

69%
of jobs occupied by foreigners

36'680
employees in FL

21'500
daily commuters crossing FL borders

4'331
companies in FL

770
cars per 1'000 inhabitants

1/5
of Liechtenstein's total energy consumption is used for mobility

19'300
cars entering FL daily

75%
of all employees in FL commute to work by car. 25% of commuters use public transport and only 5% travel by bike or foot.

Numbers and figures Liechtenstein's mobility and commuting behaviour according to the department for statistics (2015).

A CROSS-REGIONAL REGENERATIVE MOBILITY CONCEPT

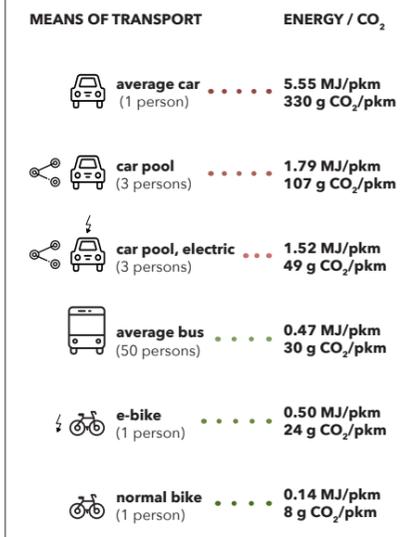
Spending a day in Liechtenstein, one immediately recognizes that there is a lot of individual car traffic in this small and seemingly rural country. Numbers of the yearly car inspection confirm this impression: With 770 cars per 1'000 inhabitants, Liechtenstein had the highest density of vehicles per capita in entire Europe in 2015. Another important aspect is that companies located in Liechtenstein offer many jobs, of which almost 70% are done by foreign employees. However, they are only allowed to live in Liechtenstein under rare circumstances. According to a mobility research of the Chamber of commerce, around 21'500 people are commuting from or to Liechtenstein every day, of which 75% travel by car, 20% by public transport and only 5% by foot or bike. The commuter traffic leads to many negative consequences, such as high CO₂ emissions, fine particulate matter, disfigurement of the villages by big parking areas, unattractive town and village centres for pedestrians and bikers, dangerous ways to school and high noise exposure. The problem is not primarily the missing alternative infrastructure but rather the insufficient use of the existing one. Instead of building additional public transport systems and village bypasses, which would involve both huge costs and ecological burdens, our focus lies on changing the users' behaviour with as little

constructional intervention as necessary. We thus want to further develop what some companies like Inficon AG or the Liechtensteinische Landesbank already started: The reduction of individual car traffic through a mobility concept that engages people to change their behaviour. The concept relies on the idea to inspire people to become members of the mobilIEty club and to benefit of attractive public transportation offers, a broad range of car sharing options and the chance to win prizes. Companies, in turn, are more than willing to invest in the concept as it costs them much less than further expansions of their parking area and infrastructure. In contrast to the already existing in-house concepts of the above mentioned companies, we propose the founding of a cross-regional mobility management. All inhabitants of Liechtenstein as well as all the commuters from neighbouring countries can take part. The necessary infrastructure shall be financed by contributions of the participating companies. On one hand, they represent the main cause for the immense commuter traffic, on the other hand they can utilise the concept not only for an eco-friendly branding but also to reduce their expenses on the allocation and maintenance of cost-intensive parking areas and infrastructure. The membership in the mobilIEty club allows people to make use

