Challenging Cartography in ArcGIS from Esri Switzerland

Anna Vetter, Mark Wigley

Esri Switzerland Ltd.

1st ICA European Symposium on Cartography
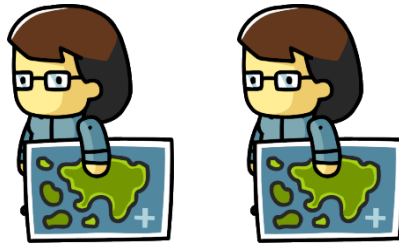
10 – 12. November 2015

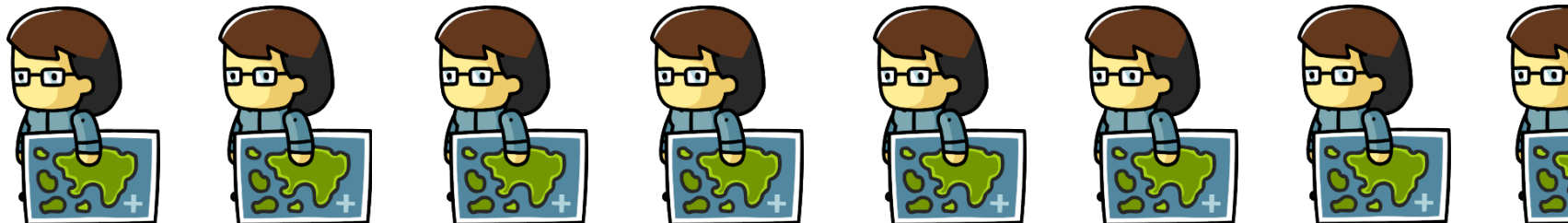# Why Esri Switzerland and Cartography?

+ Triggered: by a long term and close working partnership with swisstopo

swisstopo

+ + +

+ Supported: by numerous Cartographers

+ Enriched: through various customer projects

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What we Offer!

ProSuite Solution

Quality Assurance   **Carto-Tools**
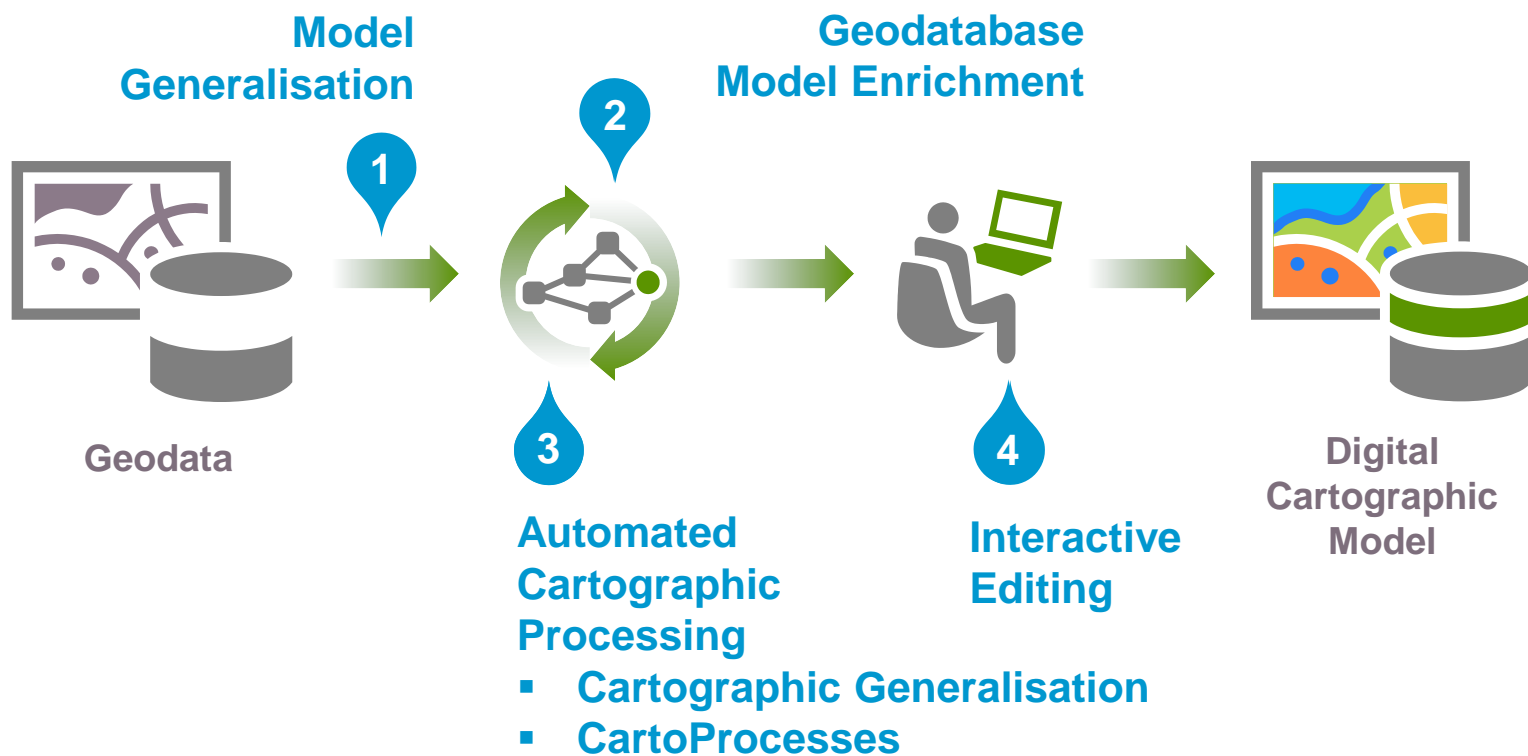
ArcGIS

