

Mapping Land Use Changes

A Case Study of Freiham



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Freiham is undergoing a remarkable transformation from a vast expanse of farmland to a thriving urban center. Our project focuses on examining the evolving landscape of Freiham to understand the district's development.

Our primary goal is to analyze and compare the developmental trajectory of the area. Leveraging satellite imagery and maps, our objective is to present a data-driven visualization of the former and current state of Freiham's landscape, showing the transformations over time.

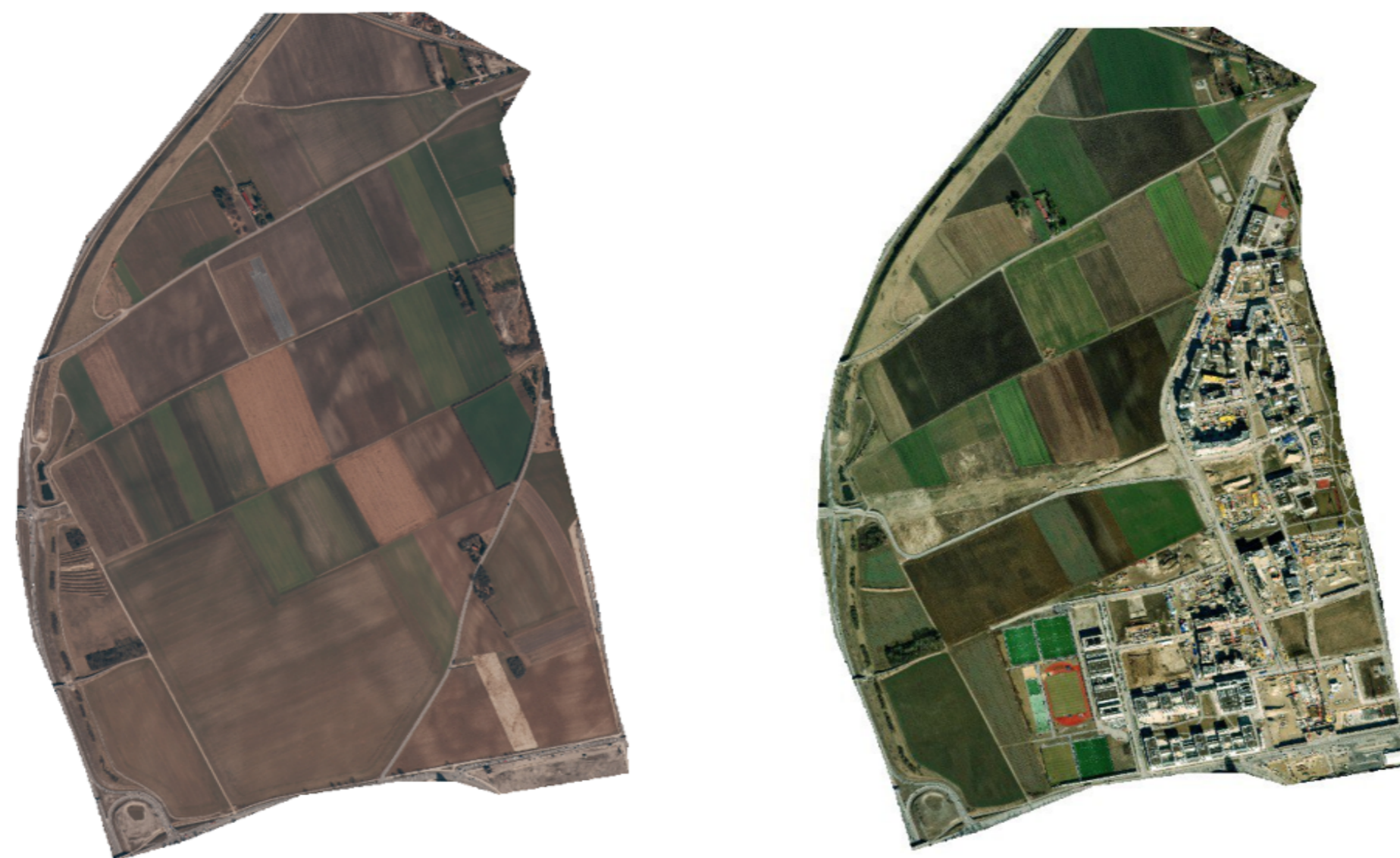


Fig. 1. Satellite imagery showing the transformation of Freiham from 2014 to 2023. The image on the left shows the district in 2014, and the image on the right shows the district in 2023.

BACKGROUND AND DEVELOPMENT

We started with a brief history of this area to help our audience understand Freiham's developmental trajectory. We employed the use of satellite imagery to visualize the progress of this development. With the image slider, the user can compare images between 2014 and 2017, 2018 and 2020, 2021 and 2023 in chronological order.

