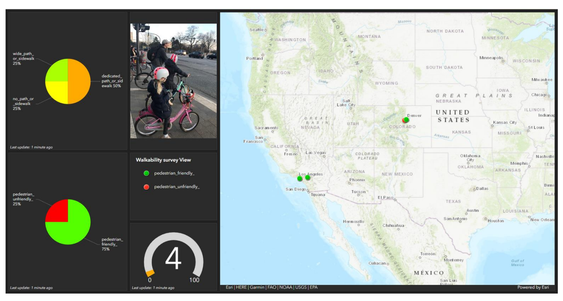
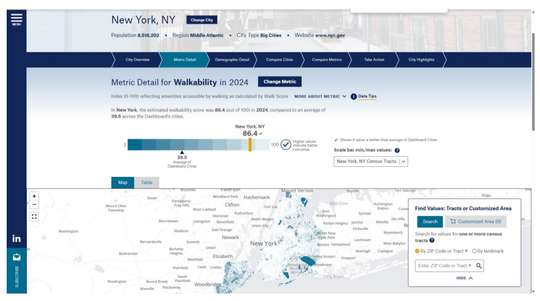
Design Data Story about Walkability in Augsburg

Bachelor- or Masterthesis

Background

Walkability is a key component of sustainable and livable cities, influencing public health, environmental quality, and urban accessibility. With the growing availability of urban data, there is an opportunity not only to analyze walkability but also to communicate insights effectively. Data storytelling—combining narrative, visualization, and interaction—offers a powerful approach to make complex spatial data more accessible and engaging for diverse audiences.



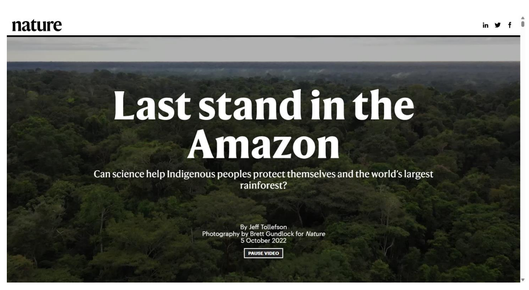


Walkability Dashboards
Source: ArcGIS dashboard and City Health Dashboard

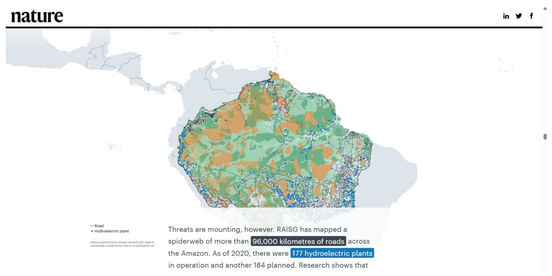
Goal

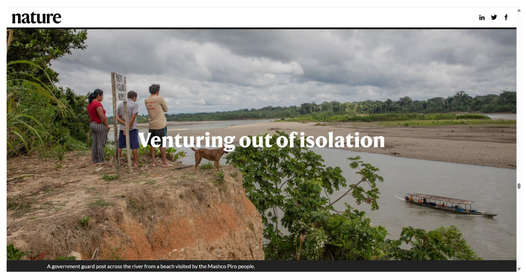
This thesis aims to design and develop a data story that communicates walkability patterns and insights in Augsburg through interactive, multimedia, and map-bsed visualizations. The data story can use a series of images, text, maps, and charts to coherently illustrate the current status of walkability in Augsburg and the bottlenecks.

Premilinary data on walkability regarding the objective and subjective walkability is available to use.









Four screenshots of a data story on Last stand in the Amazon.
Credits: Jeff Tollefson, Photography by Brett Gundlock for Nature. Published Time: 5 October 2022

Objectives

- How can walkability data be transformed into a compelling and informative data story?
- What narrative and visual design strategies support understanding of spatial patterns?
- How do users engage with and interpret a data story about urban walkability?

Methodology

- Literature review on walkability and geovisual analytics, and data storytelling
- Conceptual design
  - Identify stakeholders
  - Identify relevant information
  - Evaluating their importance and relevance to the target groups
  - Define information flow and visualization flow
- Data collection and preprocessing (e.g., street networks, walkability data)
- Design and implementation of a prototype dashboard (e.g., streamlit, ArcGIS, Teablau)
- User evaluation (e.g., usability testing, feedback sessions)

References

- Cardoso, M., Milias, V., & Harteveld, M. (2024). Developing a city-specific walkability index through a participatory approach. AGILE: GIScience Series, 5, 2.
- Dykes, B. (2019). *Effective data storytelling: how to drive change with data, narrative and visuals*. John Wiley & Sons.
- Smutkoa, L. S. (2022). Narratives of place: Integrated digital storytelling and story-mapping for sustainable recreation management. *Park and recreation administration*, *40*(1), 154-174.

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Marktplatz der Forschung