
Digital cycling infrastructure in Flanders

From good cycle paths
to good data in maps and route planners

ITS CONFERENCE Pieter Morlion – MORE LION

Friday 23 October 2026



M O R E
L I O N



Cycling Amalfi Coast Original Poster

Aug 29, 2026



Google Maps bicycle routing is directing my clients towards dangerous shortcuts with long stairways.

I have to constantly warn my bike rental clients not to trust Google Maps cycling routes, as they very often send them through unviable shortcuts with long and steep flights of stairs, absolutely not suitable for biking. Sometimes I do miss warning the clients due to any reasons and they eventually trust Google more than their common sense, putting themselves and my bikes in dangerous or very uncomfortable situations. Clients then complain to me. I've had some carrying heavy 25-30 kg e-bikes up or down hundreds of steps, blindly following Google, sometimes even despite my directions. This is a serious safety hazard and it's hurting my business.



Reddit · r/nederlands

20+ comments · 1 year ago

Why is Google Maps so bad for cycling? : r/nederlands

Last vacation, I biked a lot in a new area. Maps often sent me down dirt paths and didn't let me go on one-way streets for cars where cyclists were allowed. ...

22 answers · Top answer: Made by Americans, so it only works well if you're driving a Dodge RAM F...

Is Gmaps for **biking** just shit or am I missing something? 47 answers 17 Sept 2025

Google maps is more than **wrong**; it's dangerous 35 answers 16 Nov 2023

More results from www.reddit.com



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Android Police

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Trending

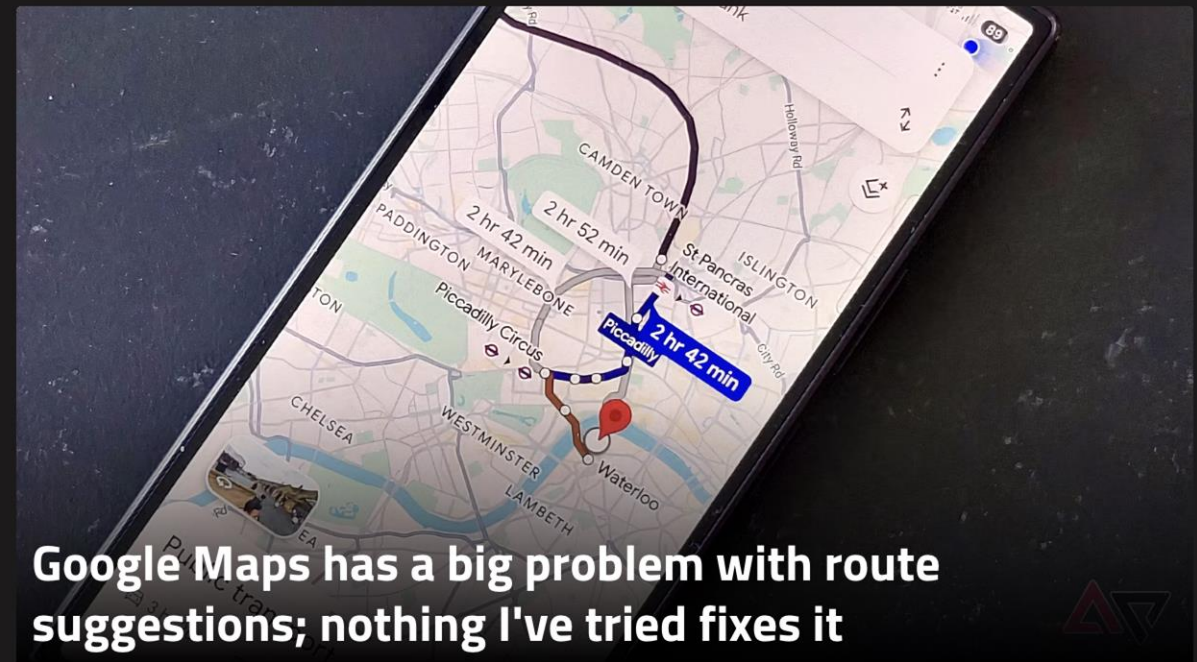
The smart ring that replaced my Pixel Watch

The Galaxy S26 FE is a steal at \$150

Hidden YouTube feature

Use an old phone for Android Auto

Upcoming Echo Hub coming soon?



Google Maps has a big problem with route suggestions; nothing I've tried fixes it



By Tom Bedford — Published Oct 4, 2026, 11:00AM EDT

Tom has been covering technology since 2019, having worked as part of the phones team at TechRadar and then as an editor at What to Watch. Since 2025 he's been a freelance contributor for many more brands including Digital Trends, BGR, TechRadar Gaming, TechAdvisor and...



See more Android Police stories on Google.



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The symptom and the cause

Flanders has excellent cycling infrastructure — but it does not always appear correctly in digital maps and route planners.

THE SYMPTOM

Route planners often **fail to suggest the safest** or most comfortable route to cyclists.

THE UNDERLYING CAUSE

There is no recognised, authoritative data source for cycle paths. **The government has no detailed digital cycling map of its own.**

- External map providers collect the information themselves
- The government has no control over routing advice

Two research questions

1

Should the government itself maintain and publish its cycling infrastructure digitally, in a coordinated way?

2

How does the government make sure that this infrastructure ends up correctly in third-party maps, and that route planners suggest the optimal route?

1

Why a dedicated base register?

Or is it fine for the government to rely on Google, OpenStreetMap or others to maintain its data?



Data sovereignty & legal certainty

An authoritative source on which permits, enforcement and policy can rely — independent of commercial or crowdsourced maps.

Maintenance at the source

The road authority is the first to know what changes; linked to its own work processes, the register is up to date as soon as infrastructure is built.

Completeness & attributes

Width, surfacing, separation, direction, road authority: fields that OSM does not record systematically are mandatory and uniform here.

Interoperability

Can be linked to address, road and other authoritative geo-sources — enabling analyses that a stand-alone external map cannot offer.

The Flemish register landscape

The building blocks already exist — the challenge is to make them coherent and cycling-focused.



1 GRB

Cycle paths currently only recorded as a “circulation zone for vulnerable road users”; explicit cycle paths expected from summer 2027.

2 Road Register

A single “cycle path yes/no” attribute — insufficient for policy and routing.

3 BFF & cycle highways

Supra-local Functional Cycle Network (12,000 km) and the provincial cycle highway databases.

