Spatial planning and mobility

Interactions between travel and shopping habits, mobility, logistics, and urban development. Experiences from a research project at Vestre Billingstad in Asker municipality (2022-24).

Residential areas of the future must be both functional and attractive, while also being sustainable on local and global levels. The resulting development of Vestre Billingstad demonstrates that it is possible to combine efficient land use with desirable, high-quality mobility options. This is achieved through committed cooperation beween developers, mobility providers, and local planning authorities, as well as by surveying the needs and wishes of current residents. In addition, it is possible to provide solutions that make it easier to choose sustainable forms of mobility over private cars.

Here are the main recommendations from the project:

- Area should be developed for active transport facilities (e.g., internal footpaths and cycleways) to connect to parking, mobility options, parcel pickup stations, and recycling points early in the planning process.
- Areas should be designed for multiple purposes, and considered in conjunction with access roads and entrances and exits to the residential area.
- Business models for shared mobility solutions and service supply must be anchored so that the supply is secured over time, and further developed in line with changing demands and new framework conditions.
- The use of a development agreement can supplement the planning regulations and thus anchor and secure the desired development for an area. Explicit requirements also help to reduce risk for developers.

The implementation of several of the measures described in this fact sheet contributes to creating attractive neighbourhoods.

Overview of sold and planned housing units and parking spots

Field	Housing units	Parking spots	Parking ratio
A	186	128 (+12*)	0,75
B	603	368	0,61
D	464	338 (+16**)	0,76
Total	**1 253**	**862**	**0,69**
C	424	-	-

** Parking spots that have been built but not sold and can be converted into e.g. bicycle parking if the business day traffic exceeds the maximum requirement.*
***Narrow parking spots, only suitable for motorcycles and smaller cars.*

2018: Zoning plan and development agreement adopted (January)
2020: Initial occupancy
2023: Occupancy of approximately 670 homes

Supported by Regional Research Viken
Project number: 332772

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Background

The R&D project at Vestre Billingstad identifies important elements in the land development process between private and public actors. Experiences from the process and concrete solutions are summarized and can serve as inspiration for future development projects. However, every project is unique and must be based on and adapted to local conditions, qualities, and possibilites.

Efficient land use can help solve challenges related to nature and climate, and at the same time contribute to a reduced need for cars in everyday life. Today's mobility and logistics solutions are undergoing major changes, driven by sustainability, technology development, digitalisation, new business models and changed expectations from users. The development at Vestre Billingstad wants to facilitate such changes. This requires cooperation between the municipality, developers, and mobility providers, including a willingness to develop and test new solutions.

Sustainable mobility solutions are achieved, among other things, by ensuring good accessibility to everyday activities and offering good alternatives to the private car. Cooperation, willingness, and openness from public and private actors in urban/local development processes are central to success. Active and coordinated development of policy instruments is also needed.

Project development

During the project development phase, there is significant freedom to choose solutions and designs within the given framework from the overarching development plans. When developing a new area plan, one should take advantage of the opportunity to anchor qualitatively good, robust, and innovative solutions to important municipal and/or developer-specific strategies. Where there is an existing area plan, the need for adjustments should be discussed in the initial phase when there is still a high level of flexibilty.

Three elements have been identified as crucial to achieving the good development process at Vestre Billingstad:

1) The dialogue between developers and public authorities to clarify levels of ambition and opportunities for action.
2) A common knowledge base for relevant topics in the area to discuss options and adjust ambitions to what is realistic and feasible.
3) Development agreements between private actors and the municipality are a useful tool for specifying ambitions and responsibilities and can complement and clarify the content of the relevant area plans.

Regulation

In the area plan phase, the project is detailed in terms of design, including which functions are to be established and where. Regulatory provisions determine what must be fulfulled by the completed project. The provisions should be clear, but at the same time open to future innovation and solutions that can come both in the development phase and in the operational phase. In particular, this applies to development projects with several construction stages and which extend over a longer time horizon, such as in Vestre Billingstad. Regulations should allow for "dynamic" project management that embraces the optimization of existing solutions and the implementation of new solutions.

At Vestre Billingstad, regulations set a ceiling for traffic generation (max. business day traffic), as well as requirements for monitoring traffic development. Parking is regulated by a maximum standard. The possibility of including new mobility solutions is safeguarded in the area regulation where "the plan shall include arrangements for car and bicycle sharing as well as other necessary measures to achieve sustainable mobility."

It is important that frameworks in area planning give developers freedom to develop and choose solutions that meet common ambitions that apply to the specific area. By seeing different purposes together, it is also possible to make land use more efficient in this phase. Dialogue is important to ensure that developers and public authorities agree on solutions and that any needed corrections can be made at an early stage, especially if new innovations are to be included.

