

Enhancing Impact Assessment Through Digitization and GIS-Driven Analysis



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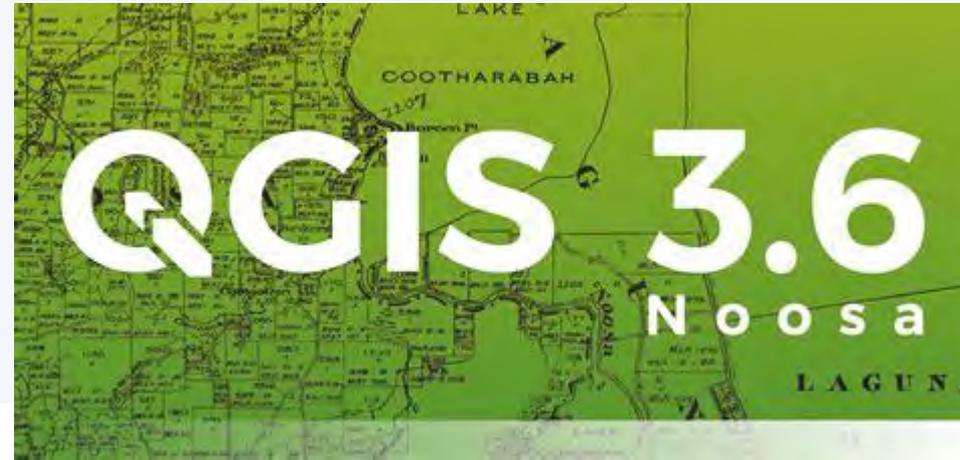
Who do we have in the room?

Who loves maps?

Who drafts baseline reports?

Who is often conducting stakeholder engagement?

Who uses QGIS?



AI: please visualise Witteveen+ Bos

Processing image

Lots of people are creating images right now, so this might take a bit. We'll notify you when your image is ready.



NL INCLUSIVE INFRA MANUAL

INCLUSIVE IS THE NEW SUSTAINABLE



Social Impact Assessment in Infrastructural projects



Today's focus

- **How** can we use GIS tools to create:
 - a **baseline analysis** of new project areas
 - overview in collected stakeholder data and improve **data visualisation** – Semarang Case
 - a **platform for participation** and design improvement

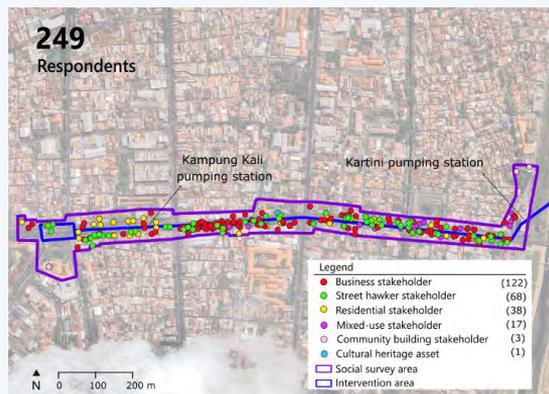


And by doing so: **improve evidence-based decision making**, but also make it easier for us in the field to **increase the quality and quantity** of engagement activities in IA

Baseline analysis



Data visualisation



Participation Platform



Baseline analysis

All these open online sources..

Expert knowledge

What if..



