VSB
VERKFRÆÐISTOFA

Digital Design Guidelines for Urban Streets

Introducing a uniform approach

Background

Iceland is currently facing a lack of unified guidelines for designing streets in its cities. You can see clear inconsistencies in how streets are laid out from one municipality to another, between different neighbourhoods, and even variations within the same street. Additionally, there's confusion arising from the way streets are defined versus how they're actually used. Drivers often rely more on the surrounding environment for cues on how to drive, rather than the posted signs, leading to a riskier situation for everyone on the road.

Furthermore, the guidelines that do exist are difficult to find. They're mostly tucked away in PDF reports on the website of Vegagerðin, forcing designers to dig through layers of content and lengthy documents.

The problem is therefore twofold: there's a lack of clear standards for urban street design, coupled with a system that makes important information hard to access for professionals. This situation can spiral into several issues:

1. Faced with these obstacles, developers might fall back on the familiar, repeating outdated practices instead of meeting contemporary urban design needs for various transportation modes.
2. Designers may default to foreign standards they're more comfortable with, like those from Norway or Denmark. This well-meaning strategy, however, can introduce inconsistencies in local road designs, affecting overall user experience and safety.
3. Some professionals might mistakenly apply rural road design principles to urban spaces, compromising the safety of pedestrians and other active travellers.
4. In their quest for guidance, developers often turn to the internet, where they might stumble upon incorrect or outdated directives.

Goal

The aim of the project was to create an accessible electronic tool where designers can easily access instructions for the design of urban streets. This can save time and improve and coordinate street design in urban areas in Iceland with various benefits. Improved and coordinated street design in urban areas, prevents conflicting messages and makes it easier for road users to understand the street environment. Understanding the situation is a key factor in improving road safety.

Carrying out the project

The project was a cooperative project between the City of Reykjavík, Vegagerðin, Skipulagstofnun and VSB Engineering. The role of the task force was to try to set up a vision for the design guidelines and their ownership, review data collection from foreign guidelines, and reach an agreement on which criteria would be included in Icelandic guidelines. The working group held five meetings and one workshop.

1. The project began by gathering information on foreign guidelines for urban street design to review the characteristics of such guidelines and whether there are differences between countries in approach. The countries used as guidelines in this project were mostly Norway, Denmark, and

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Netherlands, but some cases from Germany were also examined. At the same time, information was gathered on the Icelandic guidelines dealing with some of the urban areas

2. A workshop held with the working group in autumn 2022 reviewed all the main aspects of designing a street with a maximum speed of 30 km and a baseline on the space requirements of different road users in Norwegian, Danish, Dutch and German guidelines. Figures from the foreign guidelines were compared and from these figures determined what Icelandic the figures should be.

Gangstétt	Breidd		
	Lágmark (m)	Hámark	Ákjósanlegt
Holland	2,0		
Noregur	1,5		
Danmörk	1,5		2,5
Ísland	2		
Þýskaland	1,5		2,5
Hjólarein	**Breidd**		
	Lágmark (m)	**Hámark**	**Ákjósanlegt**
Holland	1,7	2,25	2
Noregur			
Danmörk	1,8		2,25
Ísland	1,7		2,00-2,25
Þýskaland			
Akrein	**Breidd**		
	Lágmark (m)	**Hámark**	**Ákjósanlegt**
Holland	2,4	3,1	
Noregur	2,75	3,25	
Danmörk	2,75		
Ísland	2,5	3,25	
Þýskaland	2,4	3,25	

Table 1 Example summary of information from foreign standards and size selected for Icelandic guidance.

3. The project's most extensive task was the development of an online tool that is easy to access and easy to use. The structure involved designing the layout and interface of the tool, as well as preparing an interactive prototype. The activities were as follows:
    - Identifying which tool to use
    - Deciding on the layout design and web interface
    - Information insertion (interactive and clickable prototype)
    - Tests

The Tool

This innovative online tool for urban street design, was developed with inspiration from a Dutch example. The tool's core strength lies in its user-friendly interface, making it exceptionally accessible to urban planners and designers.