**Installation, Configuration
Set-Up**

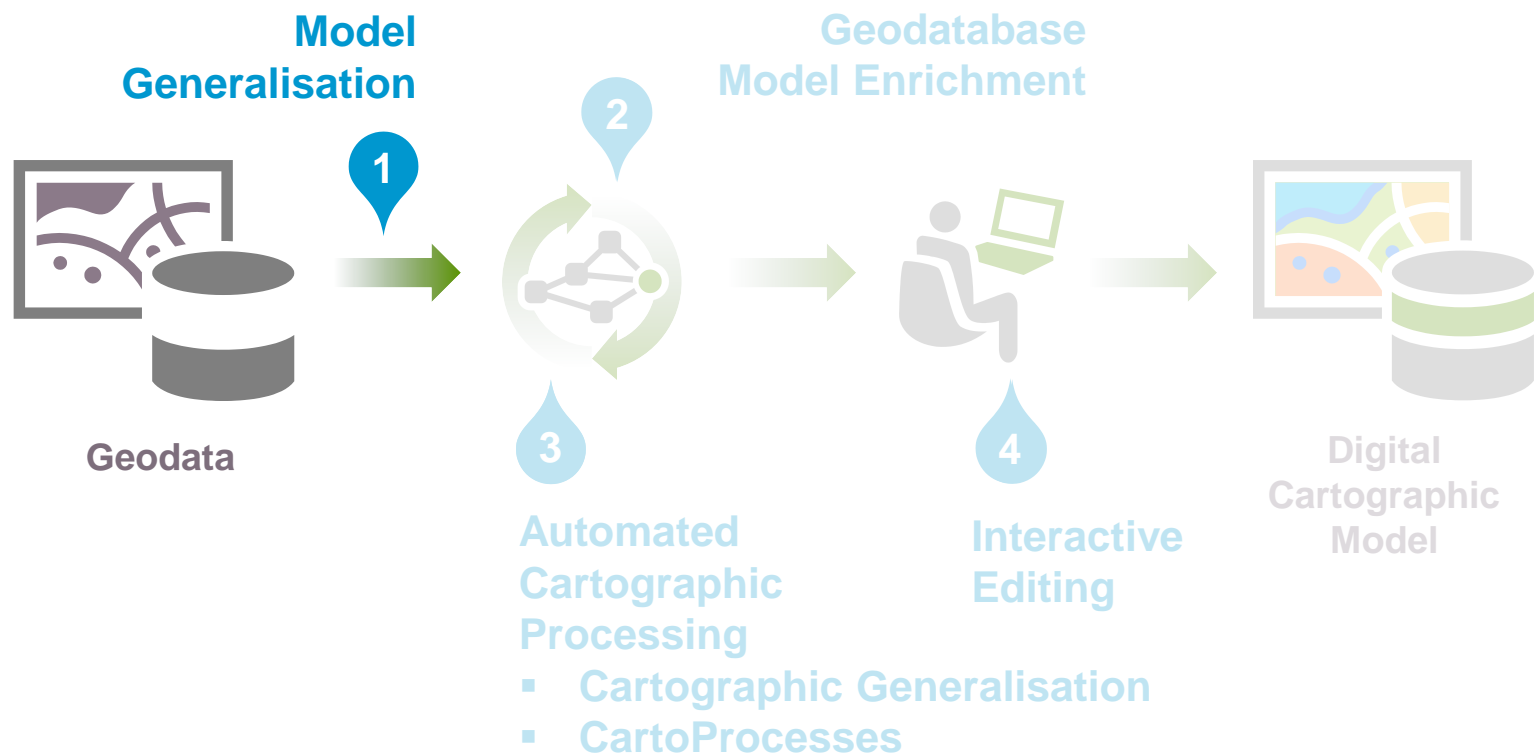**Consulting, Programming
Training, Support**