Gebiedsfoto filmpje

Outcome gebiedsfoto

Water As Leverage - Semarang

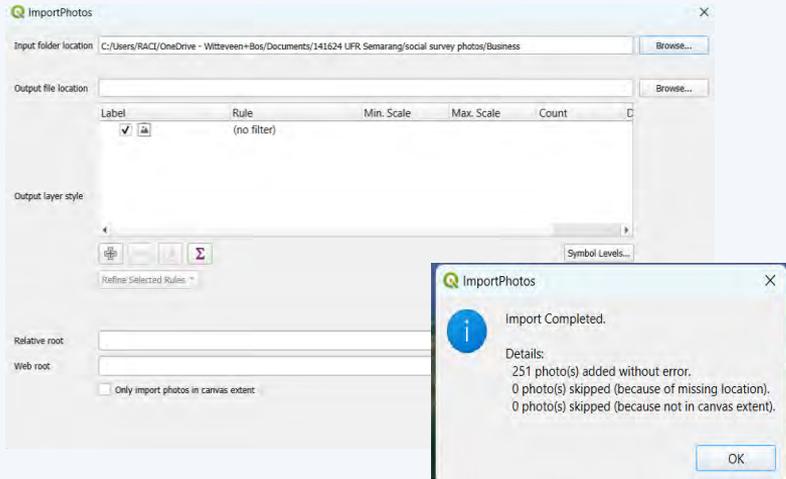


Solution 1 : Effectively visualise stakeholder data by using QGIS - the Semarang case

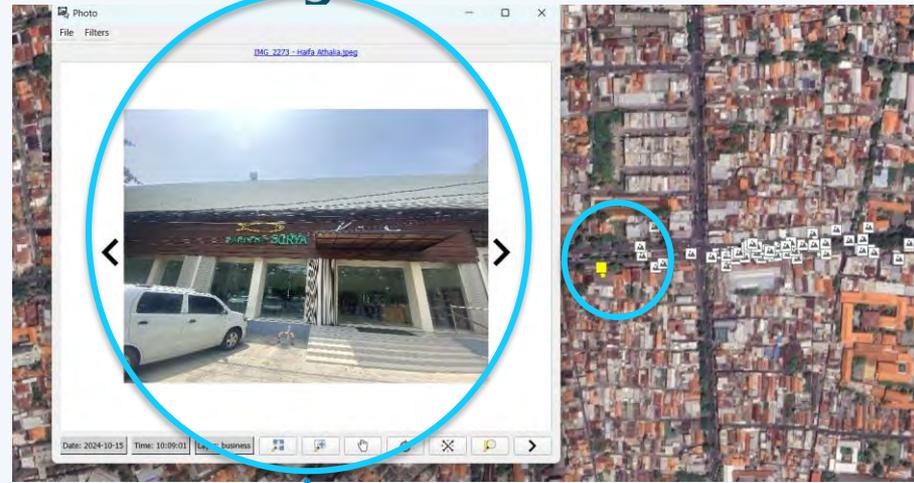
- The project utilizes the **QGIS Import Photos** plugin to map geo-tagged data from survey respondents, which is then combined with other spatial layers in GIS



Methods of spatial analysis in the Semarang Case



Map photos to the project with **Import Photos** plugin



Example of imported geo-tagged photos data point

Methods of spatial analysis in the Semarang Case

Geo-tagged photos and tabular data from the survey were combined through a table join process in QGIS to produce a structured dataset