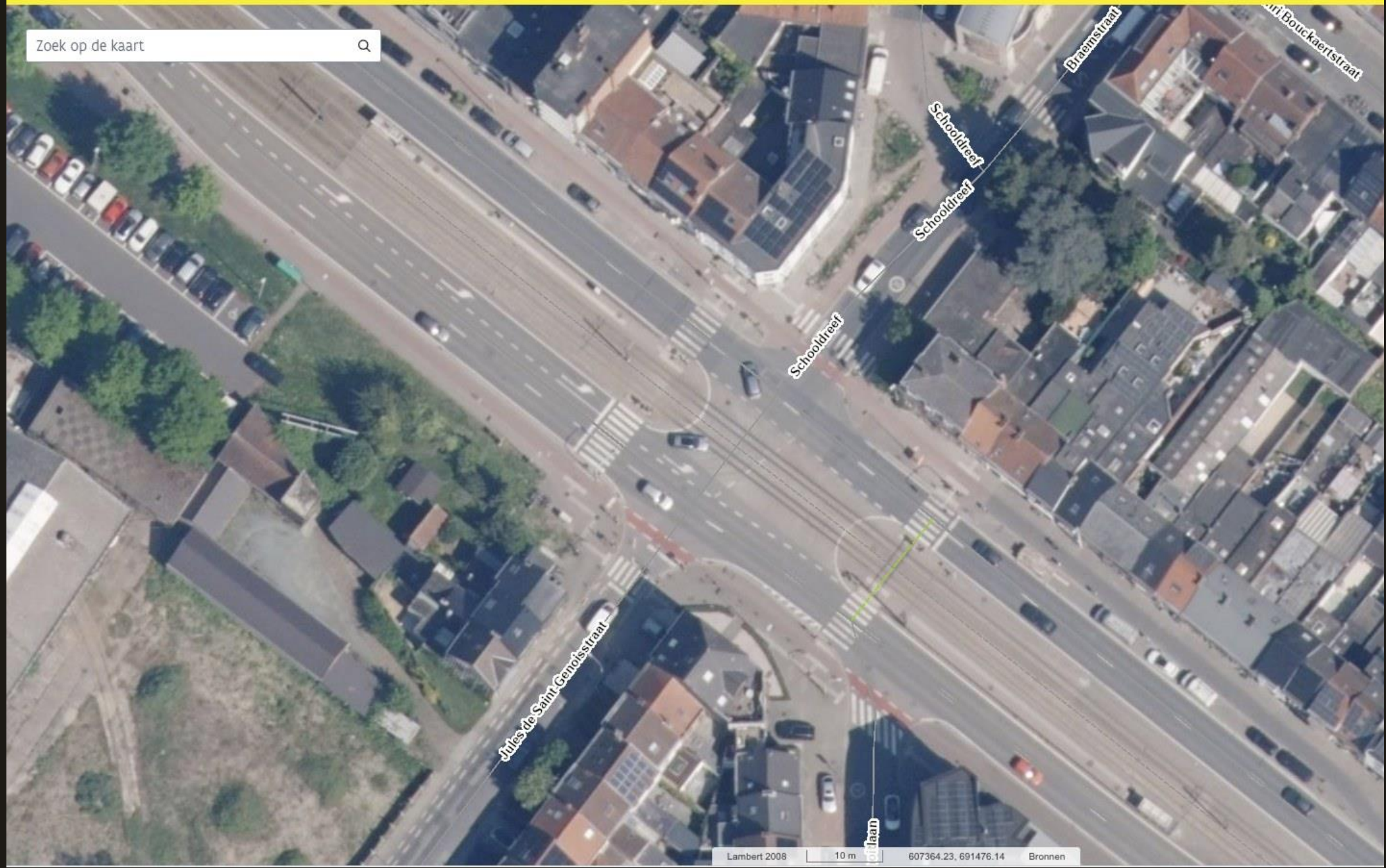
4 OSLO Cycling Infrastructure

Candidate data standard to link infrastructure and attributes in a standardised way.

5 Adjacent registers

Velopark and others — can be linked for bicycle parking and related facilities.

Zoek op de kaart



Zoek op de kaart



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Jules de Saint-Genoisstraat

Schooldreef

Schooldreef

Schooldreef

Braemstraat

Mari Bouckaertstraat

laan

Lambert 2008

10 m

607352.76, 691479.53

Bronnen



Aangeklikte locatie



DICHTSTBIJZIJNDE ADRES

📍 Jules de Saint-Genoisstraat 4, 9050 Gent

🔗 [Website van Gent](#)

📄 Kadastrale informatie



📍 Coördinaten



📁 Wegennet



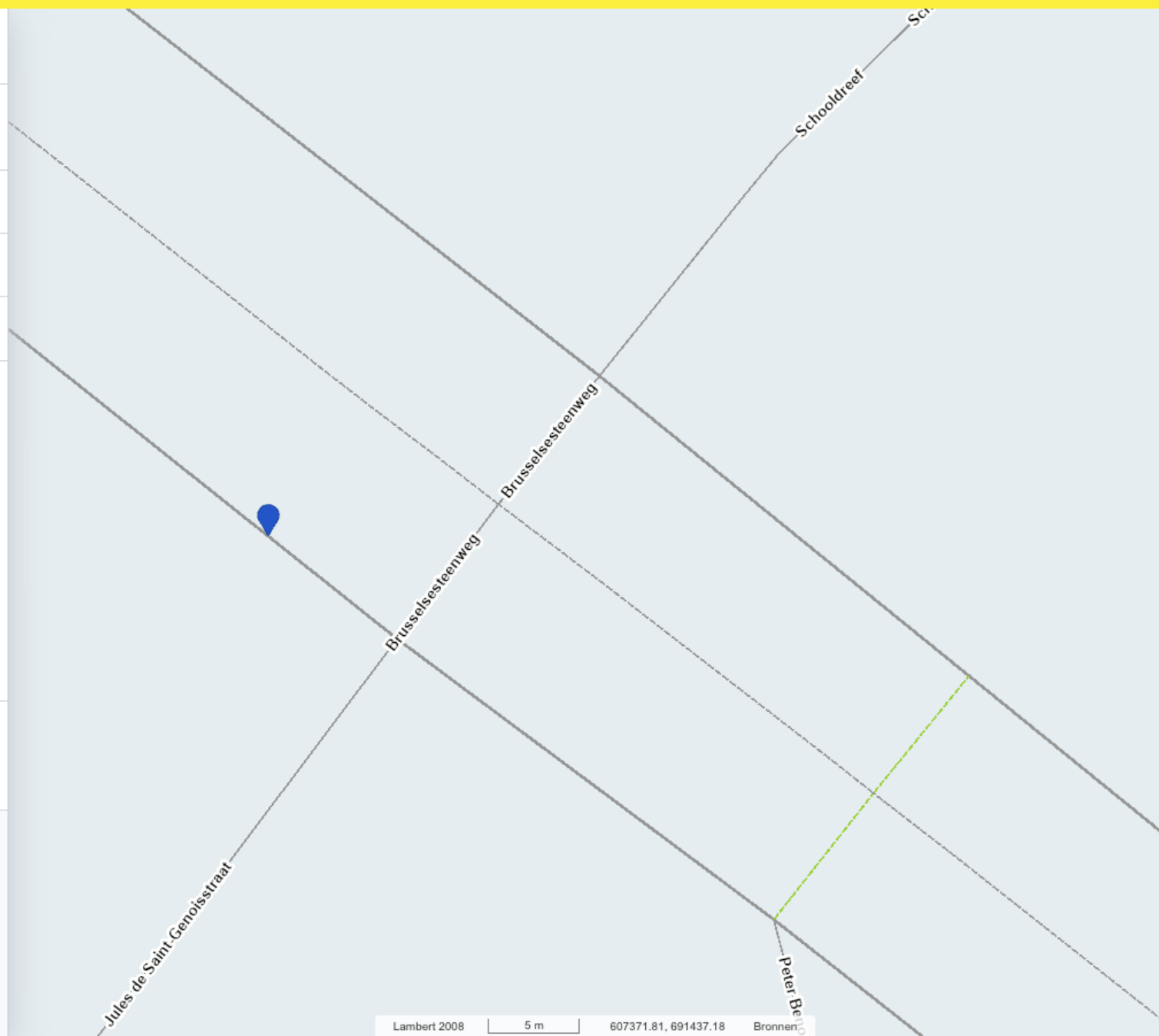
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Morfologische wegklasse	weg met gescheiden rijbanen die geen autosnelweg is
Wegcategorie	interlokale weg
Linkerstraat- naam	Brusselsesteenweg
Rechterstraat- naam	Brusselsesteenweg
Beheerder	District Gent

