PRAGUE SHARED SPACES: PROBLEMS AND POTENTIAL OF THE SHARED SPACE APPROACH IN THE CONTEXT OF MIXED-USE STREETS

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ABSTRACT: The aim of this paper is to present the results of a six-year study of shared spaces in the Czech context. The research seeks to understand what the shared space approach is and what the reasons for its origin are. It defines the tools used in shared spaces. Furthermore, it seeks to identify the challenges and opportunities for improving the residential quality of central mixed-use streets. The key objective is to expand knowledge about the current theory in the Czech Republic.

KEY WORDS: Public space, transport, traffic calming, movement, residence, segregation

Introduction

The research focuses on identifying a suitable approach and tools that can help achieve a balance of movement and residence on the main mixed-use streets in the Czech Republic.

In recent years, the shared space approach has been actively developing abroad and is gradually becoming a global trend in the reconstruction of central streets. Public spaces designed on the basis of this approach are starting to emerge in the Czech Republic, more specifically in Prague. But neither Czech legislation nor Czech theory take this phenomenon into account.

The basic aim of the research is therefore to verify whether the shared space phenomenon
can be used as a tool to rediscover the mixed-use street.

**The methods**

The research focuses on the literature review and empirical research of Prague shared spaces in the field (observation; questionnaire survey; pedestrian tracing; data collection; photo and video fixation; interviews with civic associations). Another method used is the method of comparison. The shared space approach is compared with other traffic calming approaches in the Czech Republic. Comparisons and field research are based on the methodology of the Chartered Institution of Highways & Transportation (CIHT 2018). Other methods also include structured interviews with transport experts.

**What is shared space?**

The literature survey led to the conclusion that shared space is a transport-urbanistic concept that integrates different types of transport and different ways of using street space by replacing the character of a segregated road with the character of a comprehensive public realm.

As a result of the application of such an approach, different types of public spaces can be created (Figure 1):

- streets with pedestrian priority
- classic shared space
- shared space with transport corridors
- a calm street with an improvement of the public realm

**Suitable for shared space locations**

The practice has gradually shown that the shared space approach can be applied in a great variety of public spaces. However, this approach is most suitable for the locations of shopping streets, significant public spaces, squares, narrow streets, residential streets, or local streets in block urban structures. Other possible locations also include high streets, intersections, or public transport hubs (Figure 2).

**Shared space principles**

A key principle for understanding the shared space approach is that the car is not the problem but part of the solution (Hamilton-Baillie 2005). The character of the public space is supposed to cause uncertainty in the driver, increase his attention, and thereby
equalize his position with other road users. The same tools, in the form of architectural and construction modifications of public space, are also capable of reducing the speed difference between users. Specific tools may include the removal of road markings, traffic lights, curbs, and pedestrian barriers to transform the character of the road into that of the public realm. Other, but no less important, principles include the replacement of rules and protocols with eye contact and human interaction; the so-called transfer of responsibility from the state to the individual.

Consequences of setting up shared space

A number of foreign researchers, including MVA Consultancy (2009), state that the application of this approach brings users freedom of movement, mixed use of street space, eliminates the segregation effect in public space, increases road traffic safety, improves air quality, and strengthens social qualities and economic vitality.

Different traffic calming approaches comparison

A comparison of traffic calming approaches existing in the legislation of the Czech Republic (Figure 3) made it possible to conclude that none of them can provide movement and residence qualities put together. This leads to a disruption of the continuity of the city’s public space, which is often divided into individual zones according to the applied traffic calming approach (Figure 4), segregation of the public space, disruption of lateral permeability, burden of traffic infrastructure, and disorder (Figure 5). Furthermore, residential zones are emerging in the central business parts of cities, and pedestrian zones are built in areas with high automobile and public transport traffic.

The comparison also pointed out that the foreign shared space approach offers a better balance between the movement and residence of central mixed-use streets.

Results

The study of theory and empirical research in the field made it possible to reveal a number of key findings.