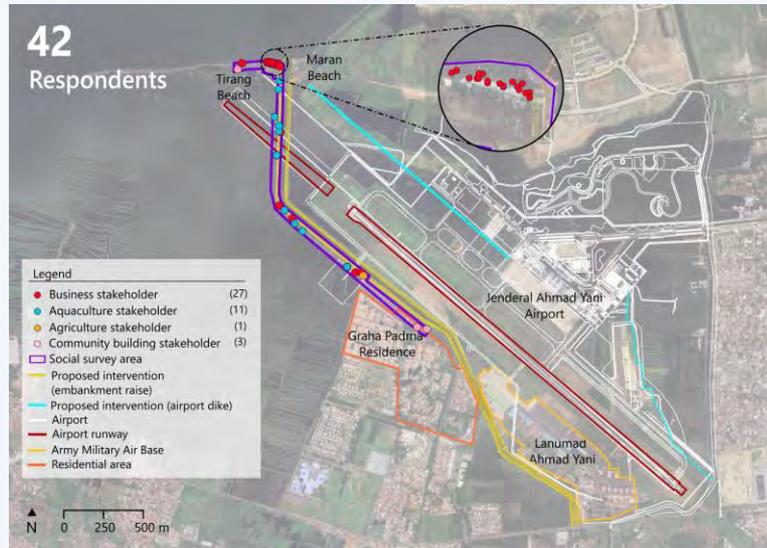


Identify Results

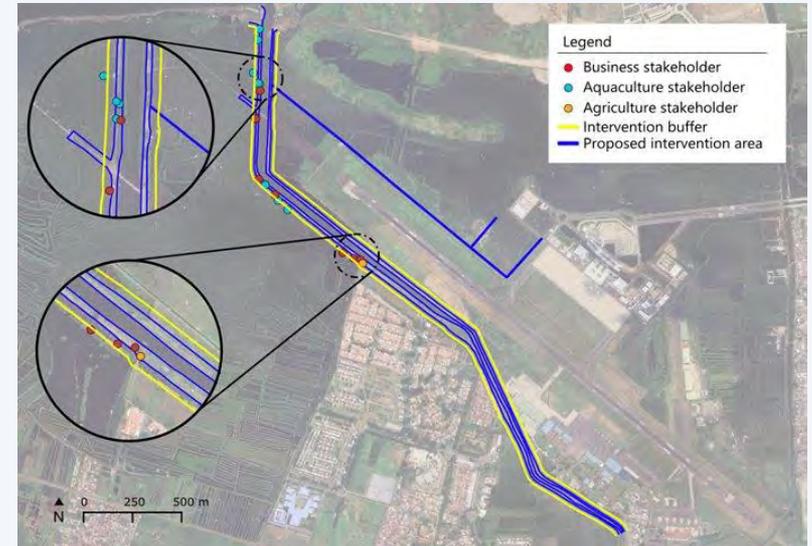
Feature	Value
gender	Perempuan
business_activity	Berjalan Gorengan
pot_business	Pemilik
other_occupation	pekerjaan utama
fam_workforce	Yes
num_fam_workforce	1
area_importance	penting, hanya disini
dist_to_house	1 km - 2 km
revenue	1000000
revenue_period	Harian
open_time	16:30:00
close_time	20:30:00
flood_freq	Tahunan
flood_damage_scale	1.0
flood_impact	mempengaruhi karena tidak bi...
flood_community_impact	berdampak karena plki tidak bi...
flood_height	0-10 cm (setinggi mata kaki)
flood_damage_area	100.0
physical_loss	Tidak ada
nonphysical_loss	pendapatan
flood_financial_loss	1000000
flood_recover_loss	0
flood_recovery	Tidak
road_importance	penting
intervention_likelihood	tidak terlalu berdampak
intervention_financial_loss	0
intervention_fear	khawatir akan kemacetan
intervention_aspiration	tidak ada
photo_desc	
survey_area	

Example of data point

Results of spatial analysis in the Semarang Case

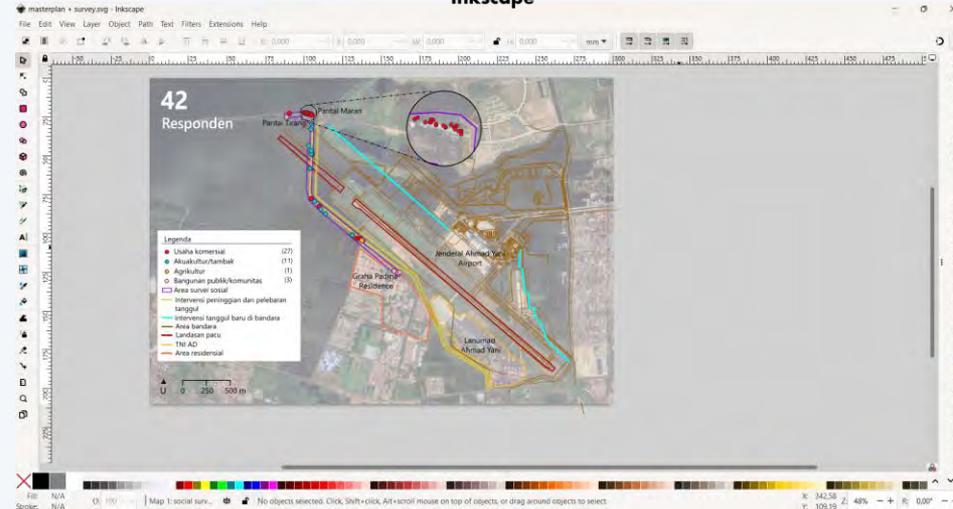
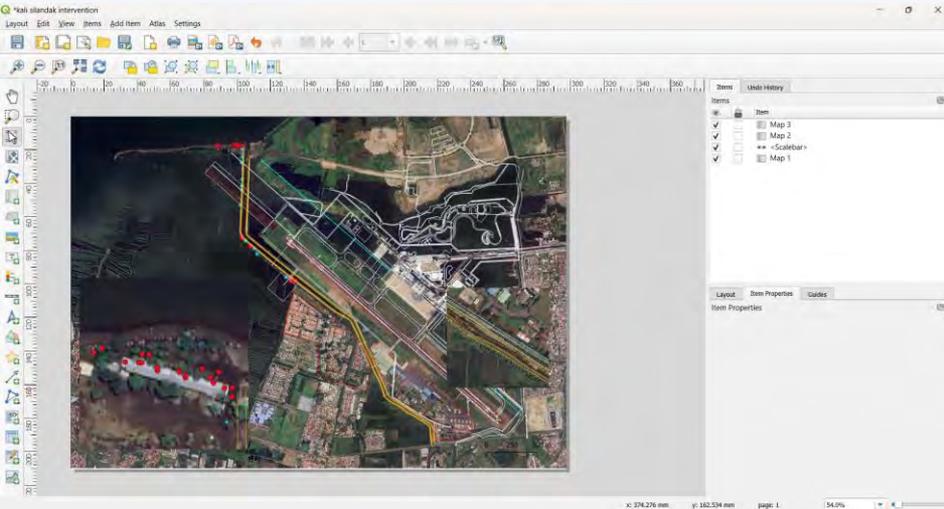


