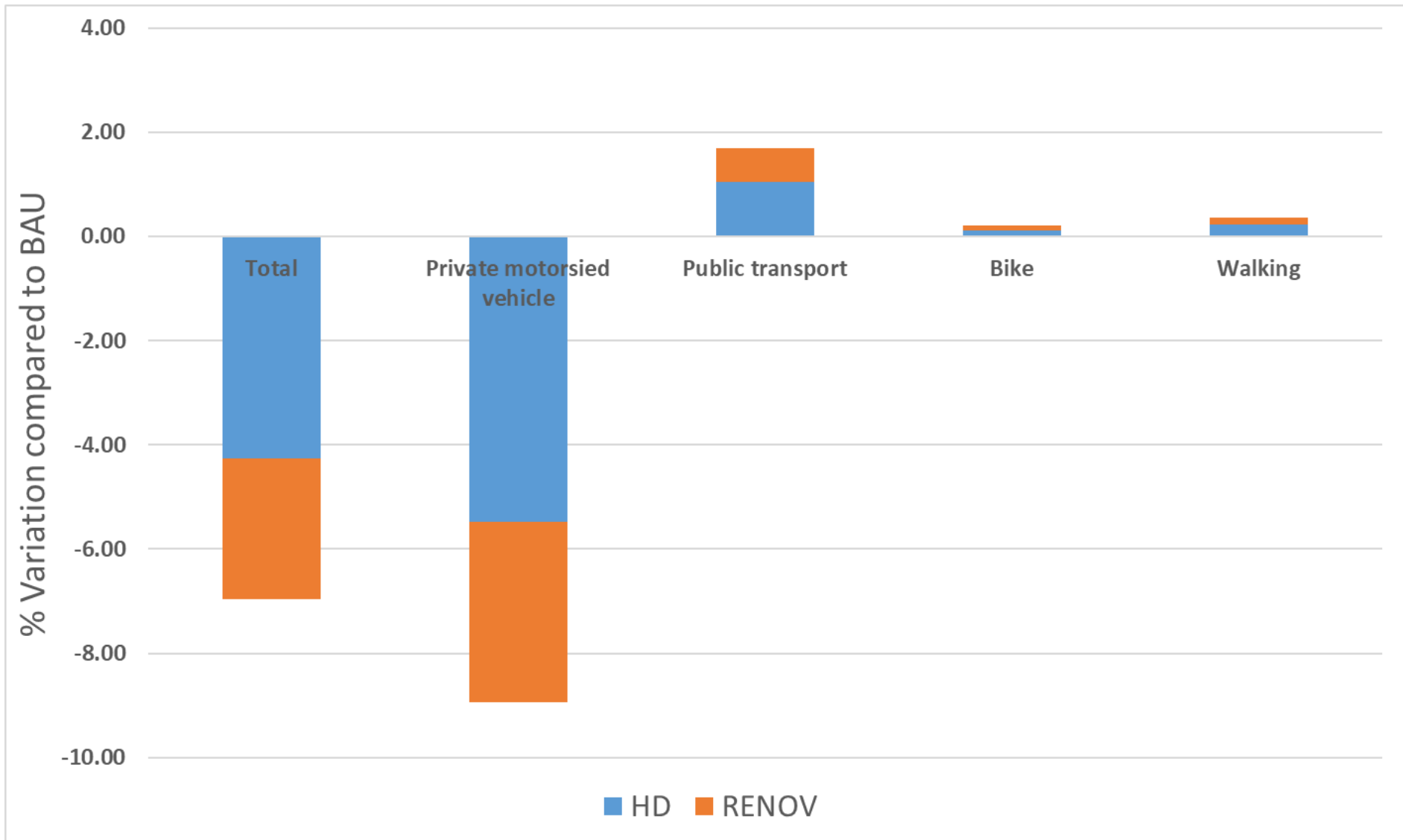
J. Bubenhofer et al. : «Dichte und Mobilitätsverhalten»



# Densification and mobility in Switzerland in future scenarios - Assumptions

- Population will grow by approximately 1.66 million inhabitants up to 2040
- Business as usual (BAU) scenario: Population will grow equally in all density categories -> 135 billion driven km in Switzerland in 2040
- Densification scenario: Densification is implemented when new housing is built. New housing is built to fit the higher density category:
  - Housing for the 1.66 million additional inhabitants (**HD**)
  - Houses in urban environment which will need to be rebuilt up to 2040 (**RENOV**)

# Results: Changes in mobility demand through densification in 2040



# Questions?

**Prof Claudio Büchel**  
**Hochschule für Technik**  
**Rapperswil**

Green Buzz Zürich

# NEW MOBILITY NEEDS CONNECTIVITY

Untertitel

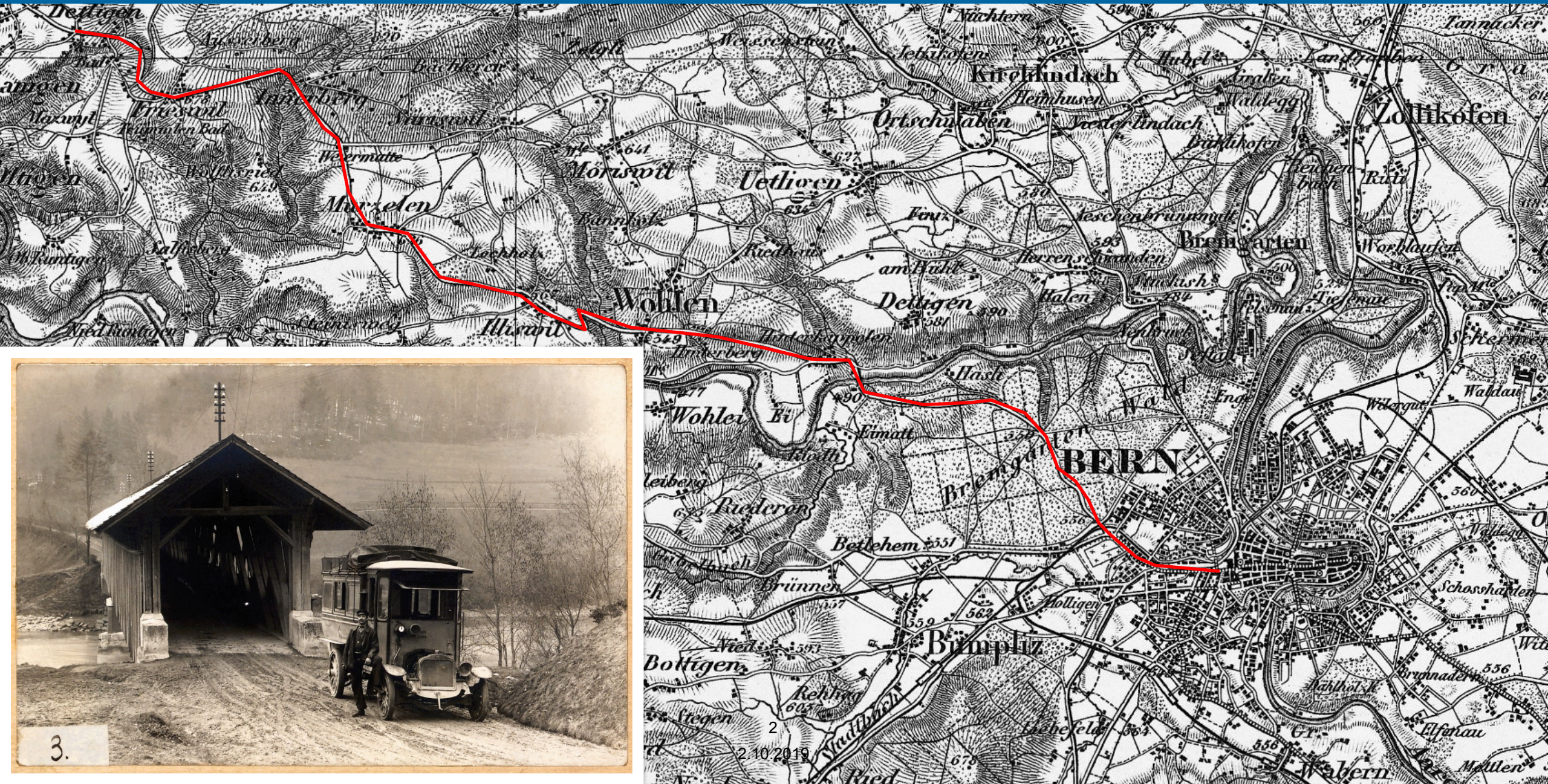
Claudio Büchel

Professor für Verkehrsplanung

Zürich, 2. Oktober 2019

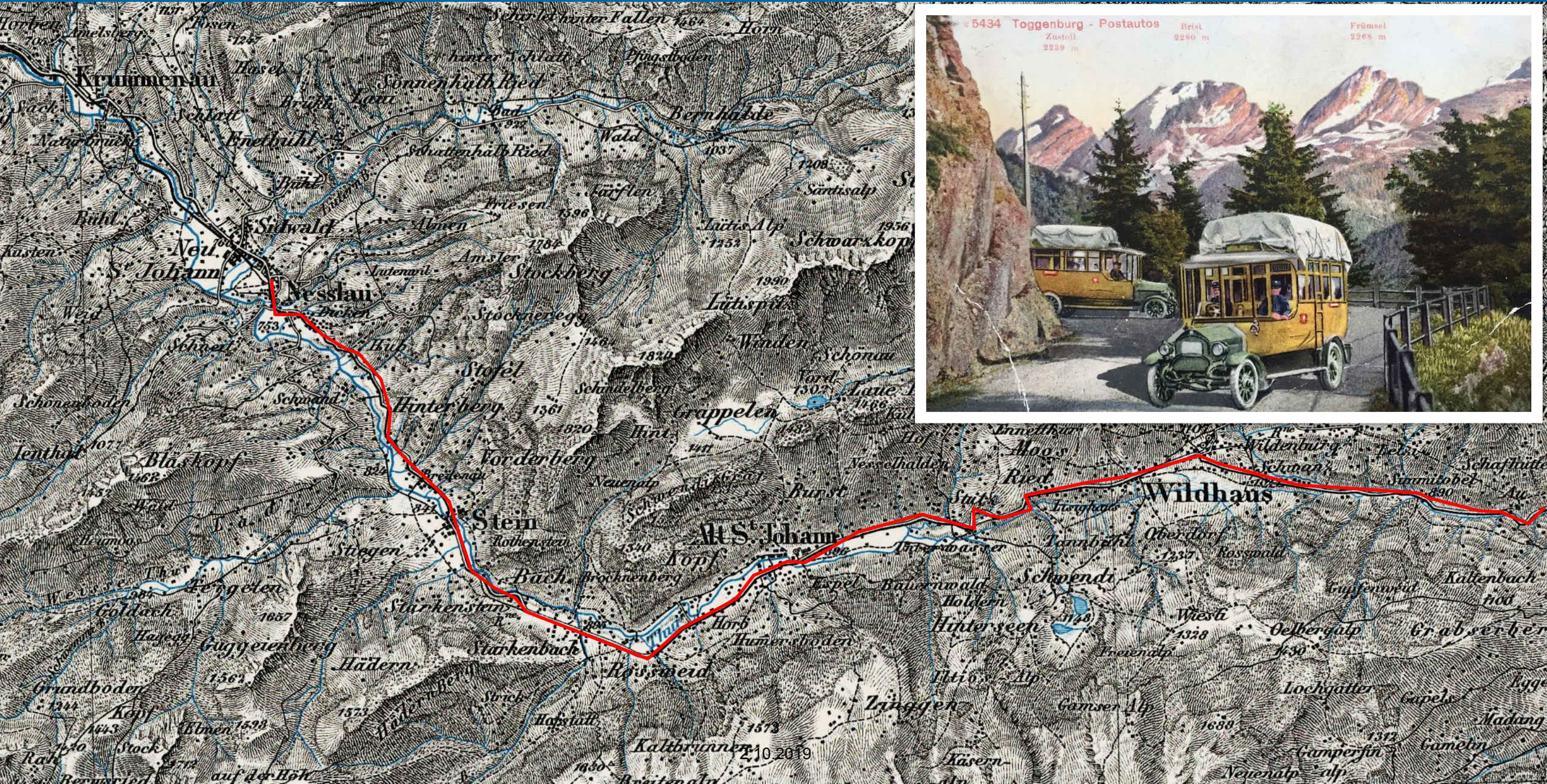


# Switzerland's first Postauto line



2.10.2019

# Switzerland's first successful Postauto line



# Switzerland's first successful Postauto line

- Postauto makes Toggenburg accessible
- People from the villages can travel to the towns
- People from the towns can travel to the mountains (hiking, skiing)
- Shortest connection between Wattwil and Buchs.
  