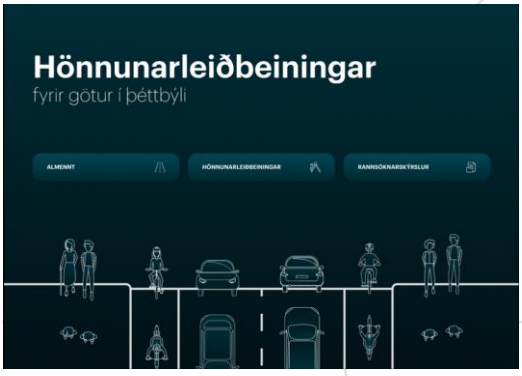


Image 1: Online tool

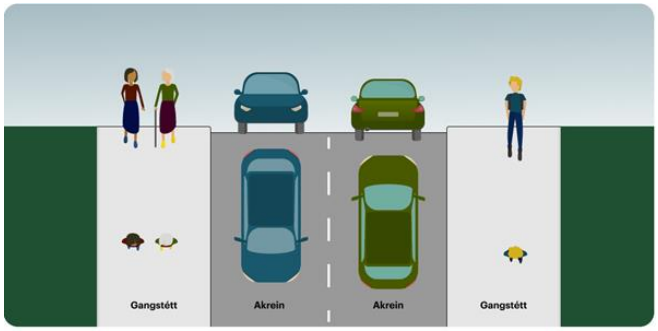
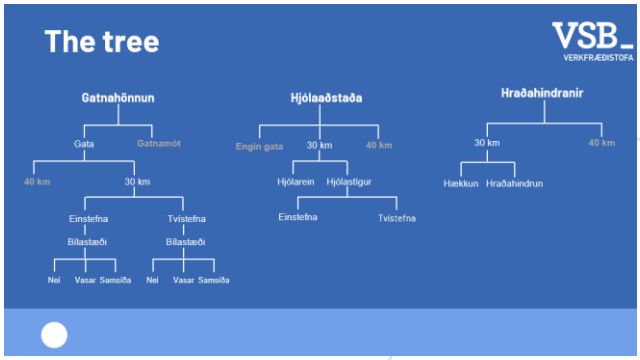


Image 2: 30 km street

The success hinges on its interface. The platform ensures easy accessibility to relevant information. One of the tool's standout features is its decision tree approach. This structured decision-making process simplifies the complexity of urban street design. It begins with a fundamental question: What type of design are you aiming for? Users can choose between street design, bicycle facilities, speed reduction measures, or public transport facilities. Once the design focus is selected, the decision tree seamlessly leads users to the next logical choice: whether it's a street or an intersection that requires attention.

This step-by-step approach simplifies the decision-making process, reducing the potential for confusion. It provides users with tailored design guidelines that align with specific criteria. Users can determine the type of street required, considering factors such as speed limits. The tool further enables fine-tuning of design choices, including one-way or two-way streets, on-street parking, and parking configurations before reaching the specific guidelines.

The online urban street design tool combines efficiency with precision. Users no longer need to sift through complex manuals or navigate complicated guidelines. The platform empowers urban planners to make informed decisions quickly and accurately, streamlining the design process. By simplifying the design process and providing easy access to critical information. It offers a practical solution for urban planners seeking to balance efficiency and precision in their projects.



Next steps

Our next steps involve improving the user experience, testing the tool in real-world scenarios, and expanding its scope beyond 30km streets to include for example public transportation facilities and 40km streets. But the top priority in the next phase is to establish clear ownership and responsibility for the tool's maintenance and updates. This step is vital to ensure the tool remains relevant, valuable, and accessible over time. We recognize that a dedicated focus on ownership will provide a solid foundation for its long-term sustainability.