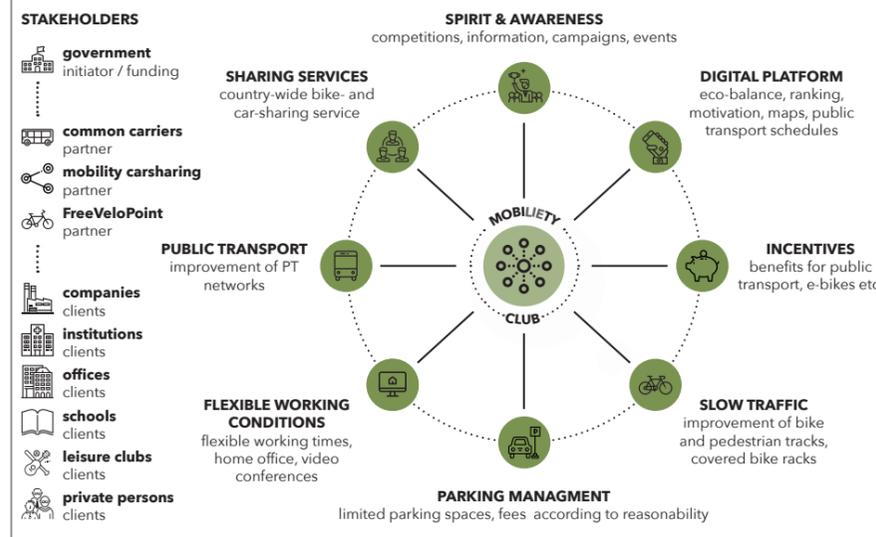
MOBILIETY CLUB

The massive amount of commuting traffic in Liechtenstein is leading to congested streets, unattractive village centers, heavy noise and daily environmental pollution and thereby reduces the living quality extensively. Even though the country offers a dense network of public transport, the car commuter traffic remains an unsolved problem. This project propounds a transregionally operating mobility concept with shared infrastructure, motivating companies and their employees to make commuting to work environmentally friendly. The concept provides incentives, raises awareness by competitions and events, offers consulting services to companies and provides a digital platform to make sustainable mobility attractive. It represents a unique opportunity for Liechtenstein to take up a pioneering role in realizing an extensive regenerative mobility concept.

Final project proposal Constantin Frommelt, Stefan Amann, Daniel Haselsberger, Milena Fischer (SS17). Initial project idea: Melanie Stelzl, Paulina Frankowska, Kevin Walser, Simon Frick, Stephanie Rattanong, Cristina Ammann (SS16).



Comparison Common means of commuting compared by energy need and CO₂ equivalents per person / kilometer.



mobilIEty-club concept The mobilIEty-club is a concept of combined mobility with a cross-regional infrastructure for all businesses in Liechtenstein. By joining the club, companies are able to foster sustainable commuting among their employees.

of a shared infrastructure, a digital platform and individual mobility consulting, as well as to take part in competitions and events. The companies will have to introduce a parking management system with fees according to reasonability for the use of a car. This will reduce the attractiveness of individual car commuting, and instead provide incentives for car-sharing, public transport or bike use. A digital platform offers fast and easy tools, schedules, user statistics and motivational tips on a smartphone app. Companies can profit from a range of consulting services on how to become more commuter-friendly, for example by introducing video conferences, flexible working time or home office solutions and offering covered bike racks next to their entrances. To keep the motivation among employees running their environmental performance will be reward. Additionally, the mobility organisation will take charge of the expansion of necessary infrastructures, such as the offering of electric bikes in covered charging stations or additional bike paths. In collaboration with the public transport company LIEmobil, the collected data of the app will be used to improve the bus schedule and make it as comfortable as possible. The raised awareness and changed mobility behaviour of the initial phase is intended to lead to a more frequent use of public transport, car sharing options and bike use. Eventually, the final goal is to contribute to a more regenerative region, meaning that there is a

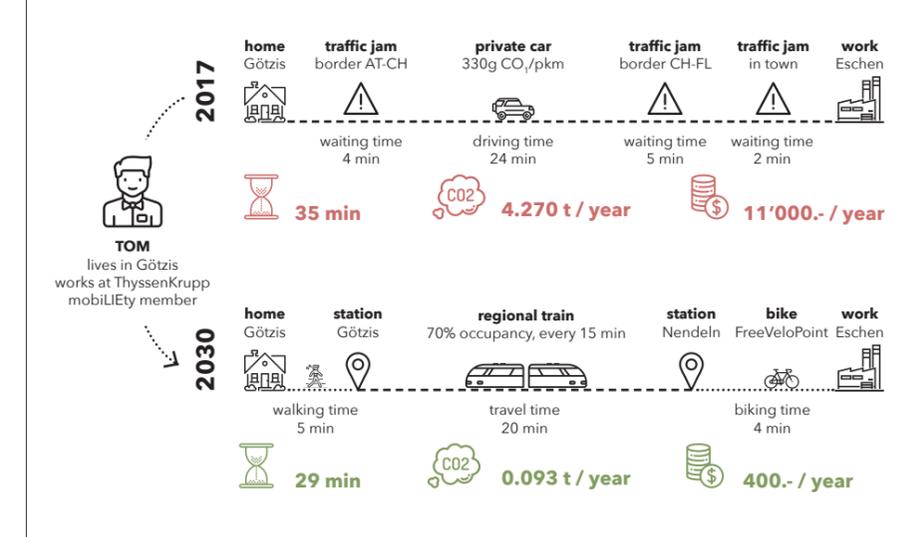
positive impact on society, economy and ecology. Over time, all means of transport will be switched to electric power, which will be generated from renewable resources for example by solar panels on the companies' roofs. As vehicles will become more efficient, it will be possible to produce even more energy than is needed for traffic use. Moreover, big parts of formerly sealed parking areas will become dispensable and can be transformed into open surfaces, allowing higher water infiltration, improving the CO₂ storage capacity of the soil and increasing biodiversity. The newly gained space can be used for parklets, recreation areas, sport facilities, community gardens for local food production or other functions. The extension of bike and pedestrian paths will increase the walkability of neighborhoods and contribute to a denser environment with mixed uses. With less traffic and more street life, village centers will become more attractive and social interactions will be fostered. In the long term, we believe that what started as a concept cannot only lead towards an emission-free traffic in the region, but also to a spatial transformation of fallows into regenerative spaces. Furthermore, we think that the small size of Liechtenstein is a chance to take up a pioneering role in realizing a cross-regional regenerative mobility concept. The mobilIEty club will help to make sustainable mobility a long-term subject of discussion and foster people's awareness of their behaviour and its environmental consequences.

