



## **Himmelstalund case study, Norrköping, Sweden.**

A Spatial Network  
Analysis for Improved Pedestrian, Bicycle, and Car Accessibility

### **The Real-World Challenge**

The Norra Himmelstalund program area in western Norrköping faces challenges of poor spatial integration and limited connectivity between neighborhoods. Current barriers, including major roads, reduce accessibility and contribute to social segregation. The project addresses how changes to pedestrian, bicycle, and car networks can strengthen city cohesion, improve access to commerce and services, and enable higher urban density in key areas.

### **How the Mini-Course Relates/Applies**

The mini-course equips urban professionals with practical space syntax methods for evidence-based design. Participants learn how street network configuration influences accessibility, commercial viability, and service distribution. By using tools such as the Urban Calculator, practitioners can test and compare design interventions quickly—without needing to master advanced modeling techniques. This upskilling is particularly valuable for planners and architects who must evaluate design decisions under time constraints and justify them with data-driven arguments. In the Norra Himmelstalund case, these skills allow professionals to analyze network alternatives, identify key integration points, and propose interventions that directly improve accessibility and connectivity.

### **Illustrative Case Example**

The study performed by Norrköping City Planning office analyzed how targeted interventions—such as new bridges, improved crossings, and stronger street links—can transform Norra Himmelstalund into a more integrated part of the city. These measures aim to reduce both physical and psychological barriers, enhance pedestrian and cyclist accessibility, and strengthen opportunities for commerce and densification around strategic nodes.

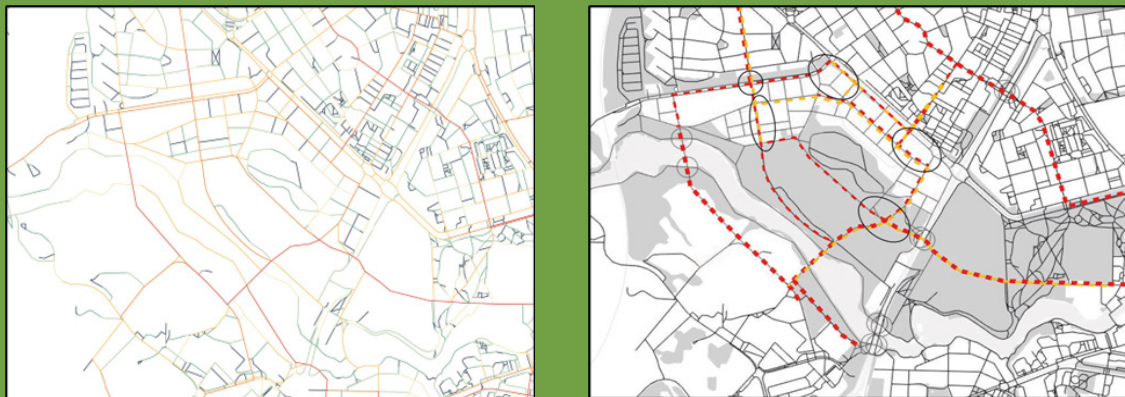


Figure 1. Norra Himmelstalund, Norrköping, Sweden space syntax centrality analysis (left) and project proposal for key nodes and thoroughfares (right) supported by space syntax analysis. Analysis is conducted using Urban Calculator tool.

## Potential Outcomes

The spatial network analysis provided an evidence base for identifying where connectivity improvements would have the greatest effect, guiding policy, design, and engagement strategies. At the policy level, the study highlights the importance of prioritizing spatial integration and reducing the divisive impact of major roads such as Fiskebyvägen and Finspångsvägen. From a design perspective, it suggests creating multi-modal transport hubs and lively public spaces at key intersections and bridgeheads, places where improved accessibility can catalyze commerce, services, and community activity. Equally important is community engagement: involving residents in workshops and consultations ensures that new infrastructure responds to local needs, while building trust and a sense of ownership in the transformation process

## Relevant Fields/Stakeholders

This kind of evidence-based approach brings benefits to both professionals involved in urban development and the communities affected by their work. For urban planners, architects, municipal authorities, and transport providers, space syntax analysis supports a more efficient design process by offering clear evidence of how street networks shape accessibility and cohesion. These tools allow them to test scenarios, justify decisions, and deliver projects that are better aligned with broader planning goals and sustainability targets.

For residents and community groups, the benefits emerge once projects are realized: safer and more direct pedestrian and cycling routes, easier access to services, and new public spaces that encourage social interaction. Business owners and developers, in turn, gain from improved accessibility, which opens opportunities for commercial growth and mixed-use development.

InPlaLabs is a KA2 Cooperation Partnership Erasmus+ project in the field of Higher Education, and its full title is "Transnational Network of Integrated Planning Labs: Co-creating knowledge on forward-looking transdisciplinary planning perspectives addressing climate change and urban life in the post-pandemic city" (GA No. 2023-1-EL01-KA220-HED-000160477 Erasmus+).