📁 Wandel- of fietsweg



Geen informatie gevonden

[Alles openklappen](#)





Aangeklikte locatie

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[Website van Gent](#)

Kadastrale informatie

Coördinaten

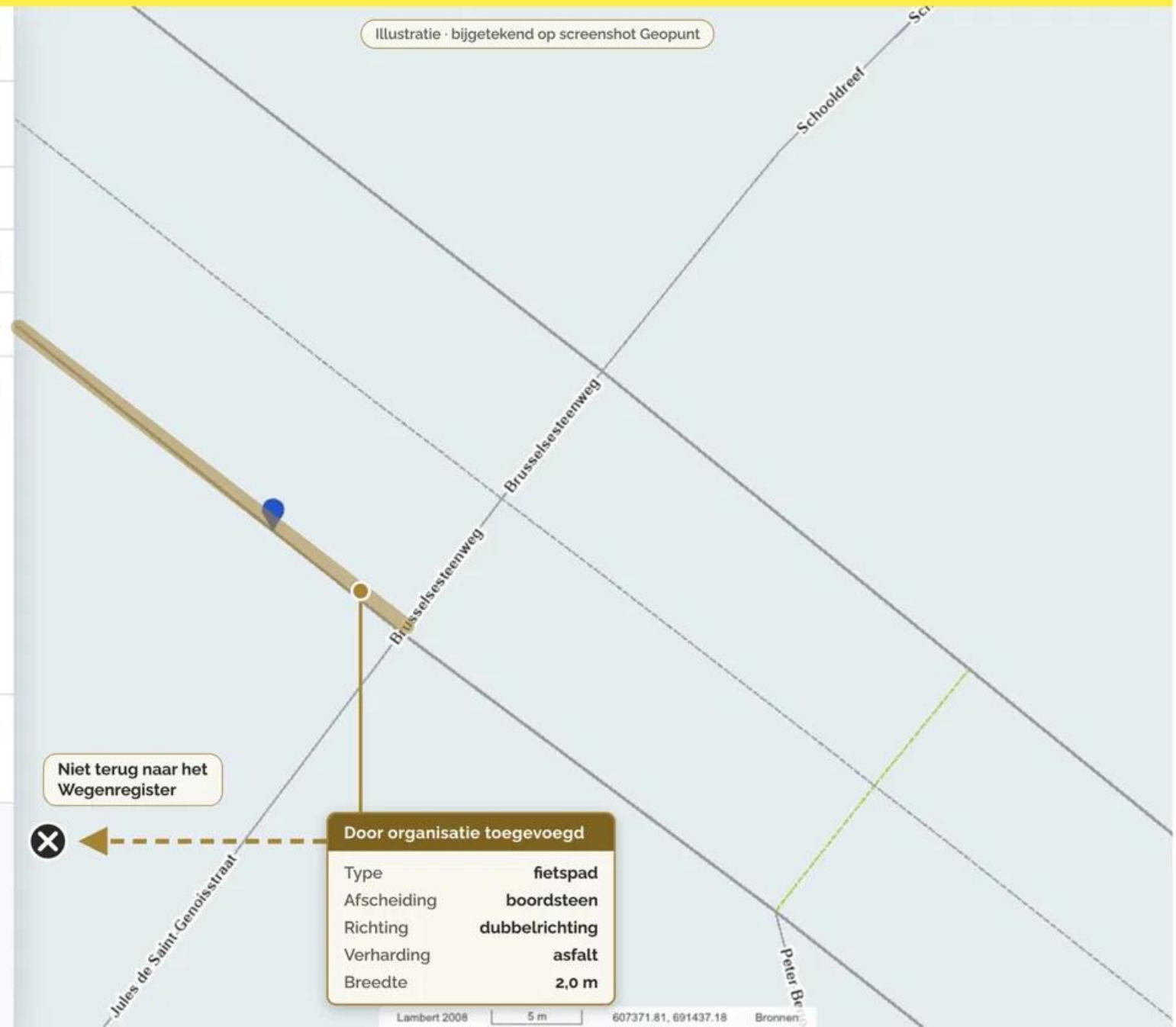
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Wandel- of fietsweg

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Niet terug naar het
Wegenregister

Door organisatie toegevoegd

Type	fietspad
Afscheiding	boordsteen
Richting	dubbelrichting
Verharding	asfalt
Breedte	2,0 m

The Flemish register landscape



The building blocks already exist — the challenge is to make them coherent and cycling-focused.

1 GRB

Cycle paths currently only recorded as a “circulation zone for vulnerable road users”; explicit cycle paths expected from summer 2027.

2 Road Register

A single “cycle path yes/no” attribute — insufficient for policy and routing.

3 Road Register 2 (WR2)

Cycle paths as separate segments, with linear referencing. First municipalities end of October 2026?
Attributes remain limited, but are easy to link.

4 BFF & cycle highways

Supra-local Functional Cycle Network (12,000 km) and the provincial cycle highway databases.

5 OSLO Cycling Infrastructure

Candidate data standard to link infrastructure and attributes in a standardised way.