Post-export editing in Inkscape significantly improves the readability of maps, especially for project footprint maps.



Using a project footprint layer, GIS can help quantify the number of people affected by the project.

QGIS Post-Export editing

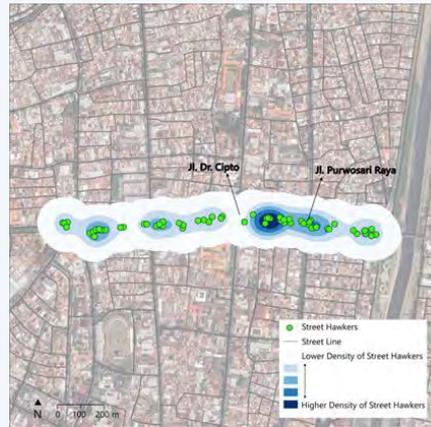
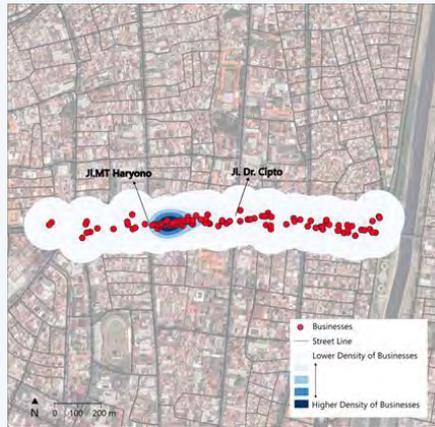


Include all essential spatial layers in the layout, such as the scale bar and legend