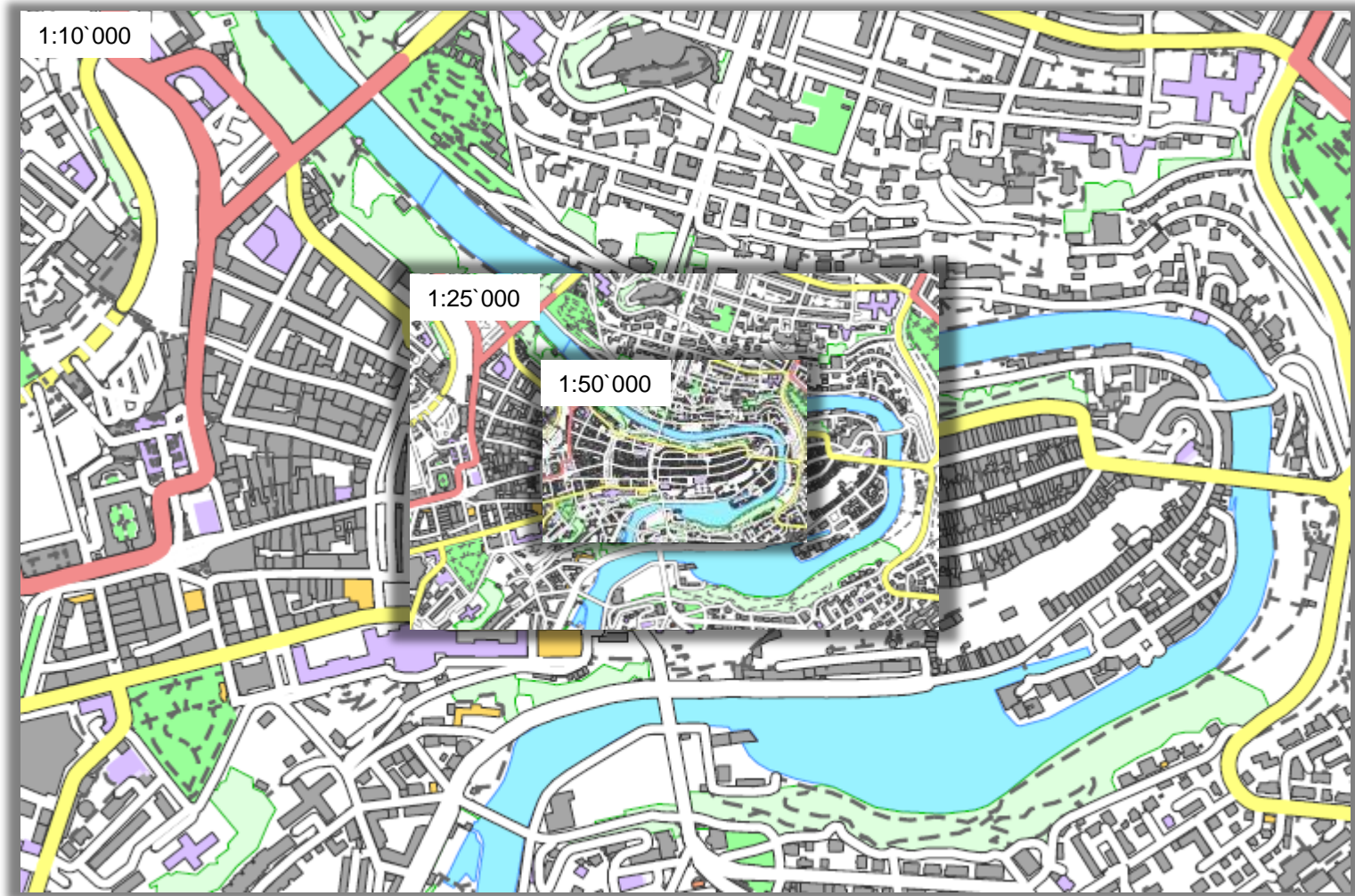# Challenging Cartography within a single system

