

Aglaée Degros, Markus Monsberger

Residence-Based Mobility as a Starting Point for Sustainable Cities

In the FFG research project Urban MoVe, the Institute of Urbanism of TU Graz together with Verkehrsplanung, TU Wien, Grazer Energieagentur and Urban Innovation Vienna investigated the area of conflict between private and public instruments for the control of mobility related to residential locations. Examples from Graz, Vienna, and German-speaking countries lead to the conclusion that sustainable travel is related to the quality of the housing environment.

Of course, the development of sustainable housing in cities has great importance. Climate measures are a central component in this topic area. In addition to the strong focus on energy-efficient buildings to date, little attention has been paid to sustainable mobility in residential locations. In addition, considerations of housing in an urban context focus on the function of shelter or housing, but they also encompass other dimensions. Buildings must not be viewed as isolated or autonomous, but connected to a larger environment. There is great potential for CO₂ and energy savings here, a fact which has so far been little exploited in order to achieve ambitious transport policy objectives. This is particularly relevant since about 80% of all our trips begin and end at the place where we live. For a holistic climate- and energy-efficient planning of the residential location, it is imperative to consider and plan mobility issues and innovative mobility solutions.

Figure 1: A range of car-saving measures will free up parking spaces for community open spaces.

Source: TU Graz / Institut für Städtebau / Monsberger

EVERYDAY ROUTES

The decision as to which means of transport we use for our everyday journeys is therefore made at home. Various decision criteria involve personal consideration of whether or not we use the car, public transport or the bicycle. However, if you have easy access to a parking space for your car in your private residence or in your flat in an urban apartment block, you are more likely to use it. On the other hand, there are residential locations with good access to networks of bicycle or public transport in which the prescribed underground parking spaces are empty. The improvement of mobility without private ownership of a car is essential for the climate compatibility of residence-based mobility. Control mechanisms in this respect are currently primarily legal requirements for new housing projects. The current (building) laws and parking space regulations in the federal states and municipalities in Austria offer varying degrees of regulation. Up to now, in most cases only parking spaces for motor vehicles

have been specifically regulated (in some federal states also bicycle parking spaces). However, open questions about general access to mobility also include the following: connection and accessibility by bicycle as well as public transport or provisions for sharing. Also, qualitative as well as quantitative criteria have to be taken into account for the new construction of flats in the planning stage, starting with “traffic-saving” spatial planning – using the compact city and 15-minute city as a motto – and ranging to climate change adaptations for the cooling of the actual built-up city.

NEW BUILDINGS

Apart from specific funding programmes and recommendatory guidelines as well as adaptations of existing regulations, attempts to implement many of these ideas and measures have been carried out in recent years through private law contracts for new buildings. Initial experience shows that these contractual arrangements between cities/municipalities and construction project applicants have positive steering effects here. Thus, new steering instruments have recently been applied, and these negotiate sustainable solutions with affected stakeholders (e.g. investors, developers as well as owners) in the course of zoning and development planning. Mobility contracts or sections of urban development contracts allow the project developer to deviate from the prescribed number of car parking spaces, but in return regulate the investment of the money saved in a sustainable mobility provision for the residential building. These regulations also serve to avert traffic congestion



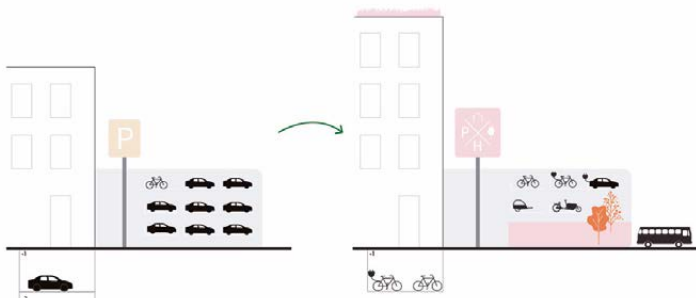


Figure 2: Transformation of residential mobility concepts: from a mono-modal residential environment to a multi-modal and diverse perspective.

Source: TU Graz / Institut für Städtebau / Monsberger

or encourage a modal shift to environmentally friendly modes of transport. An appropriate use of urban resources completes the objective of sustainable mobility. Alternatively, mobility funds are also used in Vienna, for example. Here, a public or private fund is established, fed by levies from developers or revenues from parking management, and used to promote alternative mobility projects within an urban neighbourhood. Within the framework of a call for proposals, residents can submit suggestions that will be reviewed by a jury and ultimately funded.

URBAN MOVE

The research project Urban MoVe was starting to evaluate these still relatively new approaches in detail with a multidisciplinary consortium, led by yverkehrplanung GmbH, supported by the Institute of Urbanism of Graz University of Technology (TU Graz), the Research Department of Land Policy and Land Management of Vienna University of Technology (TU Wien) as well as Grazer Energieagentur GesmbH and Urban Innovation Vienna GmbH (UIV). The first implemented practical examples for (residential) construction projects controlled by private law, in particular from Graz, Vienna and Germany, were examined in detail with regard to their effects on an intertwined and future-oriented urban and mobility planning. Accordingly, it was possible to analyse the effects and successes of these residential buildings that had already been implemented. Based on this, legal, measure- and actor-related as well as process-related new and further developments of the (contractual) control instruments were able to be described in order to ensure

a clear transferability of the project results. In particular, the on-going adaptation to innovations in the mobility sector, such as sharing and electric mobility, mobility as a service and automated driving, must be integrated even more strongly into the instruments.

The aim of the project is to support a change of perspective from mono-modal, car-oriented mobility at residential locations to multi-modal mobility offers and an activating, qualitative residential environment. The main objectives are (1) to increase the quality of the building project by reducing the use of land for cars and providing more space for private or communal open spaces on the site, as well as for communal or privately used spaces in the building; (2) to ensure mobility inclusion and accessibility through a variety of affordable mobility options; (3) to meet climate protection targets by changing the modal split in the direction of eco-mobility; (4) to save costs in housing construction and thus make housing more affordable by eliminat-



Figure 3: Residence-based mobility needs to be accessible for walking, cycling and public transport.

Source: Martin Grabner

ing parking spaces in parking structures; and (5) to enhance the public space by reducing the number of parking spaces for cars. Consequently, a subsequent research topic would be the investigation of such mobility solutions for existing buildings. For existing residential developments, the integration of tim sites (mobility solution in Graz which combines car sharing and car rental offers with public transport), i.e. multi-modal provisions, is currently a known key component for mobility improvements. What are also needed are responses to the electrification of personal transportation, which will require further retrofitting, and to the distribution and disposition of parking spaces depending on the availability of public transportation at the residential site, or shared garages across building plots to ensure public open space. ●

Aglaée Degros is professor at and head of the Institute of Urbanism at TU Graz, science fellow at Vrije Universiteit Brussel and co-founder of the architectural office Artgeneering. She is on the board of several institutions in Austria and Belgium and advises various ministers and cities.

Source: Lunghammer – TU Graz

Markus Monsberger works as a project assistant at the Institute of Urbanism, helps to organize the university course “Smart neighbourhood development in small and medium-sized cities”, represents the institute in the Urban Mobility Lab Graz grenzenlos and works part-time in the architectural office Artgeneering on several projects for the transformation of urban spaces, especially with bicycle infrastructure.

Source: Markus Monsberger