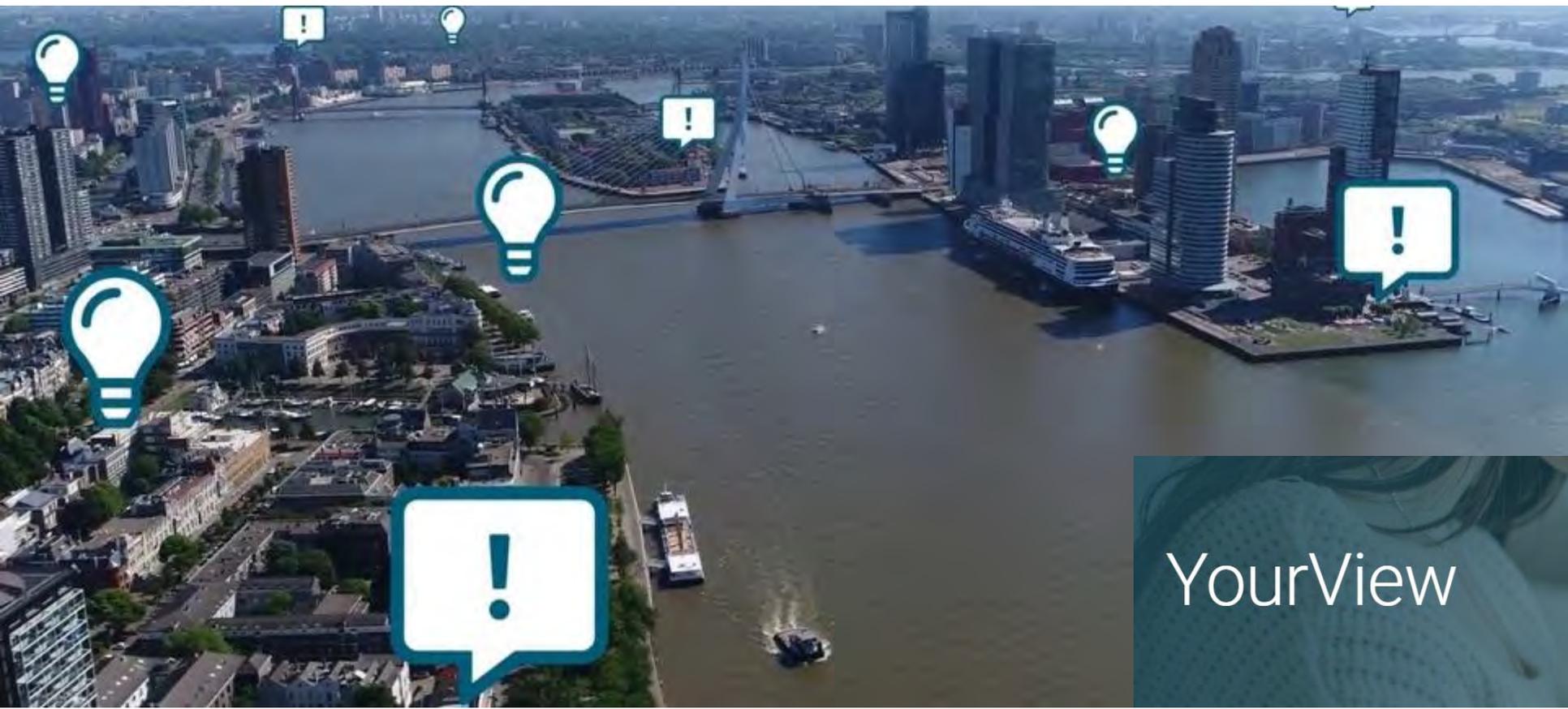
Enhance visual readability using Inkscape's design tools

Results

Spatial Density of enterprises and street hawkers stakeholders in the Semarang project



The **information regarding concentration of stakeholders using kernel density tools** enables the impact assessment to gauge the magnitude of construction risks on the economic landscape within densely commercial areas.