REGENERATIVE.LI

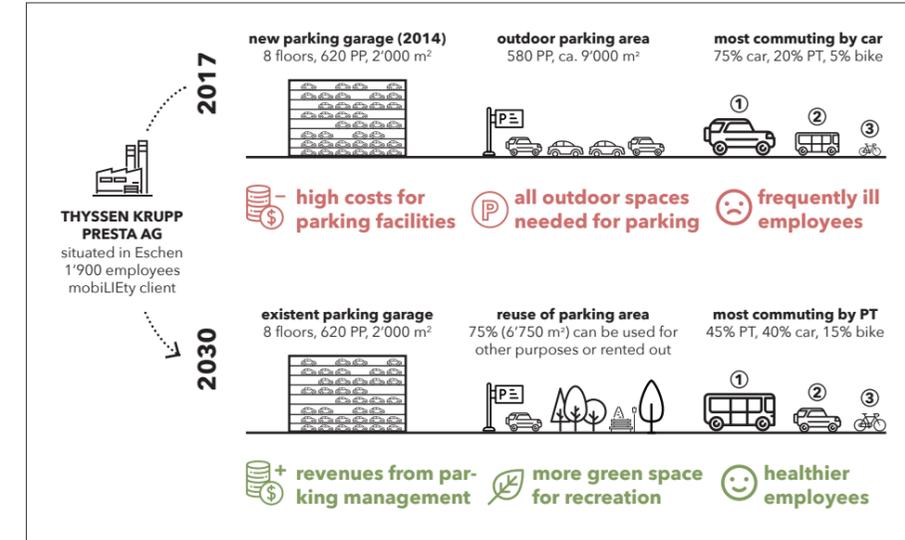
Exhibition: September 14 to October 6, 2017
Architecture Foyer, University of Liechtenstein

Over the past three years students participating the course *Regenerative Environments* had a close look at the Alpenrhein Valley focusing on Liechtenstein and its surroundings. Aiming at the design of integrated approaches for sustainable, regenerative environments, a broad variety of topics have been discussed, wrought and finally distilled into project proposals that could contribute to render Liechtenstein more regenerative. The topics range from habitation, commercial or mixed use to infrastructure, mobility, renewable energy production and supply, agriculture, forestry, biodiversity, carbon sequestration and water resource management. The ten projects on display in the exhibition are intended to be thought-provoking impulses for the ongoing discussion about the future sustainable development within the region.