A survey of foreign literature pointed to the problem of exclusion of visually and hearing impaired people in shared spaces. It revealed the influence of the traffic behavior culture on the priority and respect of pedestrians. It was found that when traffic intensity exceeds 10,000 vehicles per 24 hours in a shared space, the accident rate increases, which was confirmed by the field survey. The results in terms of safety are also variable and are associated with the application of a suitable type of shared space depending on traffic intensities.
Alternatively, they are related to the fact that the number of accidents increases but their severity decreases.

The survey in the field revealed the necessity of protected zones at the house fronts (especially for more vulnerable groups of users) in shared spaces, as well as psychological barriers to the use of shared public spaces (Ostakh 2020). The problem of a continuous barrier of parked cars, the burden of the streets with horizontal road markings and the problem of protection against sudden vehicle attacks, and the feeling of insecurity of some users (including younger ones) were registered. The influence of the morphology and nature of public space on people’s behavior was confirmed (Figure 6,7,8).

**Discussion**

The research results correspond to a great extent and confirm a number of already known findings regarding the shared space approach. However, some of them, such as the improvement of accident statistics of the classic type of shared space (on Exhibition Road in London), or the finding that drivers always slow down in shared spaces — have not been confirmed. In future works, it is necessary to focus attention on multi-criteria data collection before and after the reconstruction of shared spaces, especially in the context of main mixed-use streets. Further investigation of the effect of sub-elements of public spaces on all users (curb heights, crossing points, navigation elements, surfaces, placement of furniture, etc.) is necessary.

**Conclusions**

The work presented in this paper opens discussions on the topic of shared space and reevaluates the current approaches to the balance between movement and residence in the Czech environment. It verifies the methodology for evaluating the quality of mixed-use streets and, as a result, reveals the basic challenges associated with the application of the shared space approach to urban public spaces in the Czech Republic. The research answers the basic research question and thus establishes that the shared space approach can be used as a tool to rediscover mixed-use streets, but under certain conditions, which are defined in the form of specific recommendations:

- a holistic view of streets,
- prioritization of more vulnerable users through the law,
- audit of shared public spaces at the design stage and after reconstruction,
- involvement of visually and hearing impaired people in the design process,
- clearly defined character of the street,
- provision of protected zones near house fronts,
• organization of parking that does not create a continuous barrier,
• limiting the factual speed of car traffic

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REID, S., 2009. DfT shared space project stage 1: appraisal of shared space. MVA Consultancy.
Figure 1. Types of shared spaces (Source: Zdroje: https://gehlpeople.com; https://worksthatwork.com; https://www.pinterest.ch; https://divisare.com)

Figure 2. Suitable for shared space locations (Source: Novotný, 2021)
Figure 3. Different traffic calming approaches comparison (Source: Author)

<table>
<thead>
<tr>
<th>Theory and legislation approaches</th>
<th>Calm street</th>
<th>Pedestrian street</th>
<th>Shared public space</th>
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<tbody>
<tr>
<td>CTCM* (Conventional traffic calming measures)</td>
<td>Zone 30</td>
<td>Residential zone</td>
<td>Shared space</td>
</tr>
<tr>
<td>Safety</td>
<td>+</td>
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<td>Accessibility and permeability</td>
<td>-</td>
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<td>Possibility of use for everyone</td>
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<td>Uses and Activities</td>
<td>-</td>
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<td>Economic prosperity</td>
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<td>Public health</td>
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CTCM*:
+ Positive
- Negative
-+ Neutral

Figure 4. Disruption of the continuity of the city’s public space (Old Prague circuit) (Source: Author)
Figure 5. Problems due to the absence of a suitable traffic calming approach (Source: Author)

Figure 6. Research (red) and other (black) locations of shared space in Prague (Source: Author)
Figure 7. Selected for research in the field of shared spaces in Prague (Source: Author)

Figure 8. Pedestrian routing in Prague’s shared spaces (Source: Author)