- Coordinated timetable train/postauto in Nesslau!
- Train and Postauto are not competitors – they complement each other.



**Mobility Hub 1925**



# Train, Bus and Boat as one system



# But not only Train/Bus/Boat...



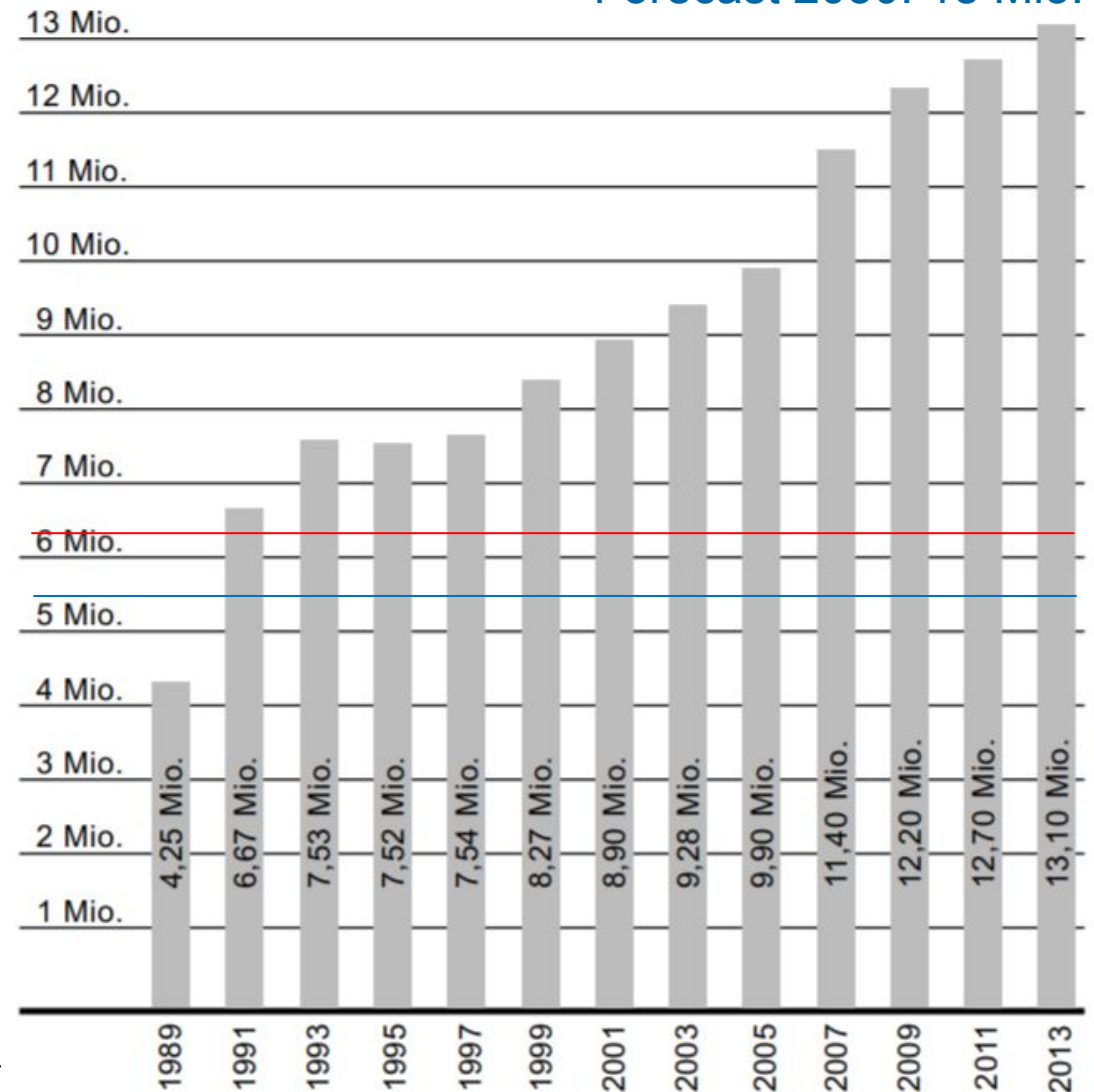
# And outside Switzerland?



# Effects of connectivity – Sihltal Zürich Uetliberg Railway



Forecast 2030: 18 Mio!



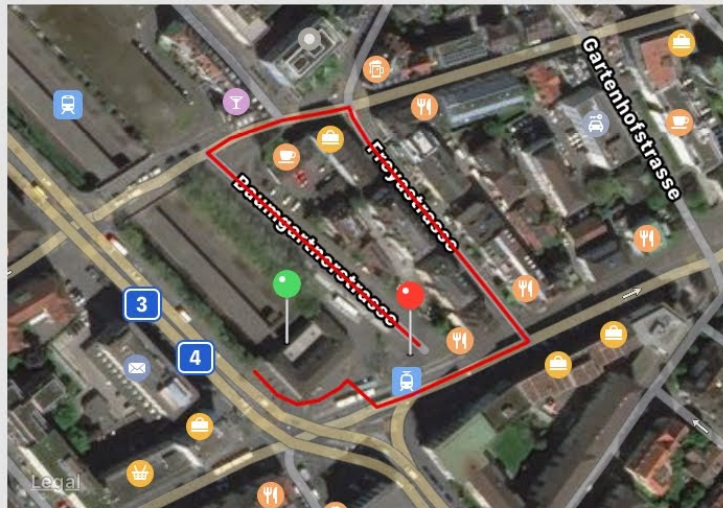
But connectivity doesn't always mean big construction!



# But connectivity doesn't always mean big construction!

05:24 | Zürich Wiedikon | Pl. 1

4'  Walk



Open in the app

05:41  Zürich Wiedikon, Bahnhof



# Mobility hubs in all sizes



- People should go by foot, bike, public transportation or shared car instead of using their own car?
- **Give them lots of access points to the mobility system and connect all the modes of transport!**

# Daniel Sutter

## Infras



Daniel Sutter, GreenBuzz Event

# Mobilität in dichten Räumen: Einfluss auf Mobilitätsverhalten und Wirtschaft

Zürich, 2. Oktober 2019



# Themen

1. Status Quo
2. Einfluss der Dichte auf das Mobilitätsverhalten
3. Einfluss der Strassencharakteristika auf wirtschaftliche Aktivität
4. Folgerungen

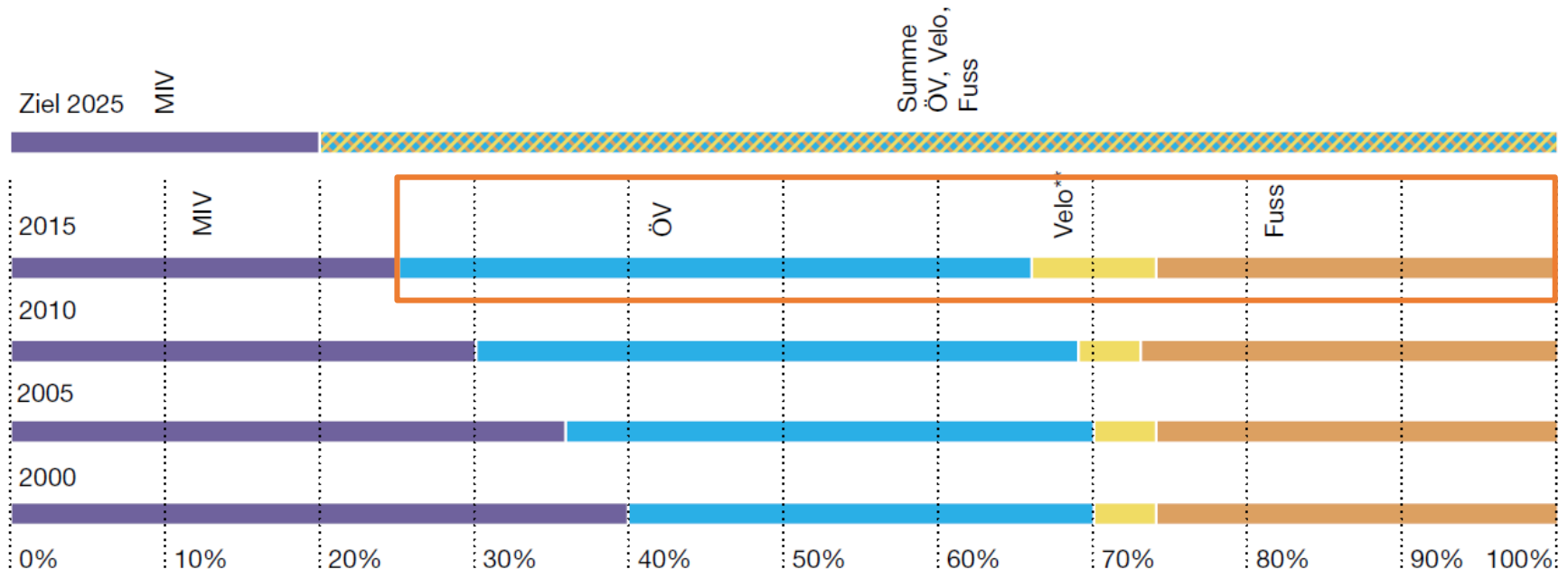
# 1. Verkehrs- und Raumplanung in Städten wie Zürich

## Meilensteine und Erfolge der letzten Jahre:

- Rückgang MIV-Nachfrage in der Stadt (Ziel Städteinitiative)
- Erhebliches Wachstum im Veloverkehr (und Fussverkehr)
- Lärmschutz: Ausweitung Netz an Tempo-30-Zonen und -Strecken
- Öffentlicher Verkehr: Erweiterungen Tramnetz, Elektrifizierung Buslinien
- Aufwertung öffentlicher Strassenräume & Plätze
- Verkehrsberuhigung einzelner Strassen
- Veloverkehr: zusätzliche Infrastrukturen, Abstellplätze (Velostationen), Veloverleihsystem
- Einheitliches & griffiges Parkplatzmanagement