6 Adjacent registers

Velopark and others — can be linked for bicycle parking and related facilities.



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Wegennet



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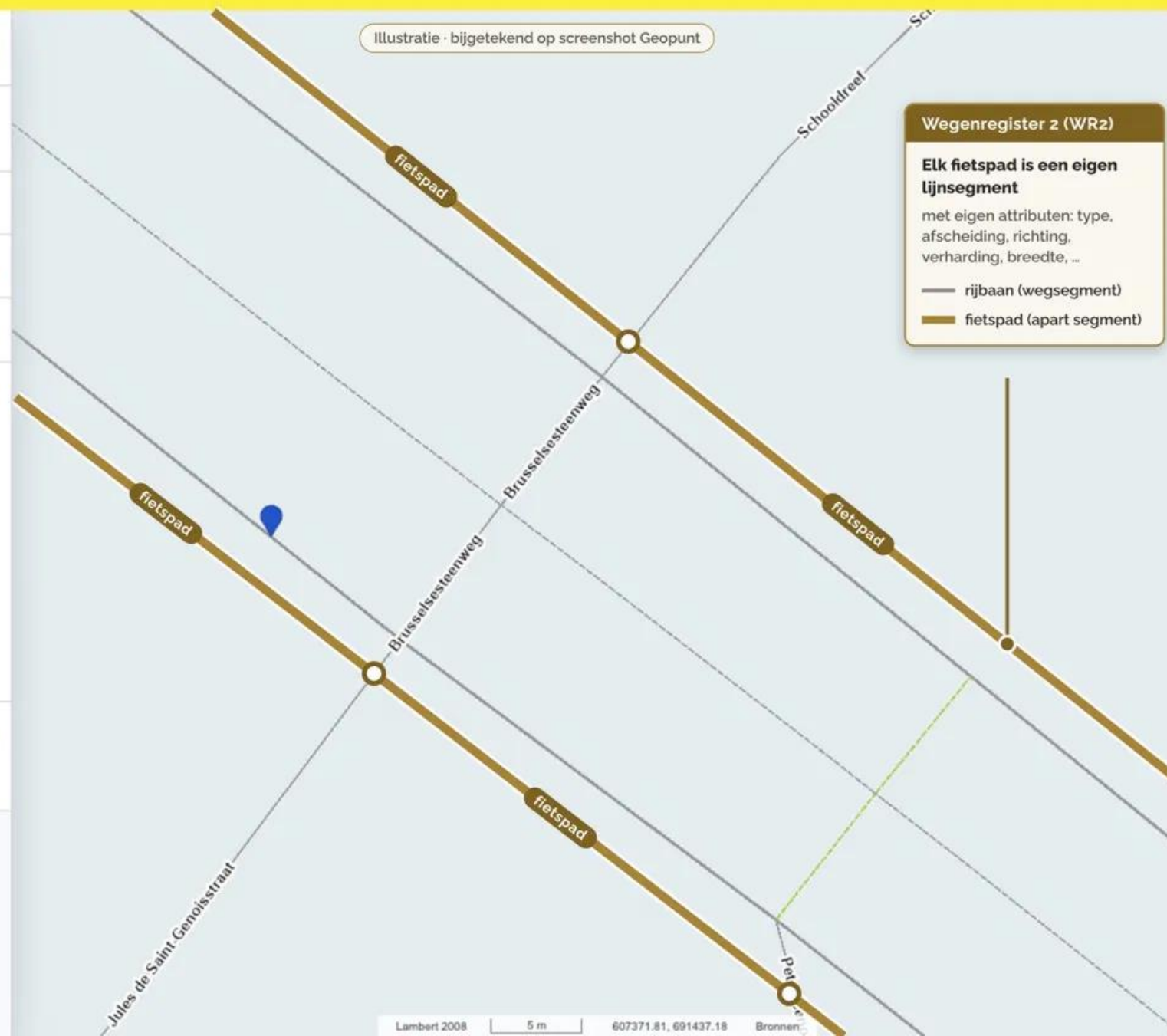
Beheerder District Gent

Wandel- of fietsweg



Geen informatie gevonden

[Alles openklappen](#)



What is already happening

Market consultation DMOW & provinces

RFI (Feb 2026) covering the entire BFF (12,000 km), with four parameter categories.

Central purchasing body, Province of Antwerp

See **Emilie's presentation**, coming up in 4 minutes!

OpenStreetMap

Road Completion Project, paid collaboration on cycle highways, MapComplete pilot (Province of Antwerp), Leiedal.

Google Maps & content partners

Third parties are paid to get specific information correctly into Google Maps.

WR2 content population

Tender by Digitaal Vlaanderen to index cycling paths

Learning from abroad

The Netherlands

NWB as a separate, jointly managed network file on top of the topographic base map (BGT). Structured maintenance process with gold, silver and bronze quality labels.

Input: aerial photos, satellite imagery, OSM, traffic orders, municipalities, ... 9 sources, plus a market party for quality control and process management.

United Kingdom

TfL Cycling Infrastructure Database: 9 asset types and highly detailed, but an asset inventory rather than a network register. Research advocates a data standard as a condition for funding.

Denmark

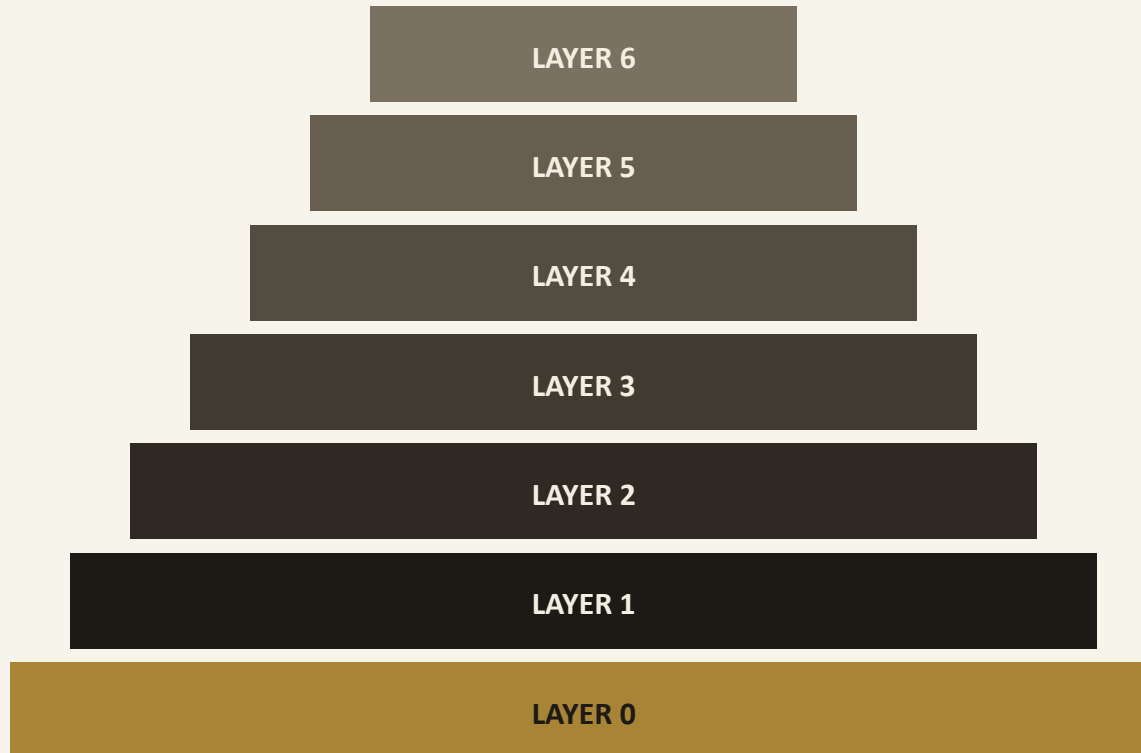
“Gode cykeldata til alle” (good cycling data for all): national harmonisation of municipal cycling data. Cycle highways in Google Maps through direct contact. Open to a joint EU project.