After occupancy

Measures and innovations that require follow-up from mobility providers and residents should be anchored in statutes for housing associations in order to be maintained over time. Space for various purposes should be secured in the area plan. When a developer establishes a housing association, they are in a position to influence bylaws and secure financing for solutions as part of joint costs, agreements, and registration liens with a binding period. Although, there will always be possibilities for resident general meetings to change the articles of association at a later date if a majority does not wish to continue an arrangement. The developer can also buy memberships to various services (e.g. mobility) for a period, or directly from the supplier at start-up. This can be particularly relevant in the early phase, before the entire customer base is set.

Mobility and logistics offers should be regularly evaluated and adapted to demand. In the evaluation process, suppliers, users and the municipality must be involved in order to map opportunities and barriers to improve mobility offers. For development that takes place in several stages, a systematic evaluation of the offers over time will provide a knowledge base for further development and optimization of offers.

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Physical design

Good physical design of an area can contribute to attractive footpaths and cycleways for active transport, as well as residential areas sheltered from car traffic. For pedestrians and cyclists, the most efficient and comfortable route is important, therefore the pedestrian and bicycle network should be an influencing factor in the placement of the buildings and facilities in the area. By connecting the transport infrastructure to residential facilities, it is possible to ensure flexible and efficient use of space.

In Vestre Billingstad, the access areas outside some homes have been designed as recreational residential areas, while accessibility for vehicles (e.g. for craftsmen) is ensured. Such solutions should be initiated early in the planning phase in order to identify opportunities for implementation. It will then be possible to utilize other parts of the development area for other desired purposes. The qualities of such areas should be claified and established.

Parking and shared mobility

Travel habits are largely influenced by access to various means of travel and service functions. Parking and shared mobility solutions are two important measures which, if designed properly together, can contribute to reduced car use.

Private car parking should be established at a greater distance from housing compared to shared mobility solutions and bicycle parking. This makes it easier to opt out of a private car on short journeys, while at the same time giving a signal to reduce car use. Alternative parking options in adjacent areas must be considered, instead of establishing parking areas directly within the development area. Any side effects such as illegal street parking in or around the area should also be considered.

The area for parking should be regulated by a maximum standard to reduce the convenience of owning a private car. What the maximum standard should be depends on local conditions. Parking spaces can be registered separate from the apartment. This makes the cost of owning or renting a parking space visible, while at the same time considering residents who do not need their own parking.

Access to shared mobility (e.g. car collectives) can be a substitute for not owning a car and ensure accessibility for those who do not require a car in their daily lives. In order to stimulate the use of shared mobility, a low parking to housing unit ratio for private cars is important, where the parking requirement in regulatory plans is defined as a maximum standard as previously discussed. At the same time, car sharing should function as a supplement, and not a replacement, for active means of transport.

In order to achieve the desired effect of car sharing, information about the service and access to cars is important. Information about the mobility offer should be provided when selling flats and when moving in, both to ensure that the offer is well known, and to avoid user errors or misunderstandings when signing a subscription.

The number of available cars and which function the vehicles will fulfill must be adjusted in line with the needs of residents. Currently, in Vestre Billingstad, electric cars are more in demand than fossil-fuel cars. During initial occupancy periods, vans are in greater demand. Users with different needs, such as those requiring car seats, experience installation as a major barrier to use. Parking spots outdoors in winter are a barrier for some users groups if snow along plow edges are not removed. Solutions to reduce such barriers are important to get the most attractive offer possible.

Bicycle parking

In order to motivate increased bicycle use, good solutions for bicycle parking are important. The bicycle parking must be designed in such a way that it is safe to park the bicycle in close proximity to the home. There must be access control to facilities for bicycle parking, in addition to the solutions where bicycles can be locked. The design of the area, facilities, and bicycle racks must take into account the fact that there are different bicycles, with varying sizes and weights. Racks and devices must therefore be designed so that all bicycles can be parked safely and easily, with charging and washing facilities, and the possibility of drying/defrosting bicycles in winter.

City logistics

Area for city logistics activites is important to include in the early planning phase. City logistics includes activies such as waste disposal, self-service parcel collection points, postboxes, craftsmen activite, home services, etc. Access for such services do not necessarily contribute to a more attractive project in the sales phase. However, poor solutions will negatively affect both those who offer services and residents after moving in.

In order to develop good urban logistics solutions, the needs must be mapped in an early phase in collaboration with key logistics stakeholders. This ensures that the design of solutions is in accordances with industry standards and is dimensioned based on the expected volumes. Changes in shopping behaviors due to the increase in e-commerce, as well at the potential reductions in private car ownership, is likely to increased delivery volumes. The area required for city logistics functions is often limited and rarely has a negative impact on other qualities of the area when it is well planned. Central players are interest organizations for carriers, craftsmen, waste disposal companies and home services.

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