Quality Control

Model Generalisation

1

2

Geodatabase Model Enrichment

Geodata

3

4

Automated Cartographic Processing
- Cartographic Generalisation
- CartoProcesses

Interactive Editing

Digital Cartographic Model

1 Model Generalisation

Quality Control

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Geodatabase Model Enrichment

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Geodata

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Interactive Editing

Digital Cartographic Model

Why generalise?
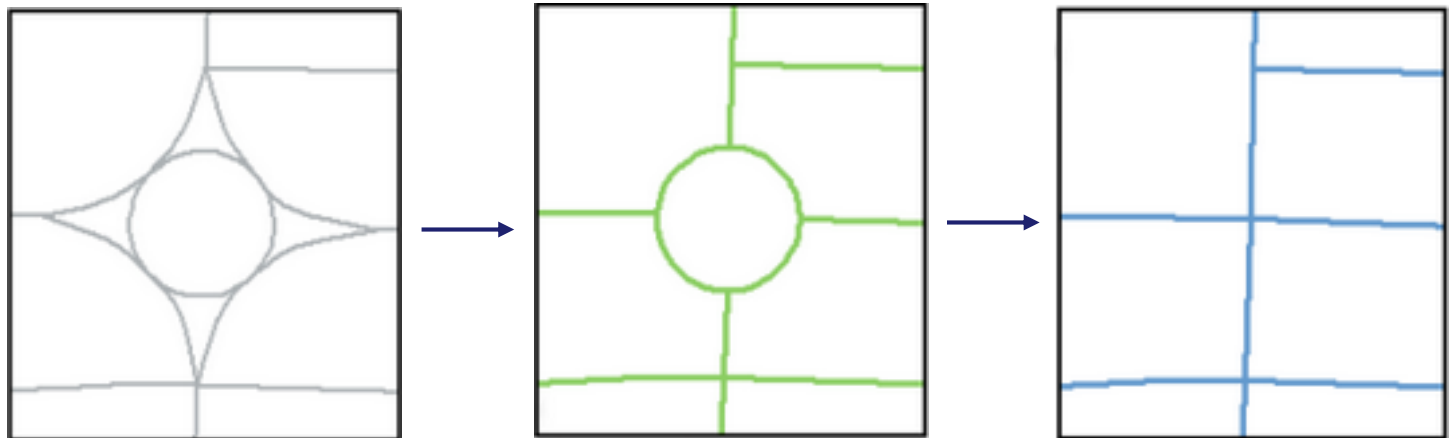

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1 Model Generalisation: Roads