YourView

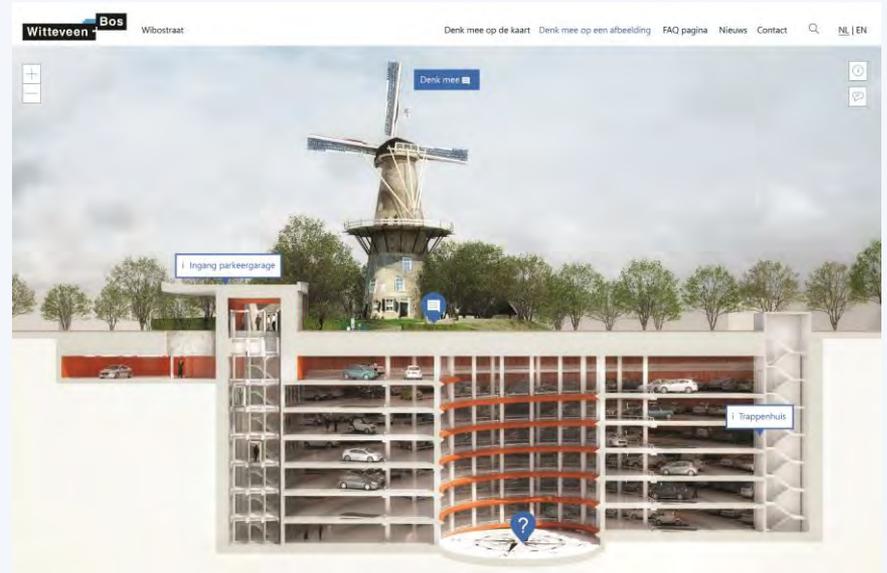
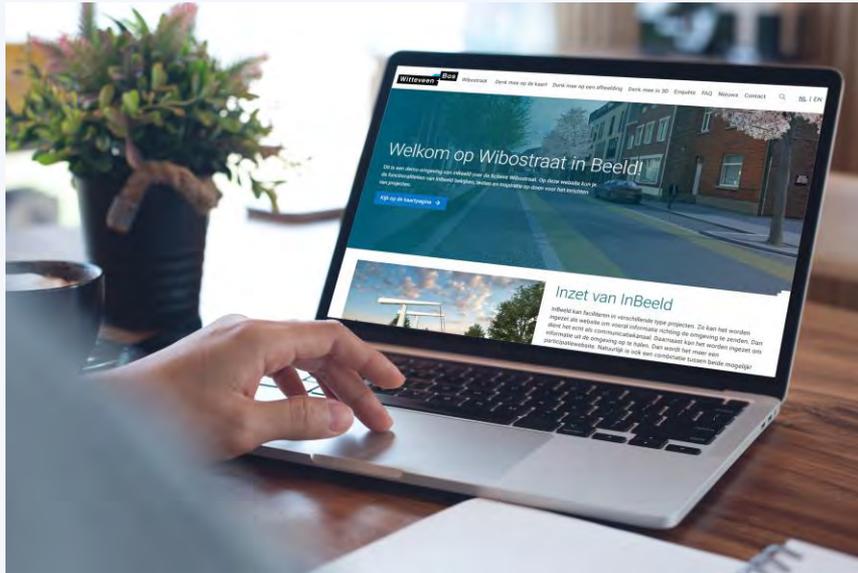
InBeeld solution



- Invoegen Inbeeld tutorial



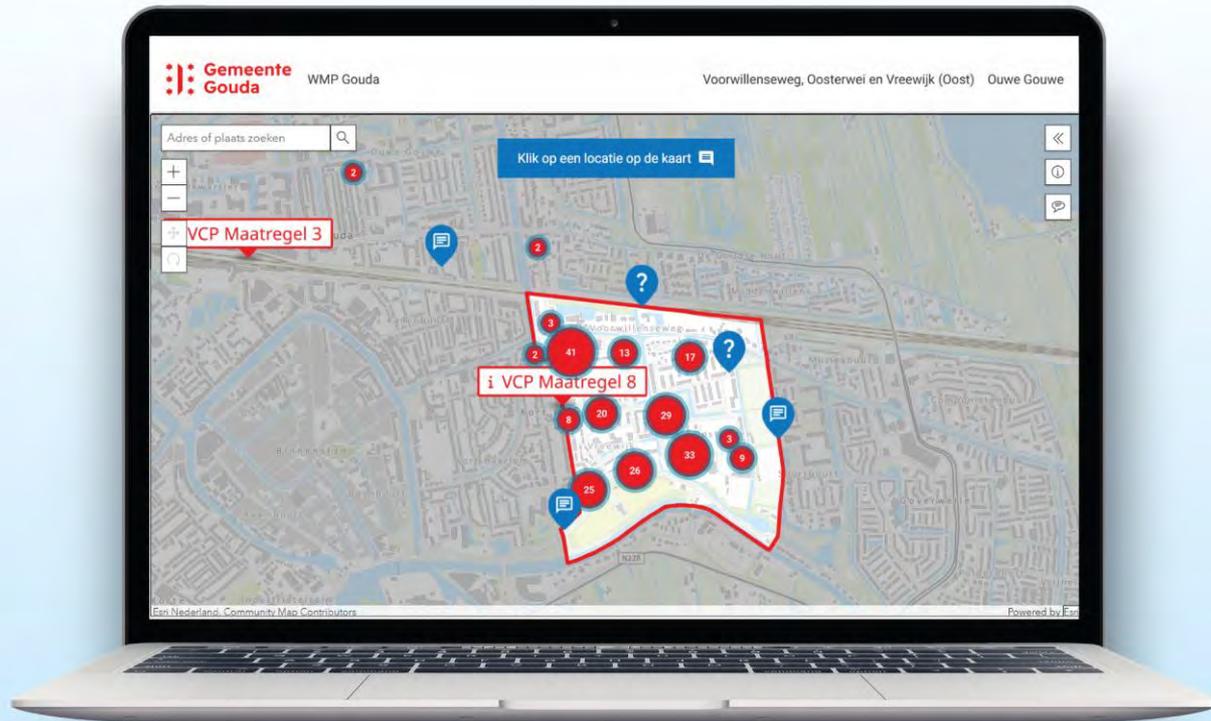
How does it work?