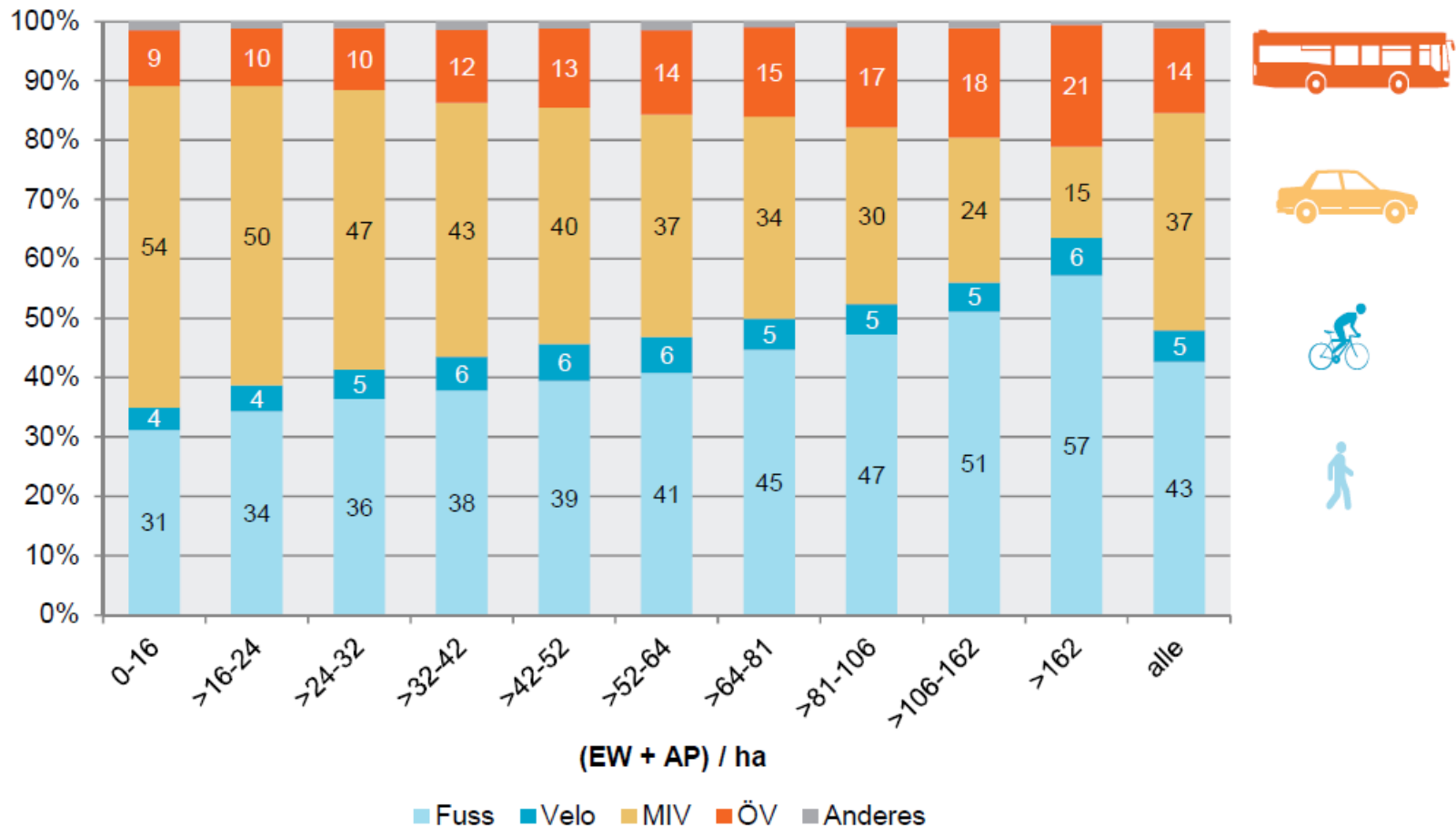
# 1. Stadt Zürich: Anteil Veloverkehr und ÖV zunehmend

Modalsplit: Anteil Fuss-, Velo- und öffentlicher Verkehr sehr hoch und weiter steigend



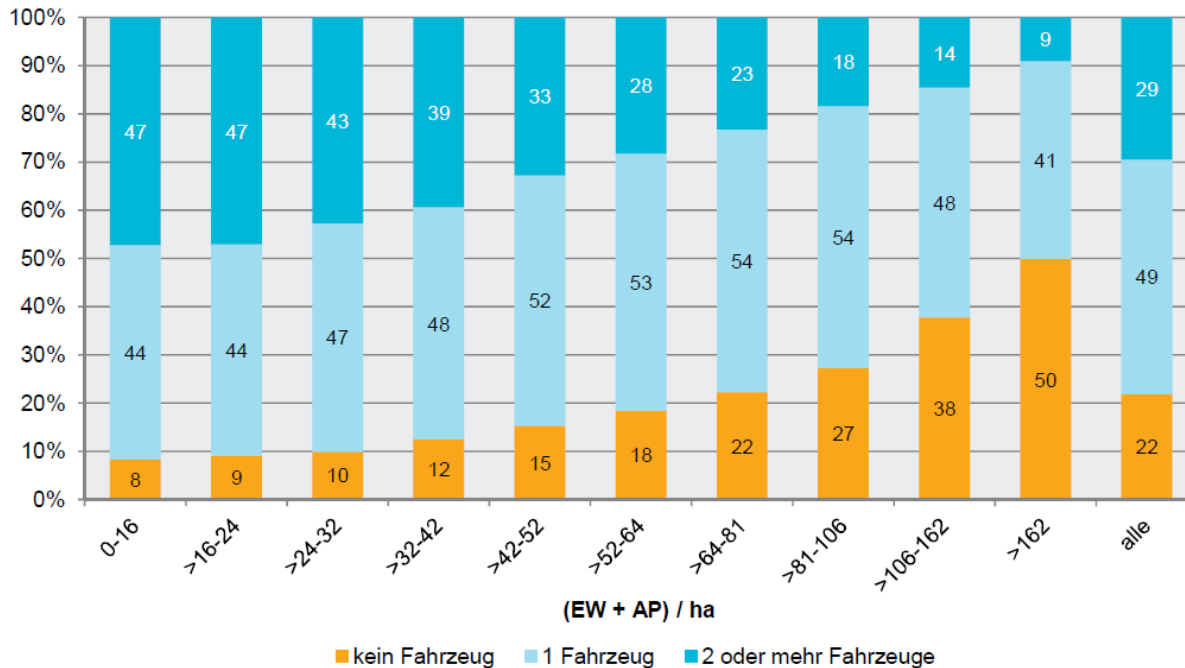
## 2. Einfluss der Dichte auf Mobilitätsverhalten

Je höher die Dichte, desto höher der **Anteil Fuss- und Veloverkehr**

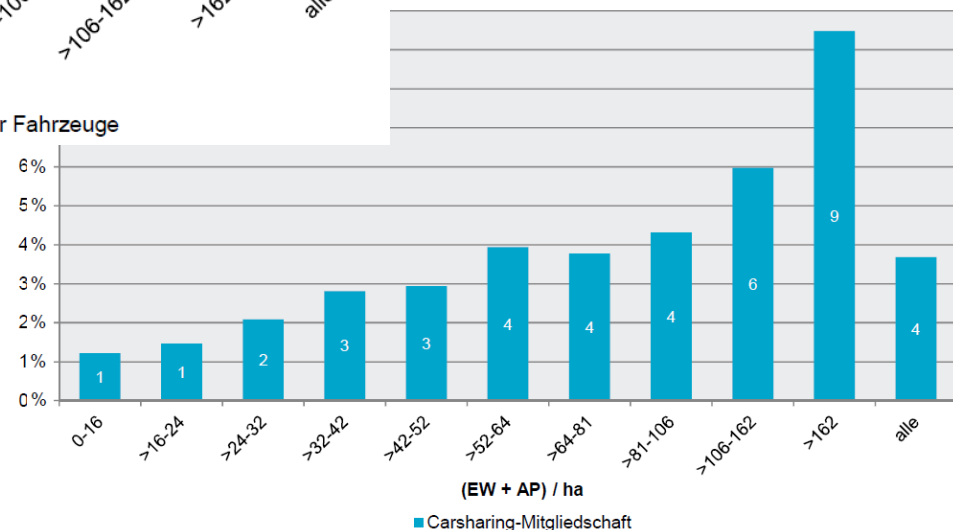


## 2. Einfluss der Dichte auf Mobilitätsverhalten

Je höher die Dichte, desto geringer der **PW-Besitz** –

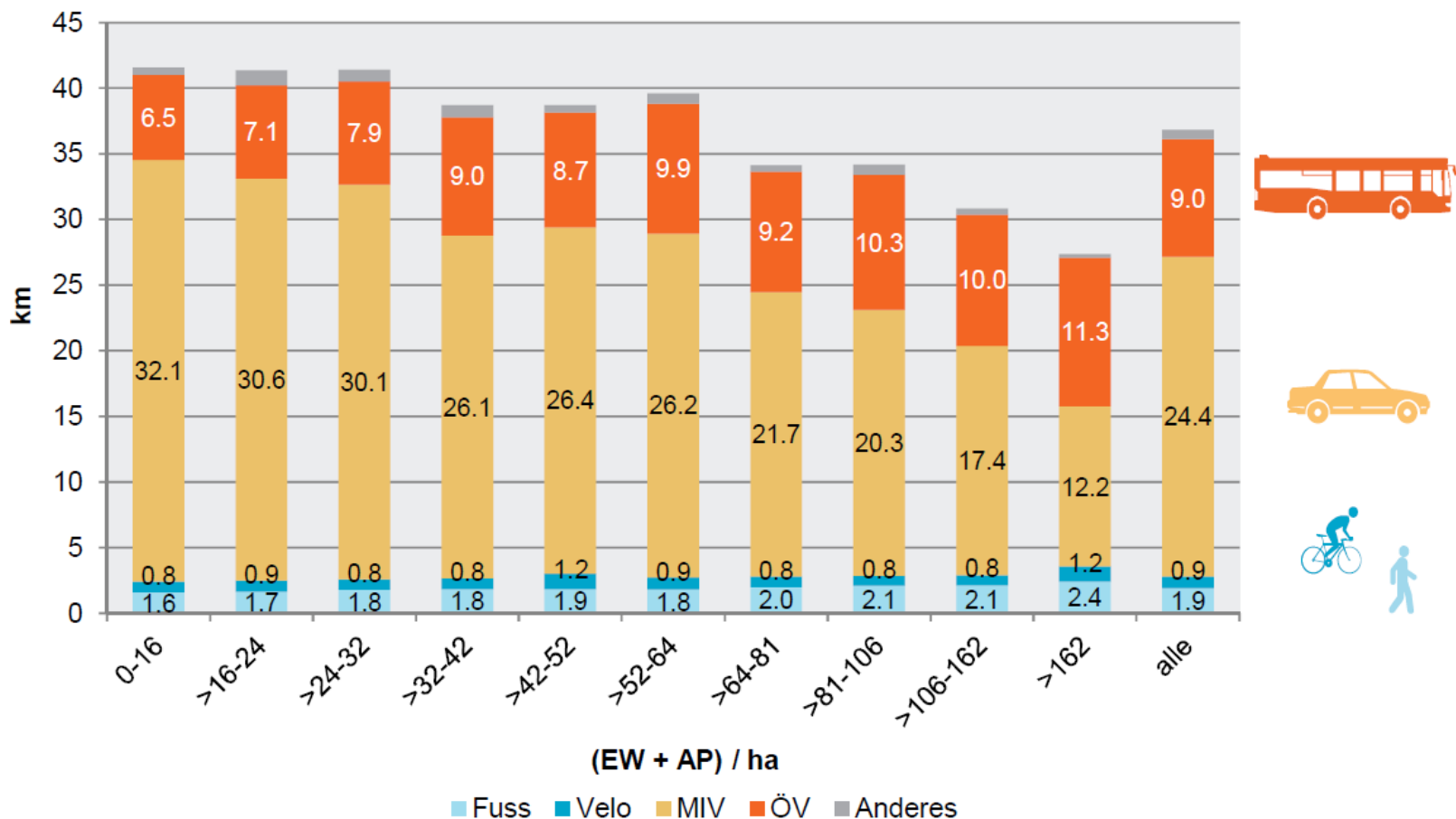


und desto höher die **Carsharing-Aktivität** (Mitgliedschaft)