European standardisation

UNECE definitions and the CEN Cyclinfra track (Topic 15, started October 2025): towards machine-readable EU cycle network data, anchored in MMTIS and RTTI.

The digital cycling pyramid

Your efforts & needs will shift over time!



Usage data: count data, comfort, floating bike data

Updating: incorporating new infrastructure and changes

Quality control: checking the registers against reality

Interfaces for third parties, incl. route planners

Filling the registers with **high-quality data**

Reliable **base registers** (WR2, OSLO)

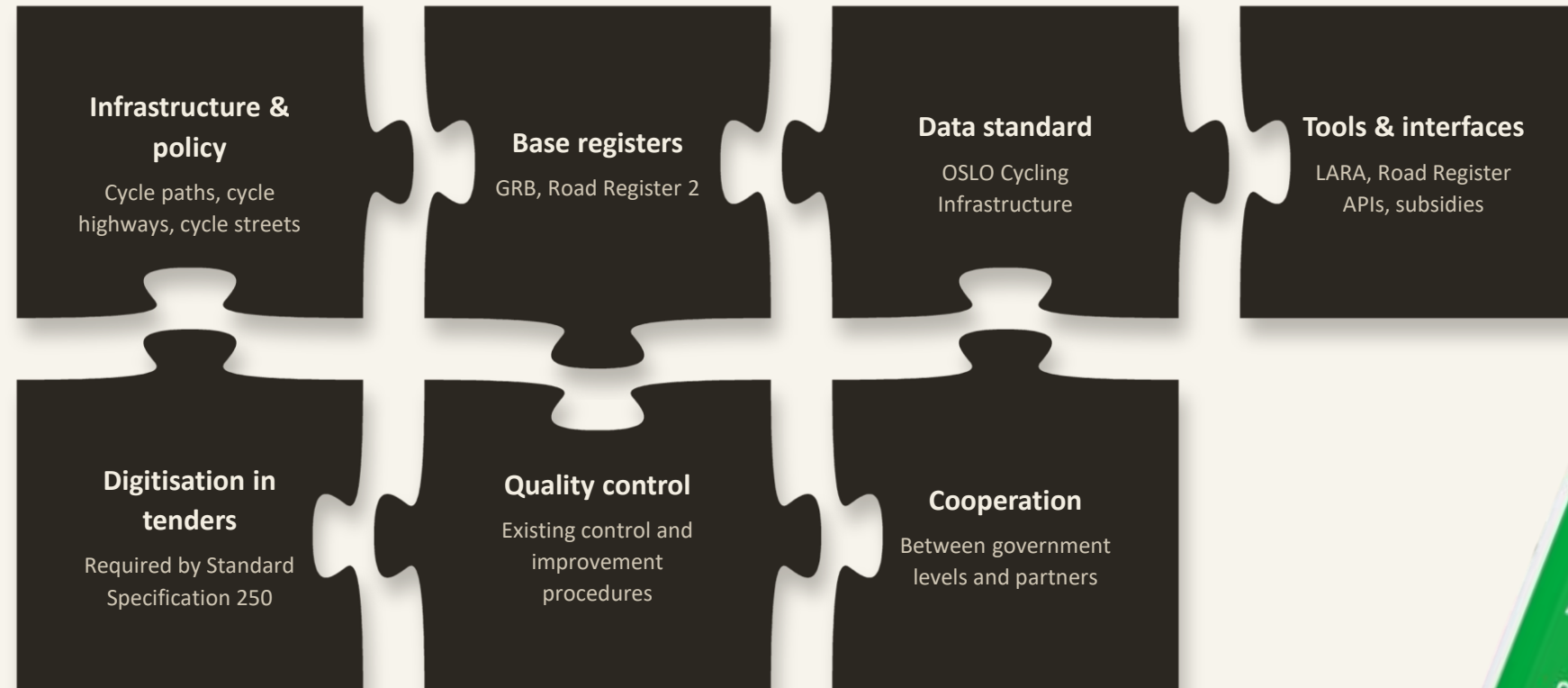
The physical **cycling infrastructure**



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All the pieces of the puzzle are there

What is missing is the glue that holds them together: **governance** and **structural funding**.



Recommendations

Streamline processes & budgets across
organisations — **Mandate**

Recommendations

3 % - percentage norm for all new
infrastructure to find digitisation

Recommendations

Wegenregister 2 - Link every ongoing effort
to Road Register 2 (WR2)

Recommendations

Be **pragmatic**: active & consequent
reporting errors to map providers

Recommendations

Set up **automated comparison** between the register and external maps

Recommendations

Build **structural cooperation** with map providers — at European level

Recommendations

Seize the willingness of the Netherlands and
Denmark to join an EU project

Download the report



www.more-lion.com



Digitale Fietspaden in Vlaanderen

Hoe zorgen we ervoor dat de overheid aan het stuur zit én fietsers altijd de meest optimale route geadviseerd krijgen?

IN OPDRACHT VAN ITS BELGIUM.

Pieter Morlion

pieter@more-lion.com

Augustus 2026

Digital cycling infrastructure in Flanders



PART 2: turning vision into action

ITS CONFERENCE

Friday 23 October 2026



Turning digital cycling pyramid into action



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The physical cycling infrastructure

From physical infrastructure towards a digital twin



What this means in practice



SHARED GOVERNANCE

Structural provincial funding & collaboration

Interprovincial coordination, bringing together the Flemish provinces, MOW, AWW and DVW and ensuring alignment with Digitaal Vlaanderen for a uniform and cost-effective approach.