Further information: WWW.REGENERATIVE.LI



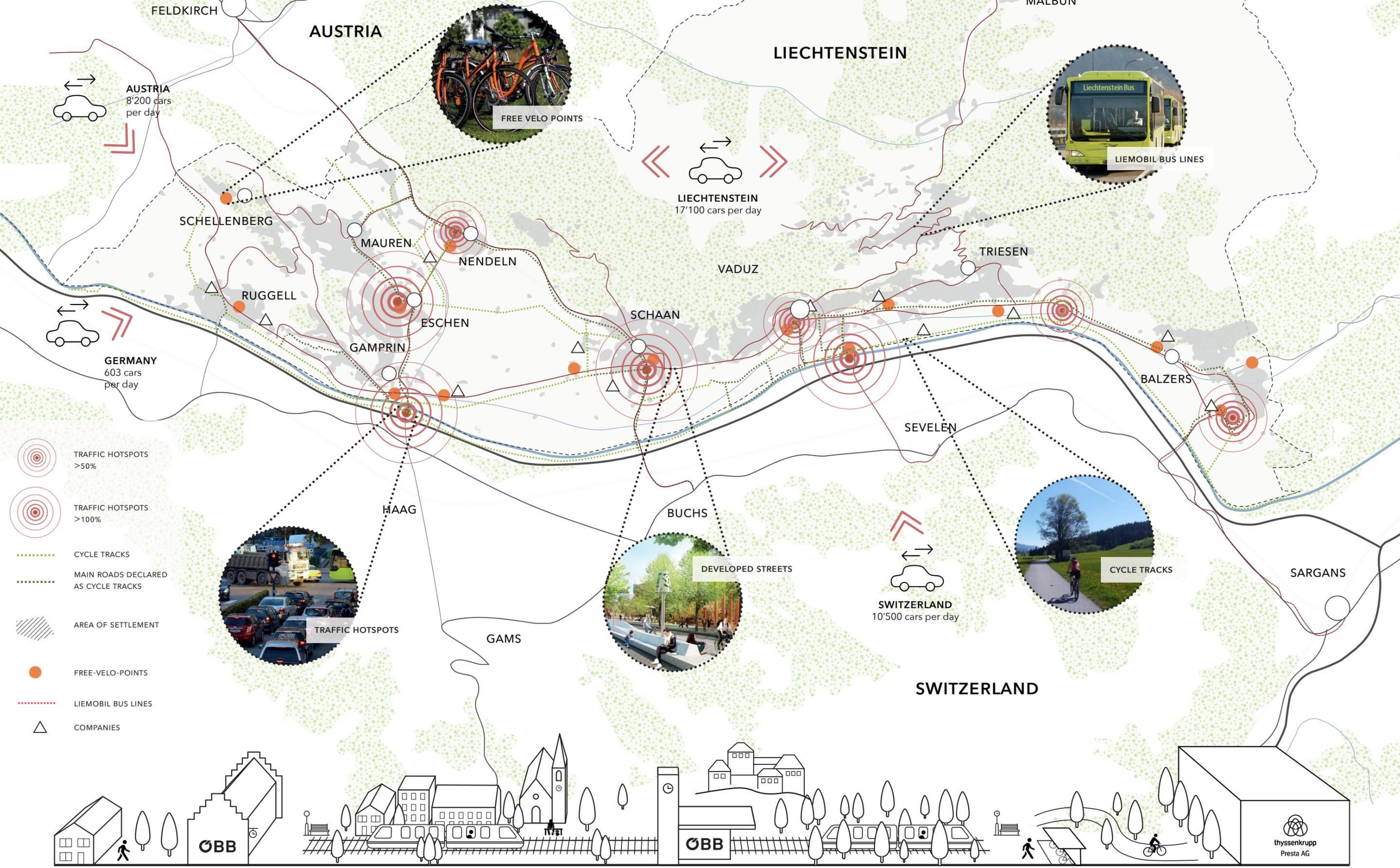
Benefits for employees With the improved infrastructure network, commuting by public transport and slow mobility becomes more attractive. Besides enhancing health and fitness, it saves a remarkable amount of time, CO₂, and money.



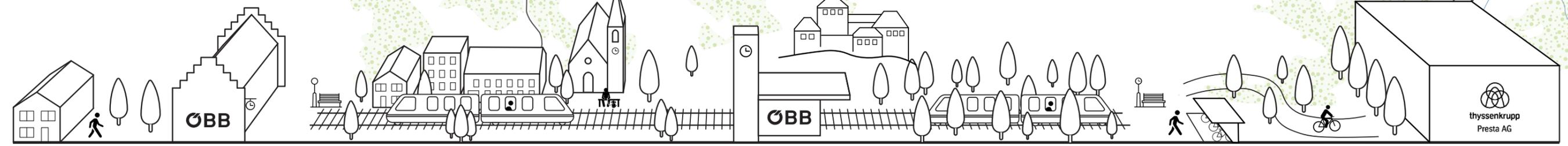
Benefits for employers Companies and public institutions profit from the mobilIEty club by saving space and money for parking lots, getting revenues from the parking management system and because healthier employees are more motivated and less absent.



MOBILITY CLUB



- TRAFFIC HOTSPOTS >50%
- TRAFFIC HOTSPOTS >100%
- CYCLE TRACKS
- MAIN ROADS DECLARED AS CYCLE TRACKS
- AREA OF SETTLEMENT
- FREE-VELO-POINTS
- LIEMOBIL BUS LINES
- COMPANIES



GÖTZIS GÖTZIS TRAIN STATION FELDKIRCH TRAIN STATION NENDELN TRAIN STATION FREE VELOPOINTS THYSSENKRUPP PRESTA ESCHEN