## 2. Einfluss der Dichte auf Mobilitätsverhalten

Je höher die Dichte, desto geringer die **Tagesdistanz** (im Inland), vor allem im MIV



### 3. Beeinflusst die Strasse die Wirtschaft?

Verkehrorientiert:  
Uraniastrasse



Verkehrsberuhigt:  
Rennweg





# 3. Beeinflusst die Strasse die Wirtschaft?

Rennweg: vor – nach Umgestaltung

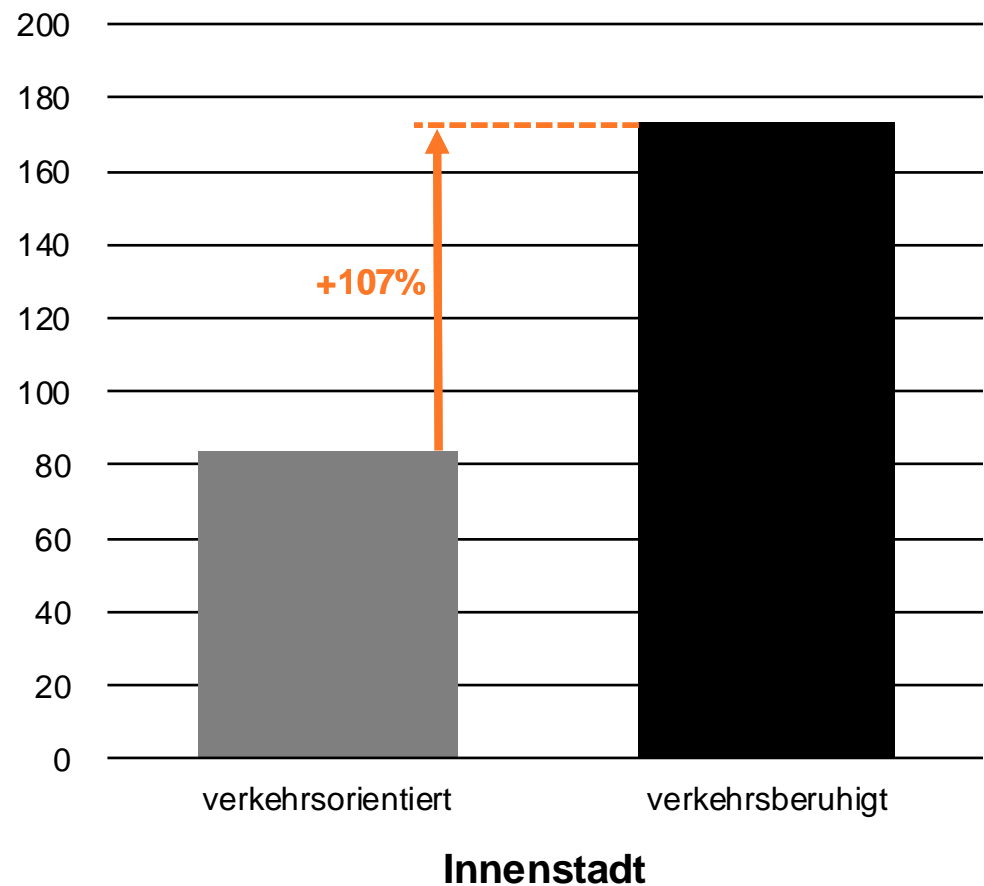


# 3. Die Strassencharakteristik beeinflusst die wirtschaftliche Aktivität: Verkehrsberuhigung

## Verkehrsberuhigte Strassen (Innenstadt):

Wertschöpfung in publikumsorientierten Branchen (Detailhandel, Gastronomie) doppelt so hoch wie an verkehrsorientierten Strassen.

Wertschöpfung Detailhandel & Gastronomie pro Meter Strasse (in 1'000 CHF/m)



# 3. Die Strassencharakteristik beeinflusst die wirtschaftliche Aktivität: Tram

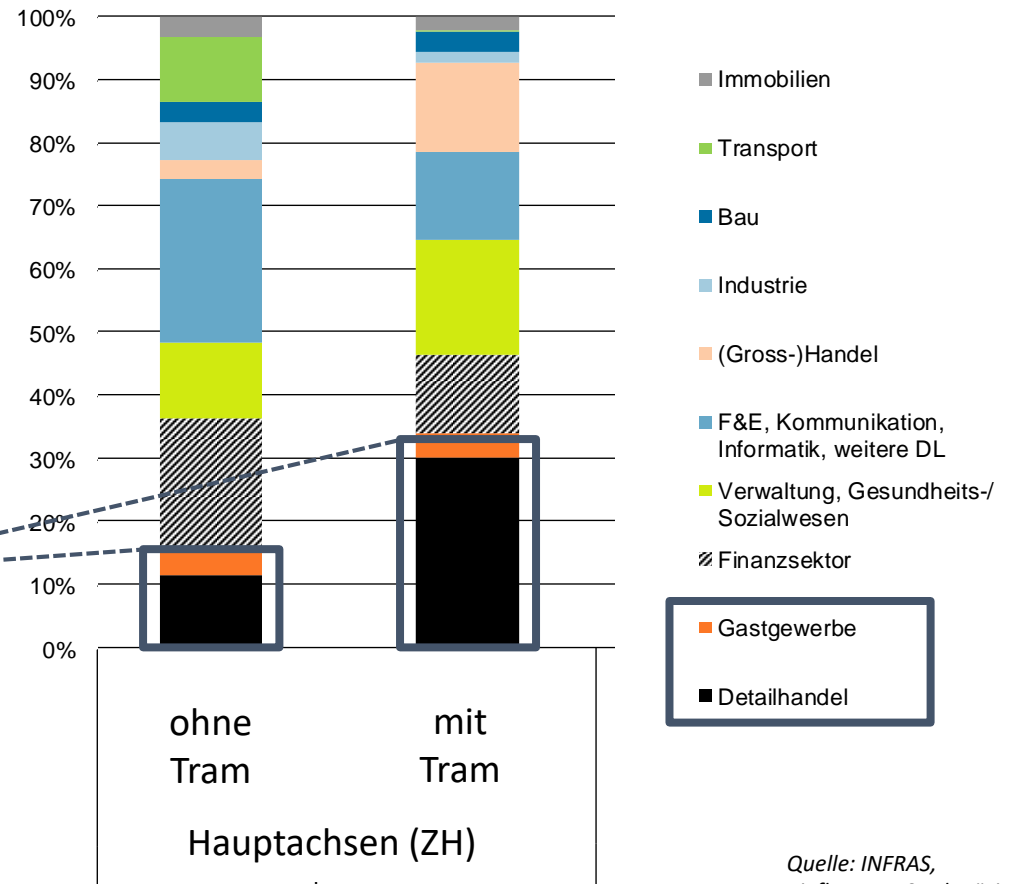
## Beitrag der verschiedenen Branchen zur Wertschöpfung je Strassentyp:

### Strassen mit Tram:

Anteil publikumsorientierter Branchen als doppelt so hoch

Publikumsorientierte Branchen:  
Detailhandel, Gastgewerbe

Anteil der Branchen an der Wertschöpfung (in %)



## 4. Fazit, Folgerungen

- Ausgestaltung und Verkehrszusammensetzung einer Strasse haben grossen Einfluss auf Erschliessungs- und Aufenthaltsqualität.  
→ Beides sind wichtige Standortfaktoren für Unternehmen, v.a. bei publikumsorientierten Branchen
- Verkehrsparameter mit grösstem (positiven) Einfluss auf die Wertschöpfung in publikumsorientierten Branchen:
  - Gute ÖV-Erschliessung (z.B. Tram)
  - Hohes Fussgängeraufkommen (auch: ‚Platz‘, Aufenthaltsqualität)
  - Innenstadt: Verkehrsberuhigung

→ Gestaltung der Stadt (Raum- und Verkehrsplanung) beeinflusst das Verkehrsverhalten und die lokale Wirtschaft

# 4. Ausblick

## Kommende Herausforderungen

- Verdichtung – knapper Raum:
  - Konflikte zwischen versch. Nutzungen (Wohnen, Verkehr, Erholung)
  - Konflikte zwischen verschiedenen Verkehrsträgern
- Lärm als Dauerbrenner (Lärmschutz → Verkehr, Aufenthaltsqualität)
- Förderung Veloverkehr
- Umgang mit Klimawandel: Hitze in Städten, Anpassung
- Neue Mobilitätsformen: automatisiertes Fahren, neue Angebotsformen & Geschäftsmodelle (Sharing, Plattformen etc.)

→ Städte prädestiniert für erfolgreiche Klima- und Verkehrspolitik

→ Städte als 'Vorbild' für umliegende Agglomerationsgemeinden

# Vielen Dank für die Aufmerksamkeit

## Daniel Sutter

Geschäftsleiter INFRAS  
Forschung + Beratung

Geschäftsfeld Verkehr

Dipl. Umwelt-Natw. ETH  
MAS MTEC ETH (BWI)

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# Han Van der Wetering

## Atelier Für Städtebau

# The integral planning of urbanisation and mobility

Han van de Wetering, Urbanist MSc. TU Delft / Architect SIA





# Introduction



## **Strong relation urbanisation and traffic**

Traffic network as skeleton of the city.

Public space: mainly traffic space!

Street network: perception of the city,  
base for orientation and way finding.

*Areal view of London (image: Siemens)*

# Introduction



*Champs-Élysées : generous urban space (image: vdw)*

## **Multifunctionality of an urban main street**

Traffic space for all traffic modes: car, public transport, pedestrian and bicycle traffic; as well subordinate as local relations.

Meeting place, place to stay, events.

Address, place to live and work, local supply.

Urban space as interface between districts (backbone), base for orientation.

Representation, visiting card.

Good accessibility: development area.

# Introduction



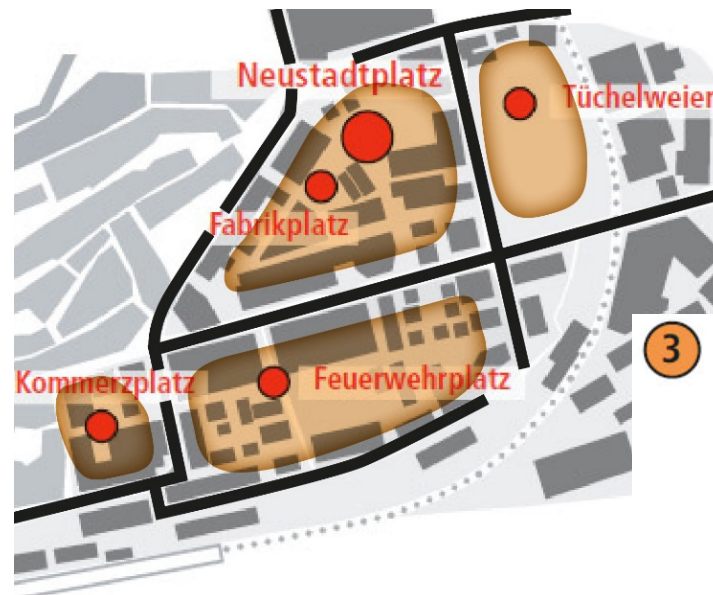
Birmensdorf AG: Street as a disruptive factor (image vdw).