SCALABLE DATA CAPTURE

Pilot project AI-powered mapping

Recent advances in AI image recognition drastically reduce the time and cost needed to collect and update infrastructure data. Using high-resolution and oblique aerial imagery, and LiDAR data as input.



LOWER ACCESS BARRIER

Province of Antwerp as central purchasing body

A new framework agreement gives public authorities across Flanders easier access to cycling infrastructure data and innovative inventory technologies.



BUILD THE FOUNDATION

WGR2 integration

Parallel development of Layer 1 and Layer 2 creates short-term integration challenges, but also an opportunity for one high-quality, up-to-date WGR2 dataset.

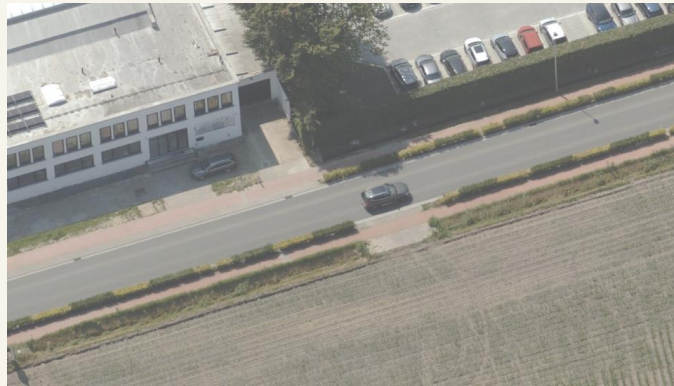
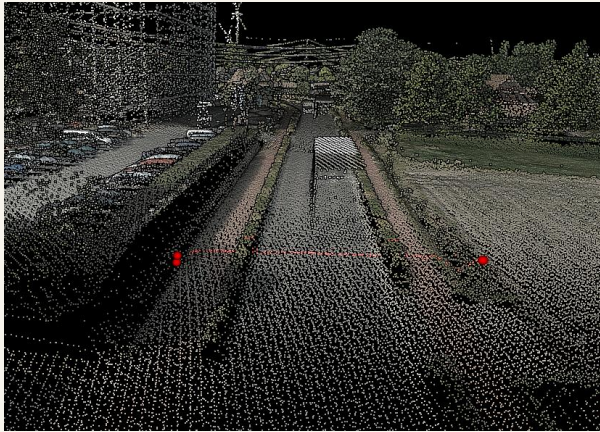
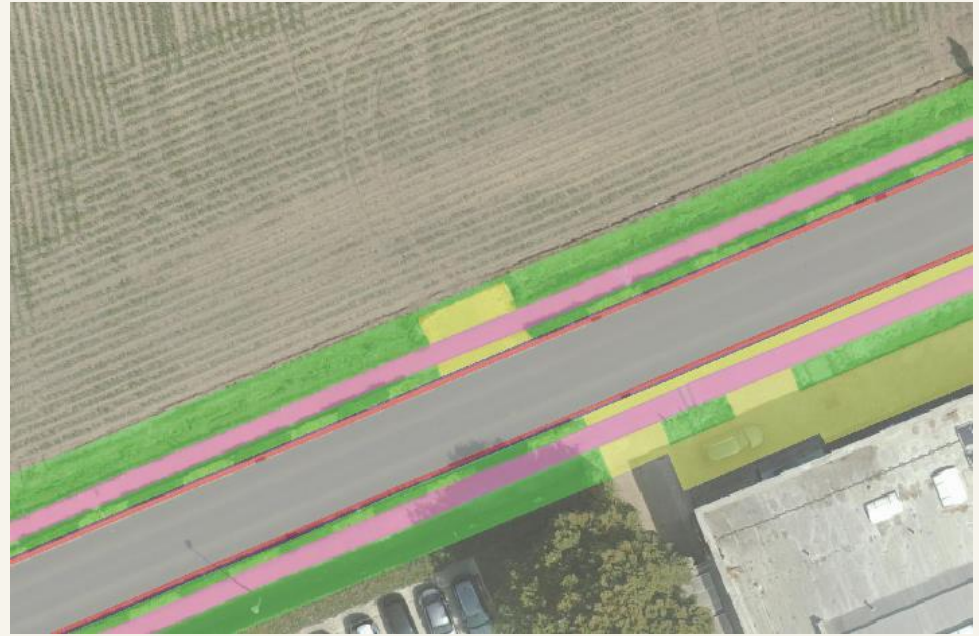
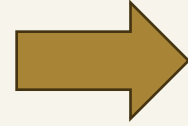


START FOCUSED, SCALE LATER

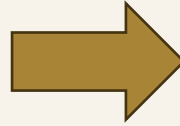
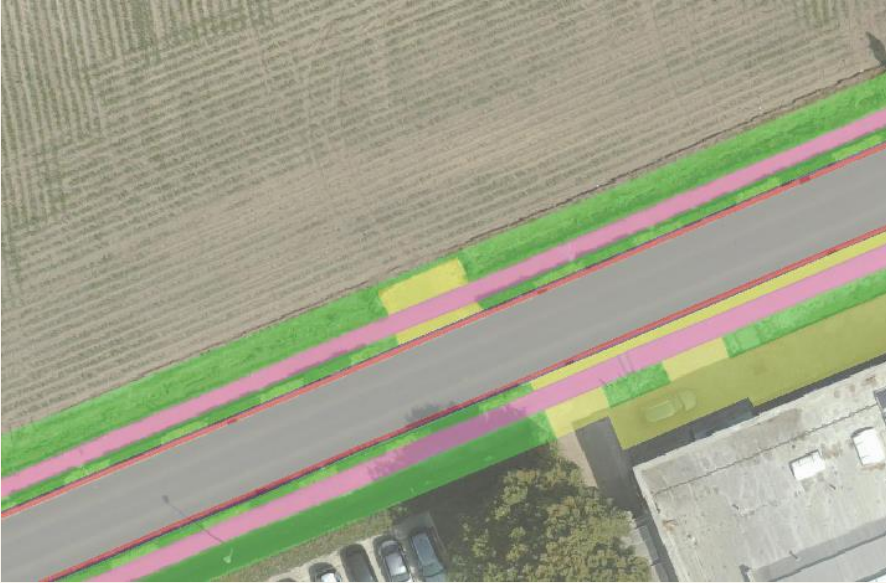
Focus on supra-local network

The scope covers the wider supra-local cycling network (BFF), not just cycle highways, with the potential to scale up later to local networks.