See for yourself!

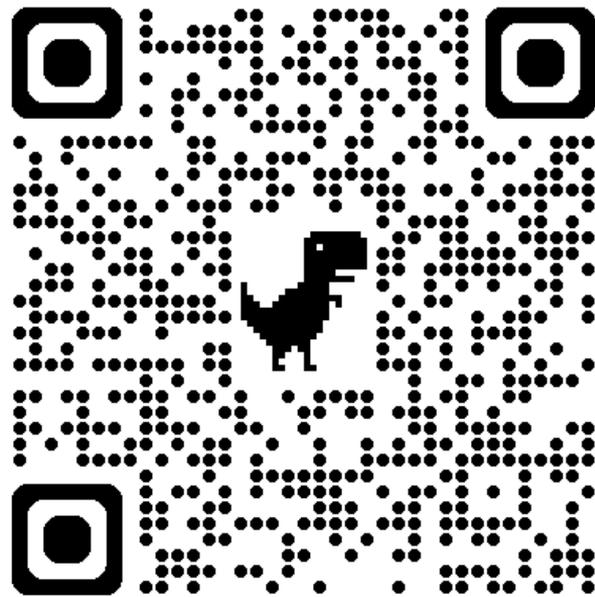
[Gouda \(NL\)](#)

[YourView Demo website](#)



Try it

What do you think is the most beautiful place in Bologna?



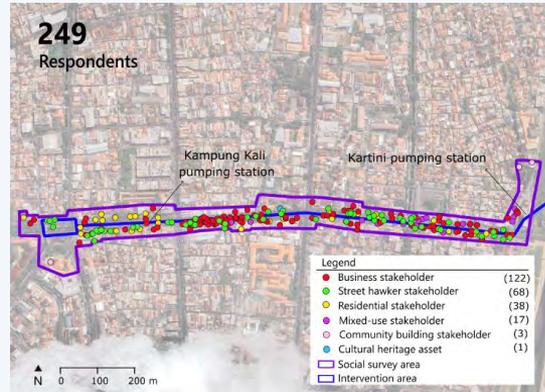
Password: **IAIA2025!**

<https://jouwproject.inbeeld.app/en/iaia-congres/>

Baseline analysis



Data visualisation



Participation Platform





Take home messages

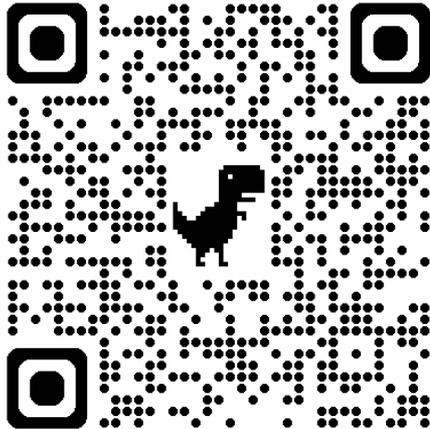
- Think spatial - use maps for **data visualisation**, QGIS as a user friendly tool
- Increase your response by using **online engagement tools**





Let's continue the conversation!

Message me your questions or comments in the IAIA25 app.



#iaia25

Password:
IAIA2025!

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