Empty ground floor spaces at places which are non-visible, not frequented and difficult to access (image vdw).



Situation in Genova (image vdw)



Strategy inner city of Rapperswil: «inward orientation towards the 2nd row of buildings due to high traffic loads on the main streets, this concerns ground floor spaces and public space (Source: Intosens, city of Rapperswil-Jona, 2017)

## Urbanism and mobility: no integral approach

Today: traffic does not support but limits a qualitative urban development.

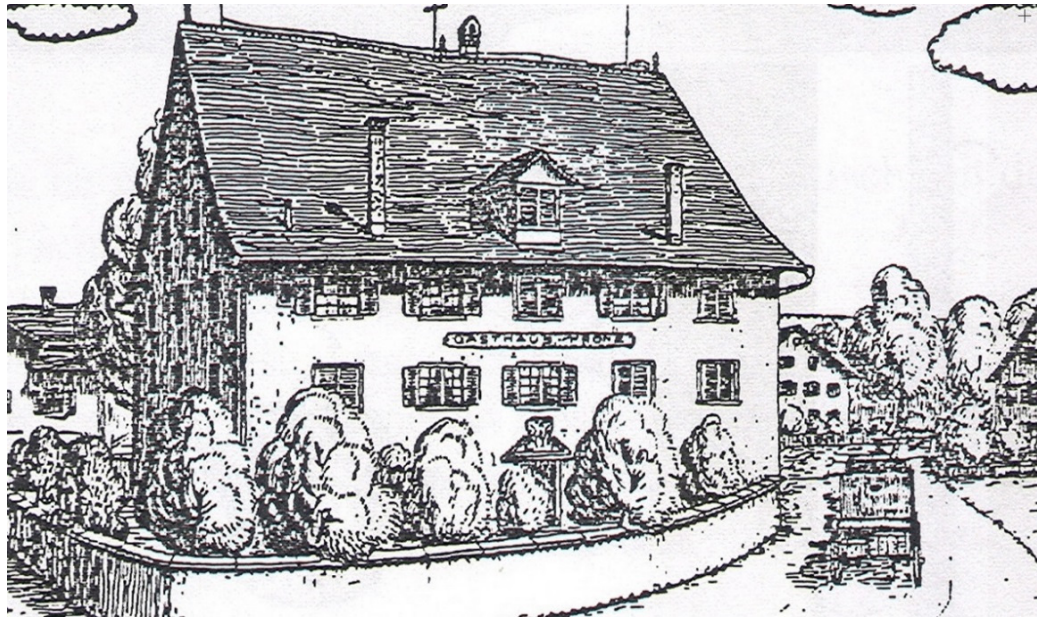
High complexity: little interest by architects / urban planners, traffic is deliberately ignored.

Focus on negative aspects, potentials und synergies are hardly used.

Importance of traffic is increasing, for liveable cities and villages an integral planning of urbanism and mobility is necessary!

- 3 Neustadt-Ausrichtung nach innen auf die 2. Reihe Aufgrund der hohen Verkehrsbelastung (Bahnhofstrasse und Neue Jonastrasse) wird die Neustadt Rapperswil vermehrt nach innen auf die zweite Reihe ausgerichtet. Dies betrifft insbesondere Erdgeschossflächen und öffentliche Räume.

## Case Dietikon



*Guest house Krone: logical location directly along the main street  
(image: Krone Dietikon)*



*Main streets in Dietikon als difficult spaces (images vdw)*

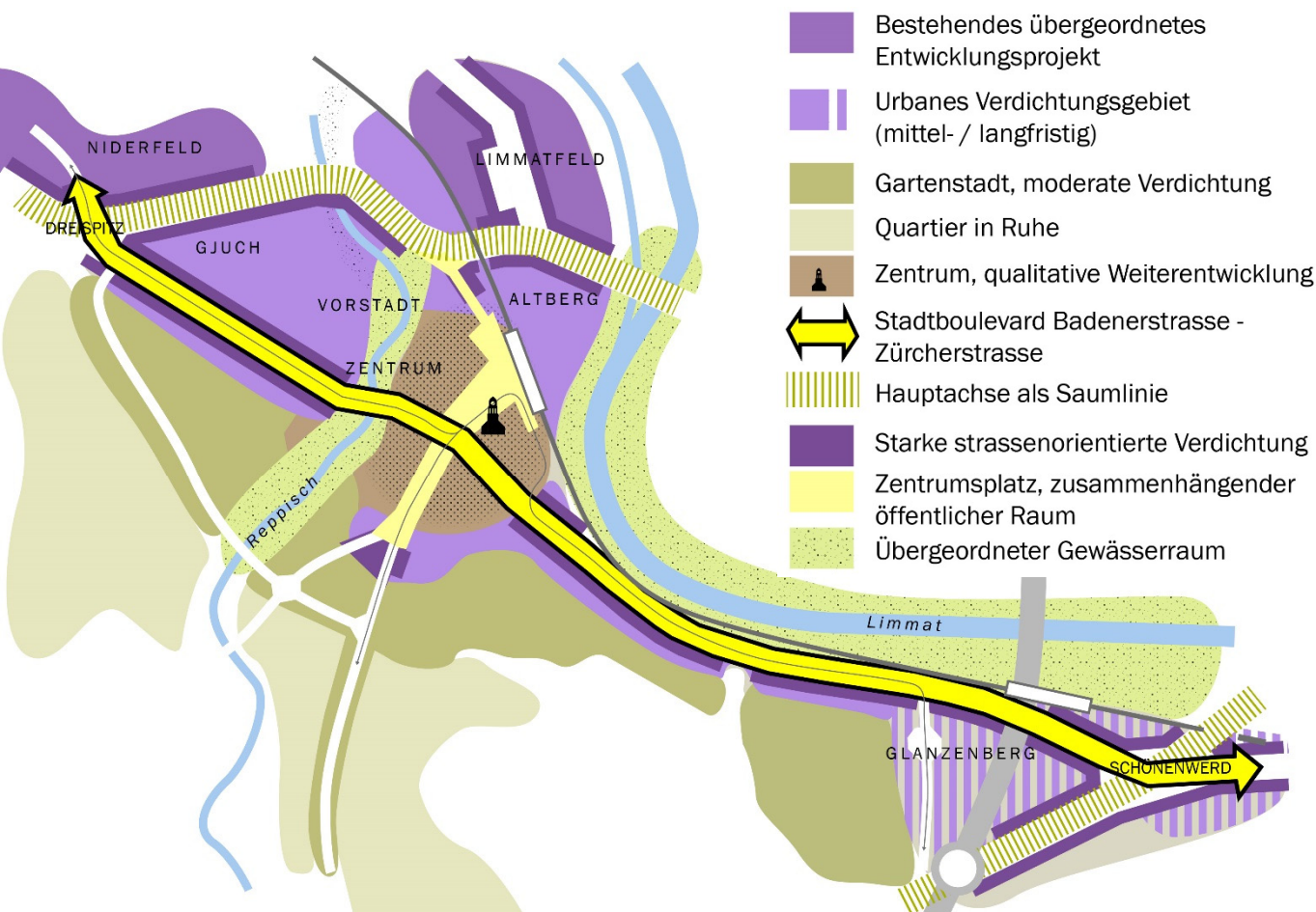
### Transformation from suburb to city

Three-part planning product: Swiss Urbanism Award 2018 (Stadtlandpreis), integral planning of urbanism and mobility as base for a qualitative development.

Dietikon:

- Dynamic suburb of Zurich with 23'000 inhabitants.
- Transformation from suburb to city: urban developments, new light rail line Limmattalbahnhof.
- Historically a street-based town, today traffic as main challenge for a qualitative urban development.

# Densification strategy



## Densification: not task but chance

Densification strategy as positive planning:

- Conscious use of densification to reevaluate difficult but important places.
- No extensive but concentrated, well located densification: support of investments in difficult traffic zones, Stadtboulevard as main element.

Densification strategy Dietikon supports investments in difficult traffic zones, Stadtboulevard as main element (source: Van de Wetering, city of Dietikon)