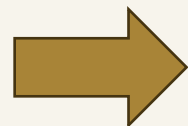
Segmentation & classification



Geometric feature extraction



Data enrichment



Pilot

infrastructure type

WGR ID

width

surface material

Elevation

buffer width

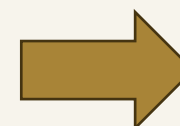
buffer type

marking

buffer type

+

Speed limits



**Accurate
assessment of
cycling
infrastructure
in Flanders**

The digital cycling pyramid



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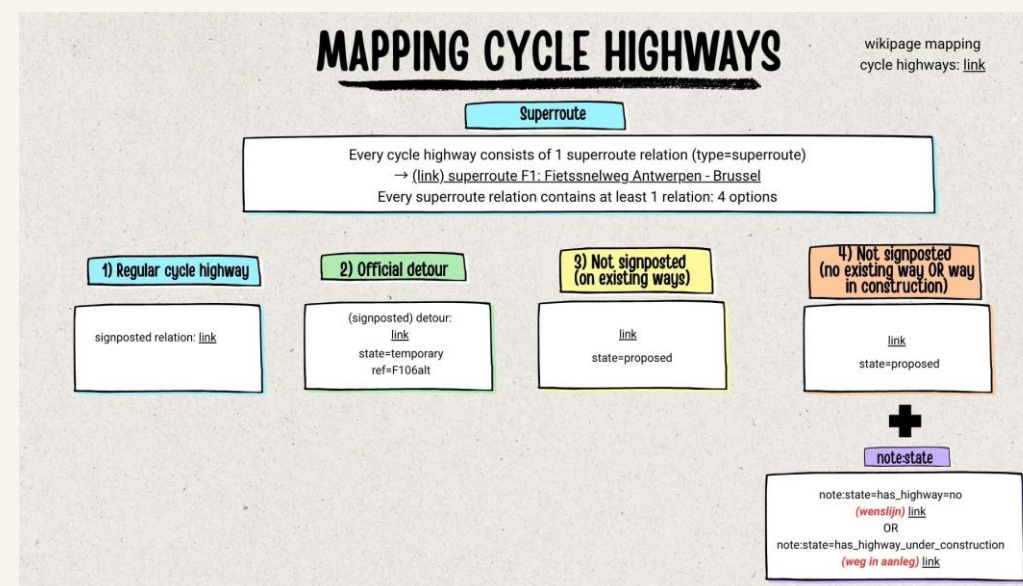
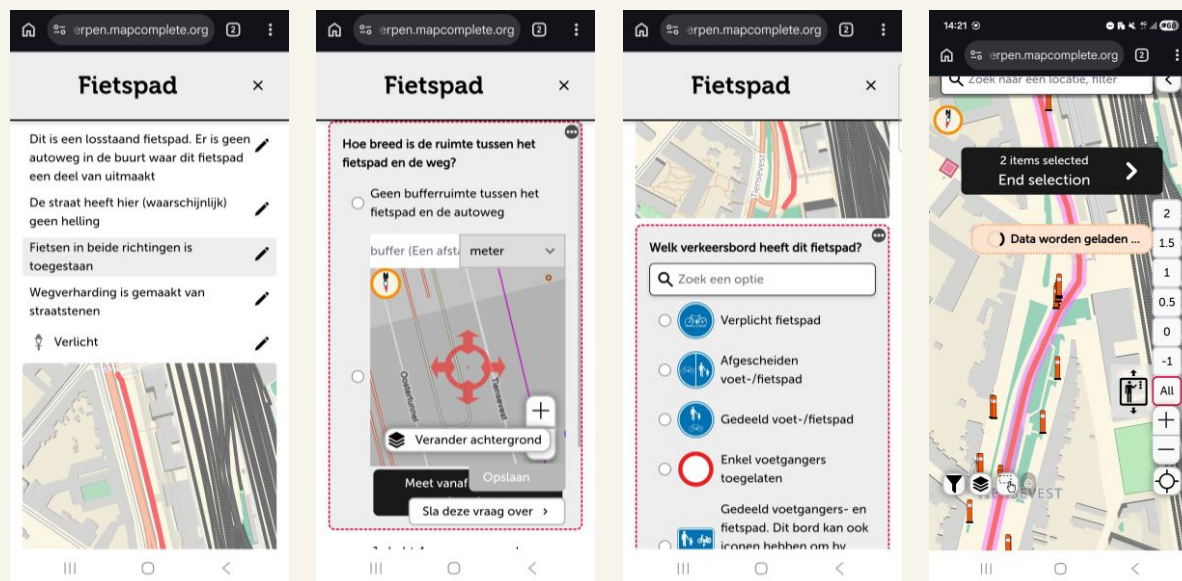


Routeplanners: From reporting errors to better routing

Recommendation - Be pragmatic: start actively reporting errors to map providers now

OSM

- Ownership and own routeplanner
- Screening & manual for data team
- Lowering the barrier for citizens with advanced Mapcomplete: eg. 'Fietsmapper', max speed



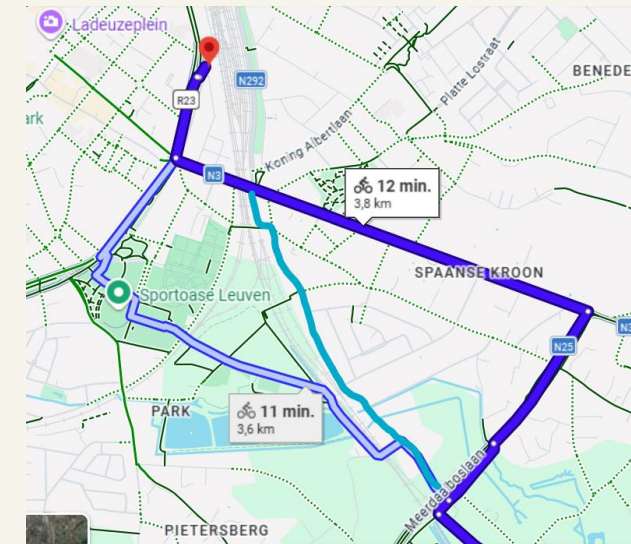
Routeplanners: From reporting errors to better routing



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GOOGLE MAPS

- Submit ad-hoc request for missing infrastructure: Maps Content Partners tool
- Reliable, authentic data sources do increase success rate: www.Fietssnelwegen.be
- Discussions with Google Premier Partner: 700 deviations identified between base register and proposed routes (125 cycle highways)