LAND USE AND CHANGE DETECTION

Here is the main focus of our project. The development we have earlier visualized with satellite imagery, we then produced the land-use and land-cover map so that we can use them to analyze and discuss the rate of this development. In these maps, there are three classes, which include vegetation, bare land, and built-up area. Finally, we produced a change-detection map that visualized the overall change between 2014 and 2023. Along with all of these, we used pie charts and bar charts to discuss our results.

CONCLUSION

Our analysis of land use and change detection map shows an increase in development, greening of the landscape, and a decrease in bare ground. We discovered there is a good balance between green areas and built-up areas, which reflects the careful planning and conscious decisions of Freiham's planners, who have balanced development with environmental protection.

IMPRINT

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KEYWORDS

Freiham, Land Use, Change Detection, Sustainable, Urban Development

LINK



<http://bit.ly/3SHjtHn>

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LEGEND

- Vegetation
- Vegetation - Bare Land
- Bare Land - Built Area



Fig. 2. Change Detection Map (2014 - 2023)

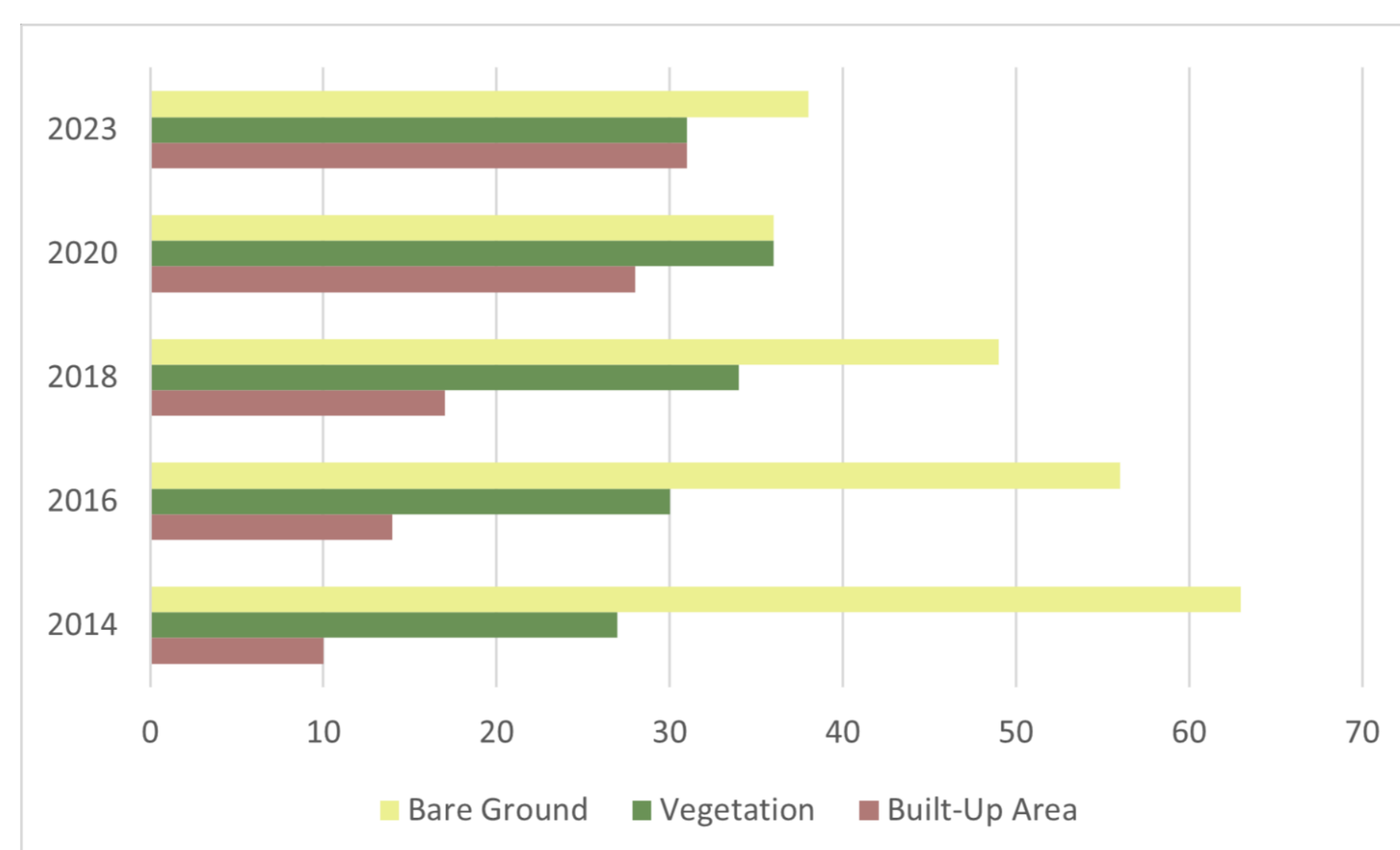


Fig. 3. Land use land cover change during 2014-2023

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