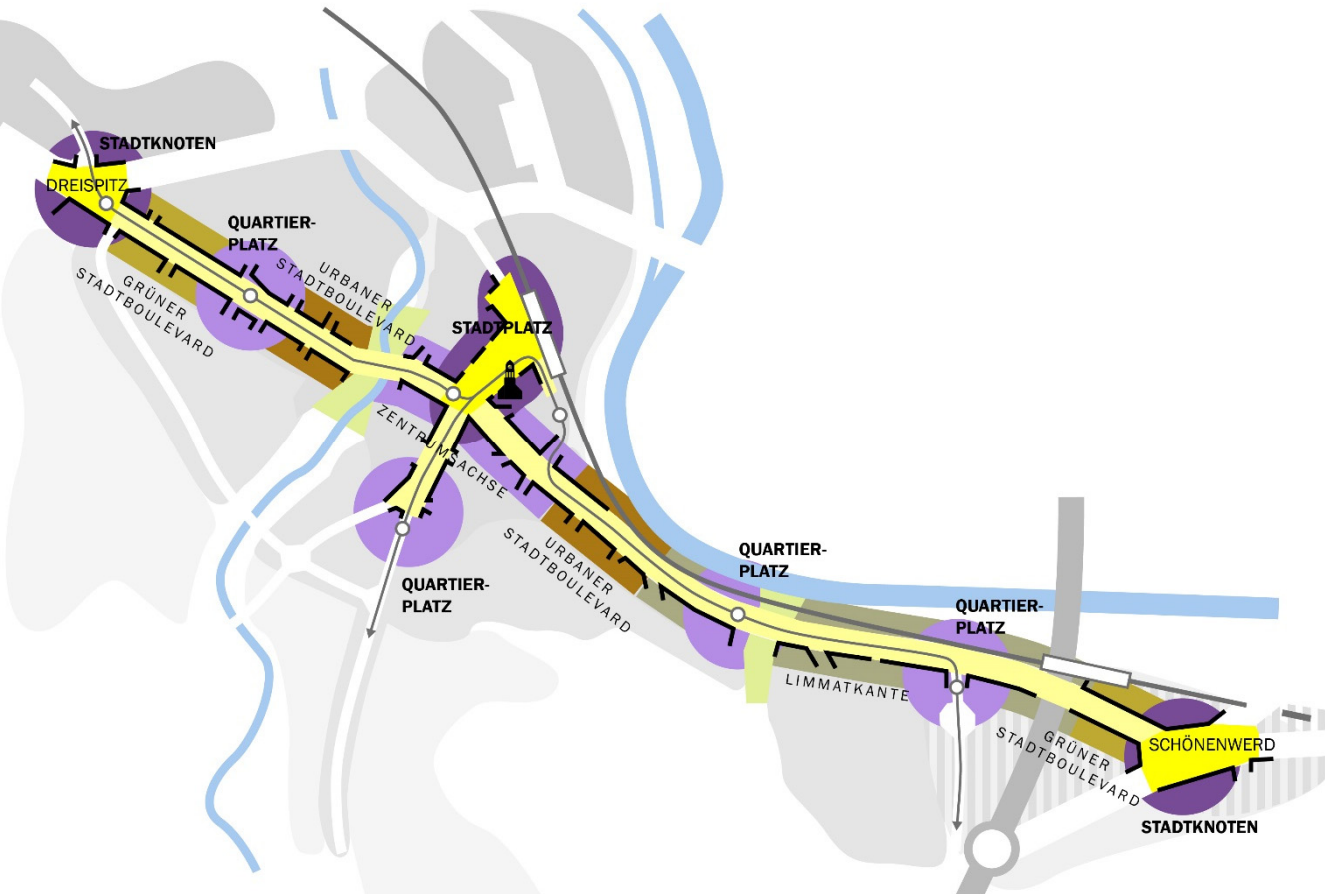
# Masterplan Stadtboulevard

## «Transit-oriented development»

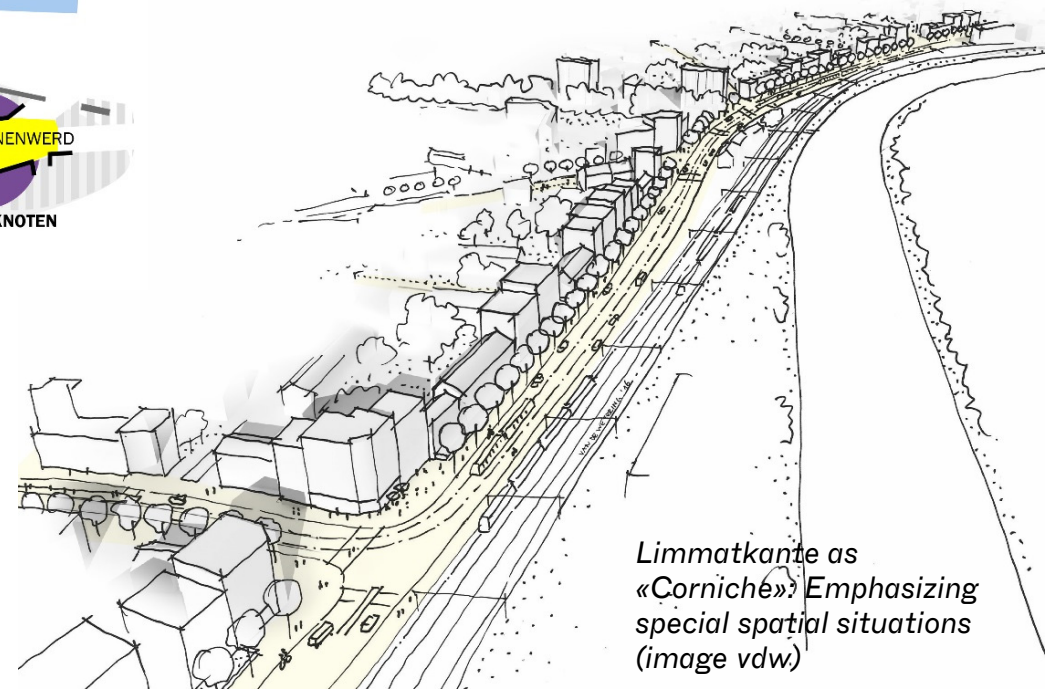
Concentrated development along the 30m wide main access road Badener- and Zürcherstrasse, future course of the Limmattal Light Rail Line.

Focus on positive features of traffic: visibility, frequencies, good accessibility.

Functionality and aesthetics: development of an identity-creating open space.



Masterplan Stadtboulevard, sections and special places (source: Van de Wetering)



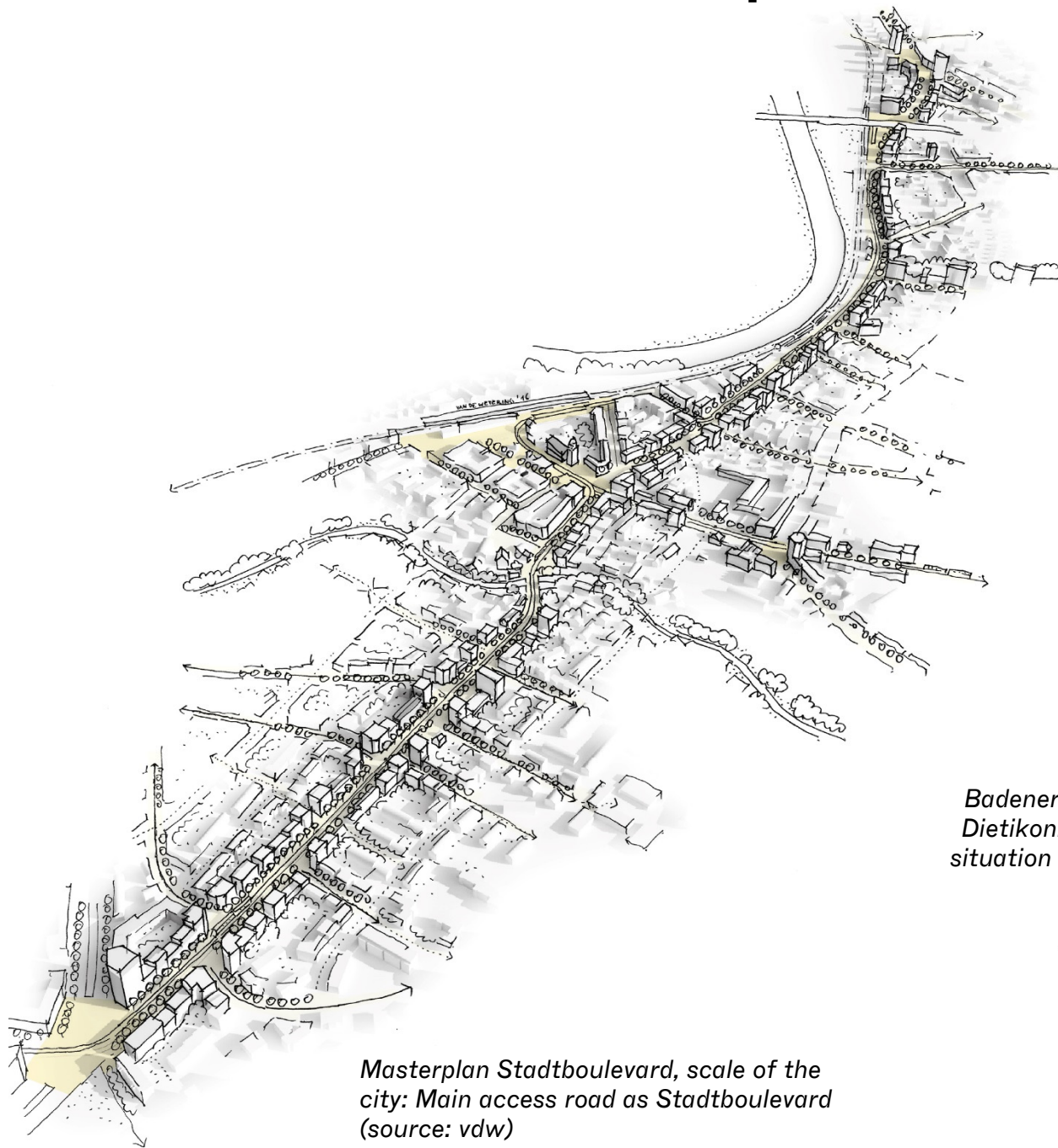
Limmatkante as «Corniche» Emphasizing special spatial situations (image vdw)

# Masterplan Stadtboulevard

## The first building line

Strong densification of the first building line along the main street, definition of street space by high houses:

- Improvement scale of the urban space.
- Emphasizing importance of the street, create prominent addresses.
- Protection of rear-warded residential areas from emissions.
- Concentrated demands: support active ground floors.