Routeplanners: From reporting errors to better routing



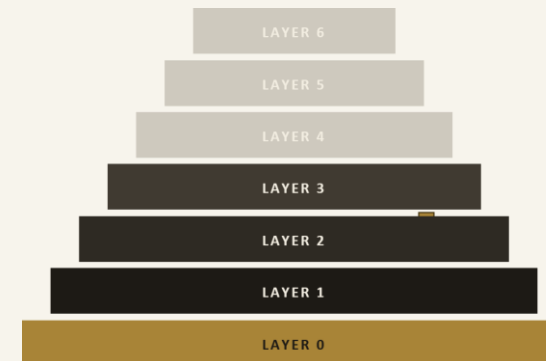
Recommendation - Seize the willingness of the Netherlands and Denmark to join an EU project

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**Upscaling and dynamic connection when
layer 1 & 2 are finished
&
open to join forces with neighbouring
countries**



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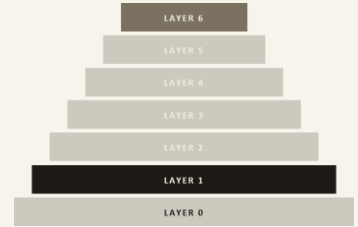
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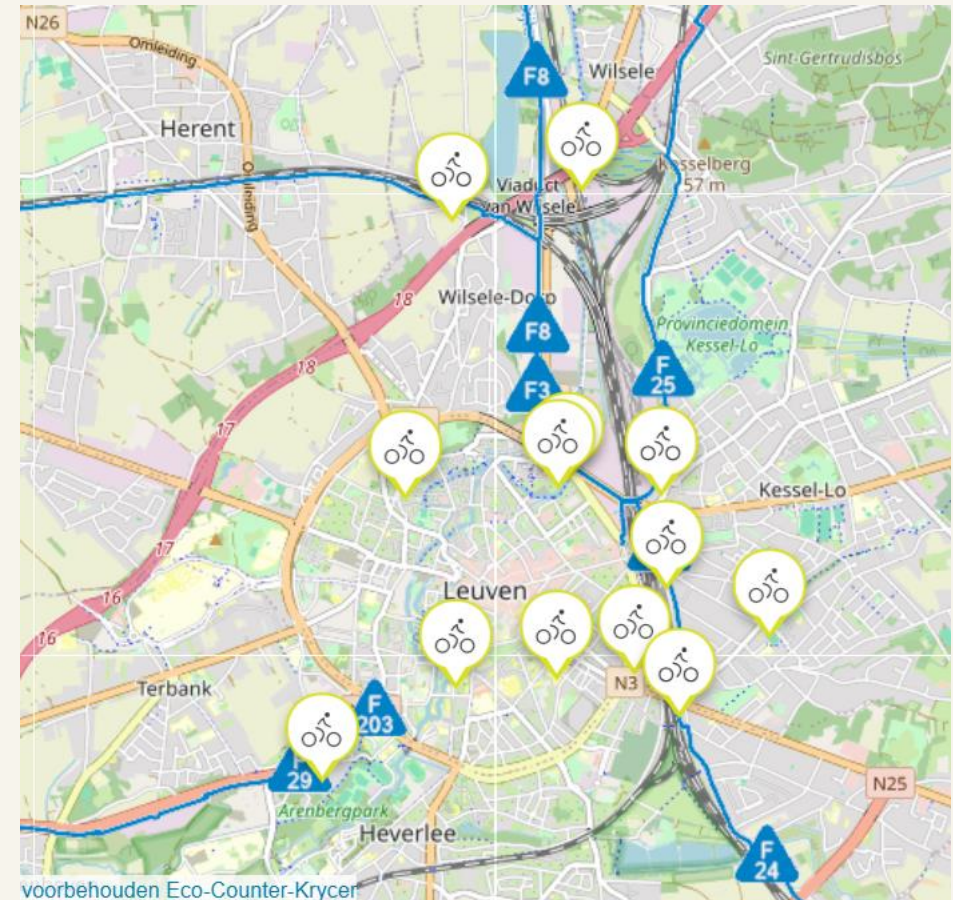
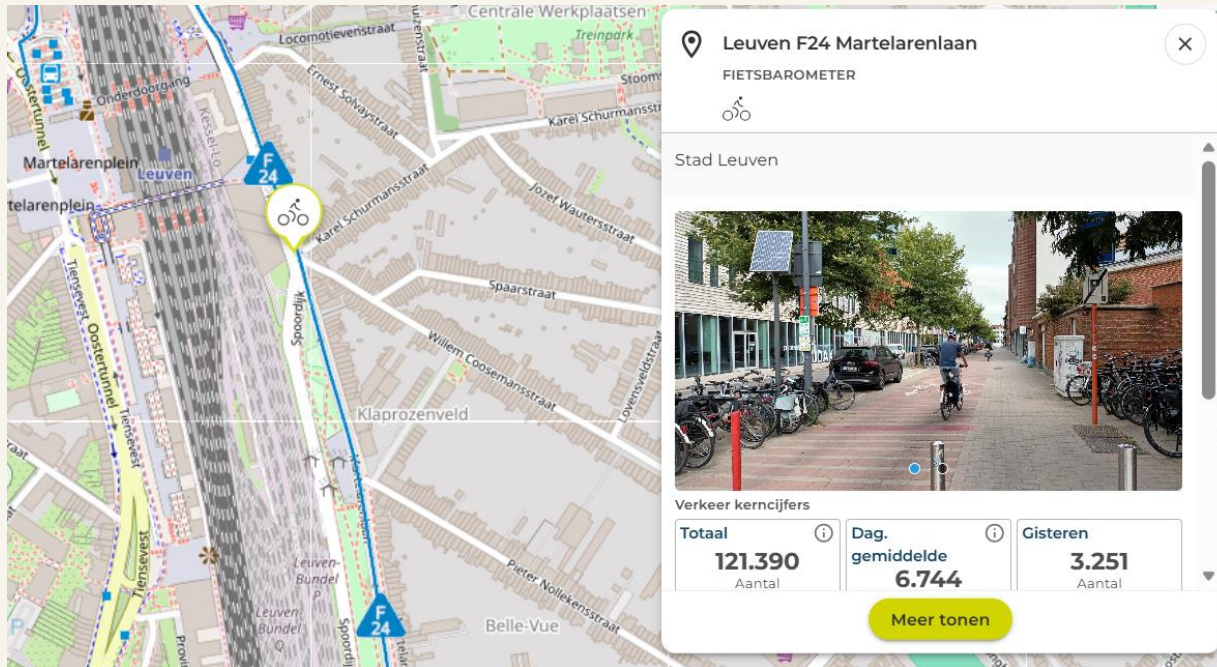
The physical cycling infrastructure

From physical infrastructure towards a digital twin

Recommendation - Work in layers, following the digital cycling pyramid



Coupling usage data to base register cycle highways



Thanks!



Emilie Gysels

Interprovincial coordinator cycling data

Contact: emilie.gysels@provincieantwerpen.be
(or meet us at the pop-up cycle highway)