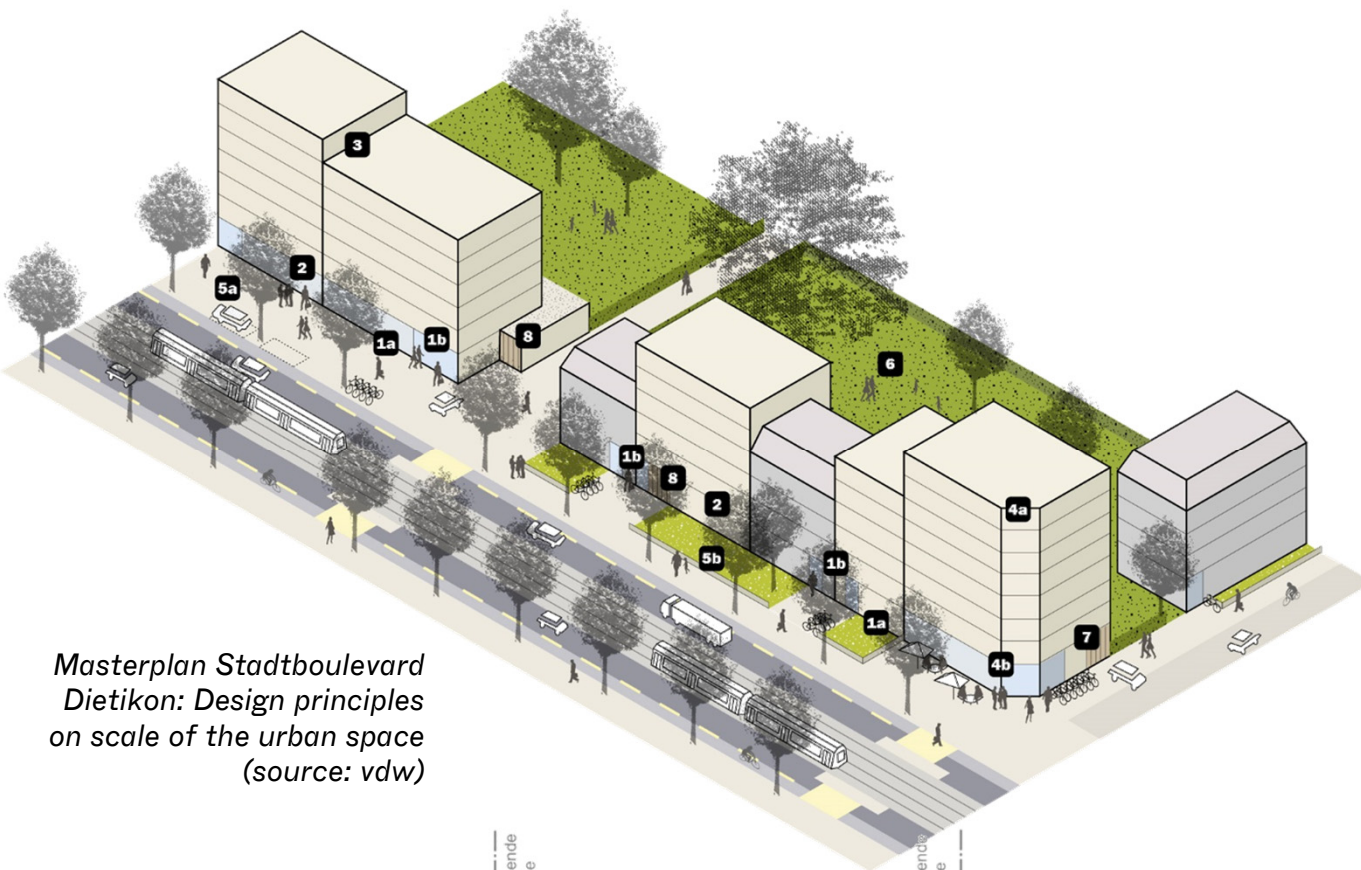


*Badenerstrasse  
Dietikon: actual  
situation (image:  
google)*

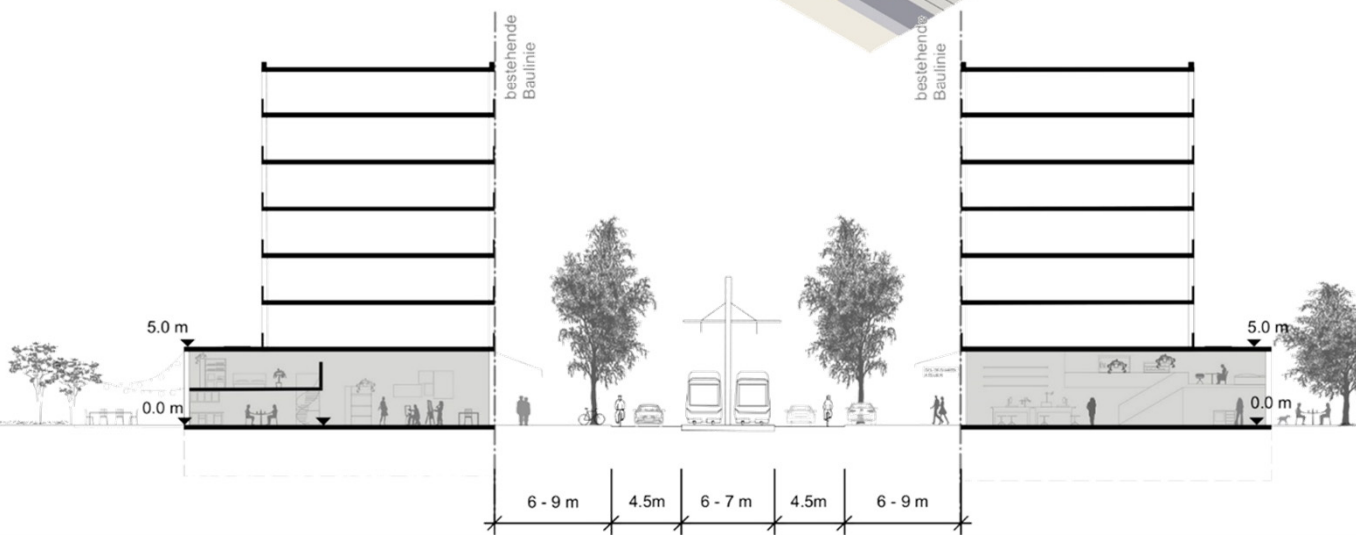
*Masterplan Stadtboulevard, scale of the  
city: Main access road as Stadtboulevard  
(source: vdw)*



# Masterplan Stadtboulevard



Masterplan Stadtboulevard  
Dietikon: Design principles  
on scale of the urban space  
(source: vdw)

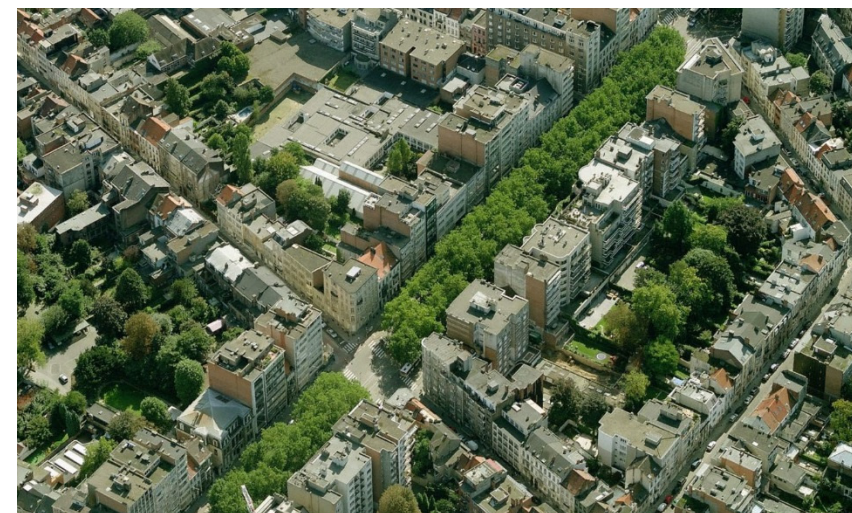


## Coherent, attractive urban space

Creation of urban space by definition of a building line: addresses and main entrances always towards the street!

Generous side walks (up to 9.0 m wide) with line of trees, individual short-term parking spaces, bicycle parking.

6 to 7 stories (balanced proportions of street and buildings), higher corner house (8 stories) possible.



Belgiëlei, Antwerpen: source of inspiration (image Bing)



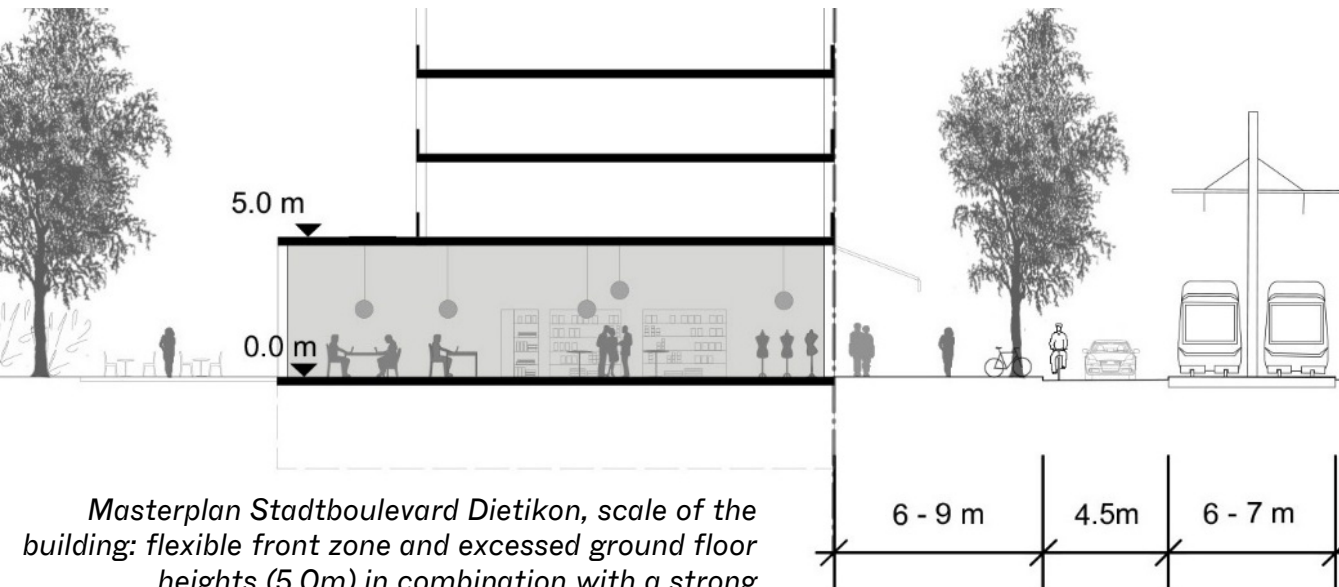
# Masterplan Stadtboulevard

## Interaction house and street

Ground floor as main interface between house and street: use particularities!

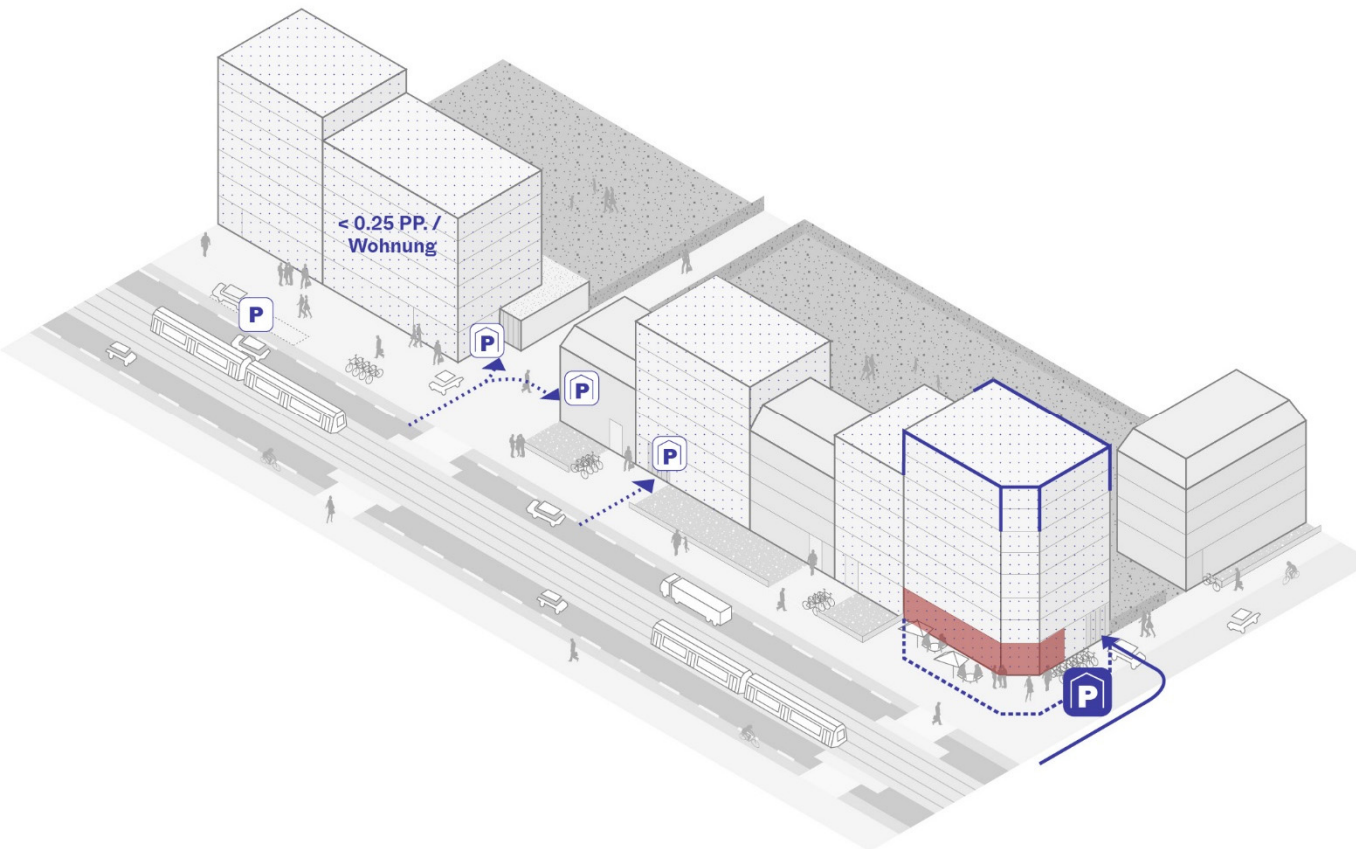
Guidelines for the ground-floor space:

- Ground-floor and main entrance always on level of the side-walk.
- Top edge of the ground-floor at 5.0 m: good lighting conditions, special commercial, residential and mixed formes (e.g. mezzanine) possible.



*Masterplan Stadtboulevard Dietikon, scale of the building: flexible front zone and excessed ground floor heights (5.0m) in combination with a strong densification directly along the street supports «main street houses» (Source Van de Wetering)*

# Masterplan Stadtboulevard



## Urban design with car parking and access

Strong reduction of parking spaces ( $< 0.25$  PP/dwelling) due to the direct location along the Limmattal Light Rail Line, smaller facilities per plot and direct access from the street possible.

Central parking facilities: higher corner houses linked with realization of a neighborhood garage.

Use pedestrian frequencies of parking garages: pedestrian exit towards the street, street corner as meeting place (commercial functions in ground-floor).

Reference Goldbrunnenstrasse  
Zürich, compact parking entrance  
integrated with the main house  
entrance (image vdw)

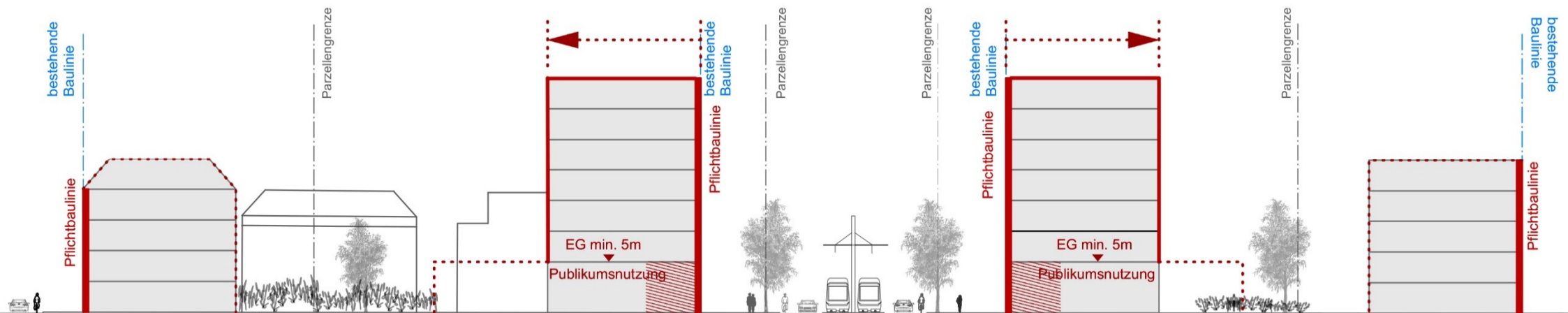
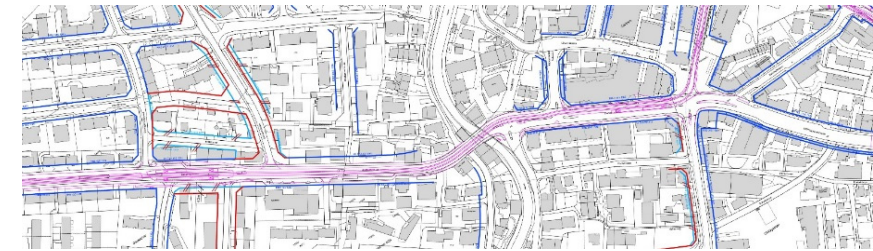
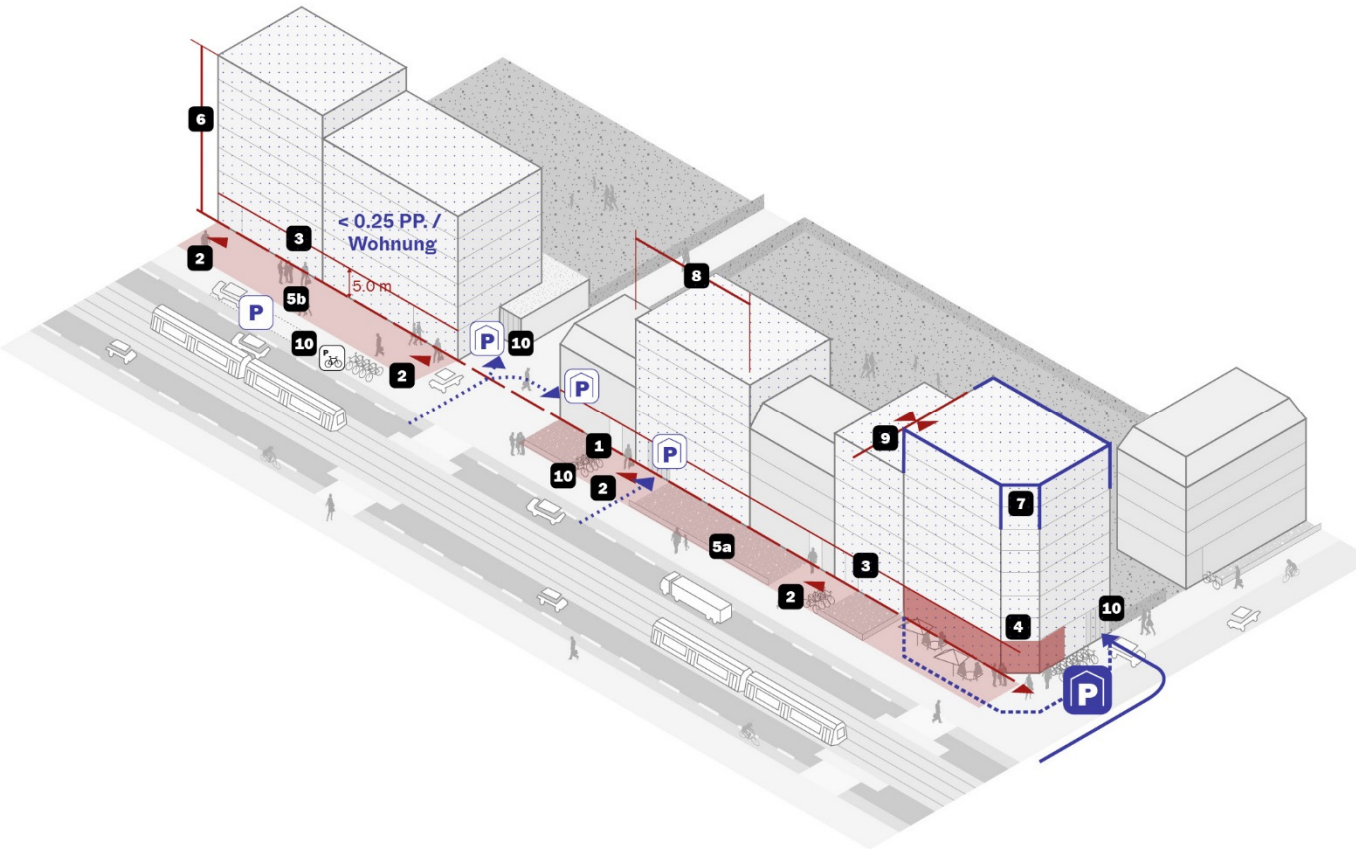


# Masterplan Stadtboulevard

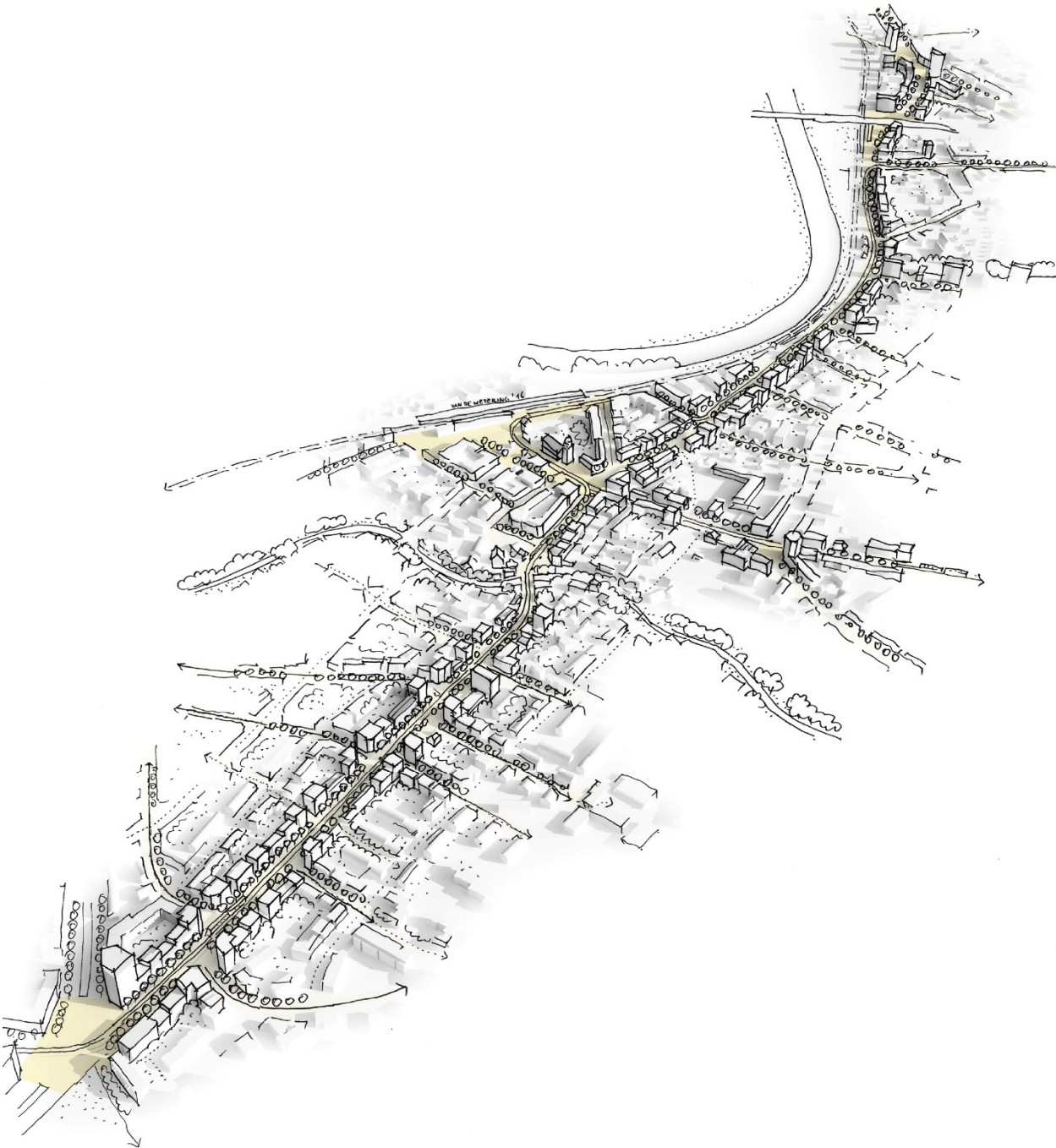
## Simple, robust set of rules

Integral, precise, positive planning: "added value" of densification is automatically turned into urban quality, robust, simplified rules possible.

New application of existing building lines.



# Conclusion



Use positive features of traffic for a qualitative urban development!

Create more scope of action and possibilities by densifying places which are already heavily charged.

Precise, integral planning at all scales: added-values at the right place, simple set of rules, street design for existing and future situations.

**Thank you for your attention!**



**Thank you !**