+ Thin Road Network Tool

+ Collapse Road Detail Tool

① Model Generalisation: Roads
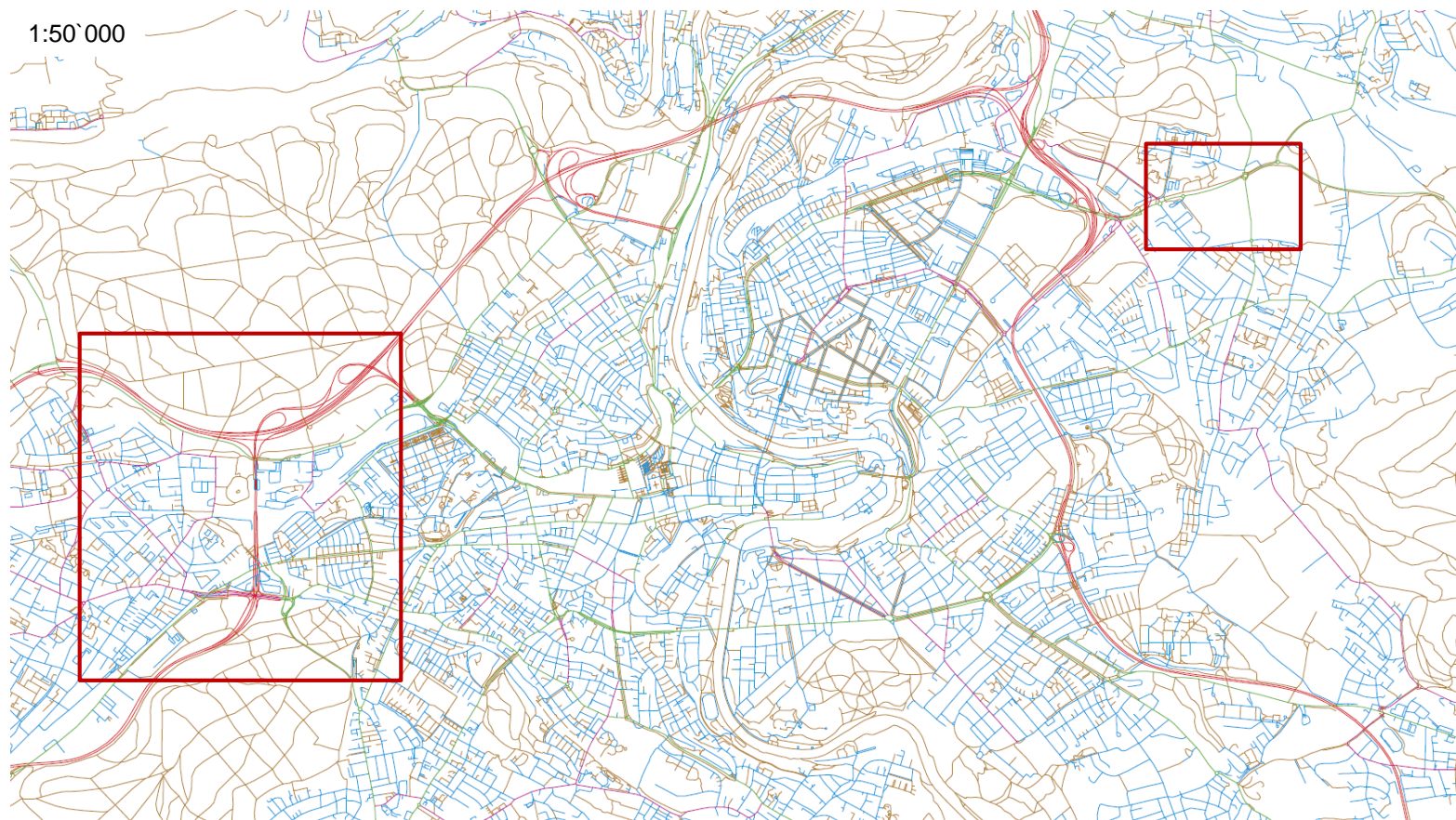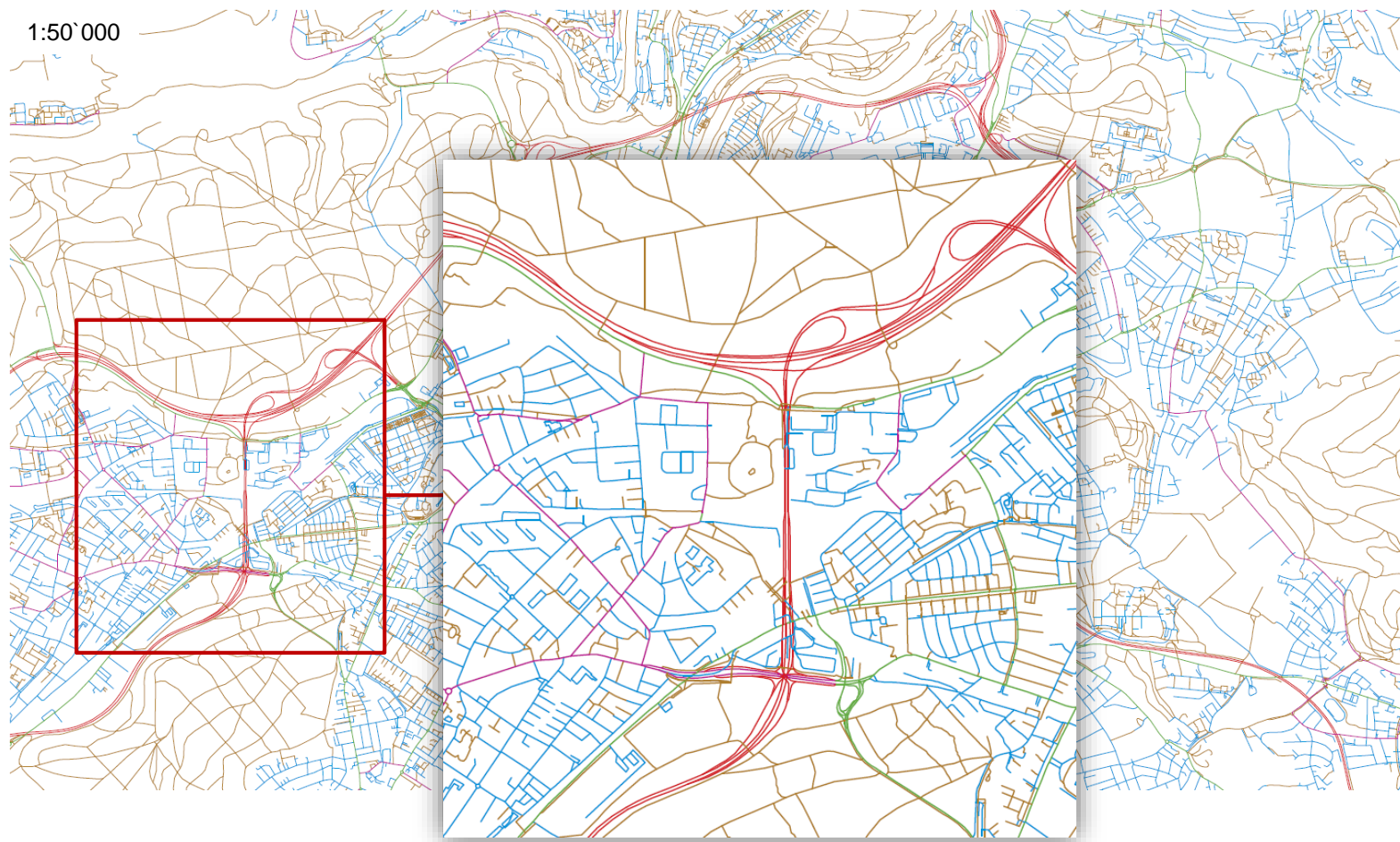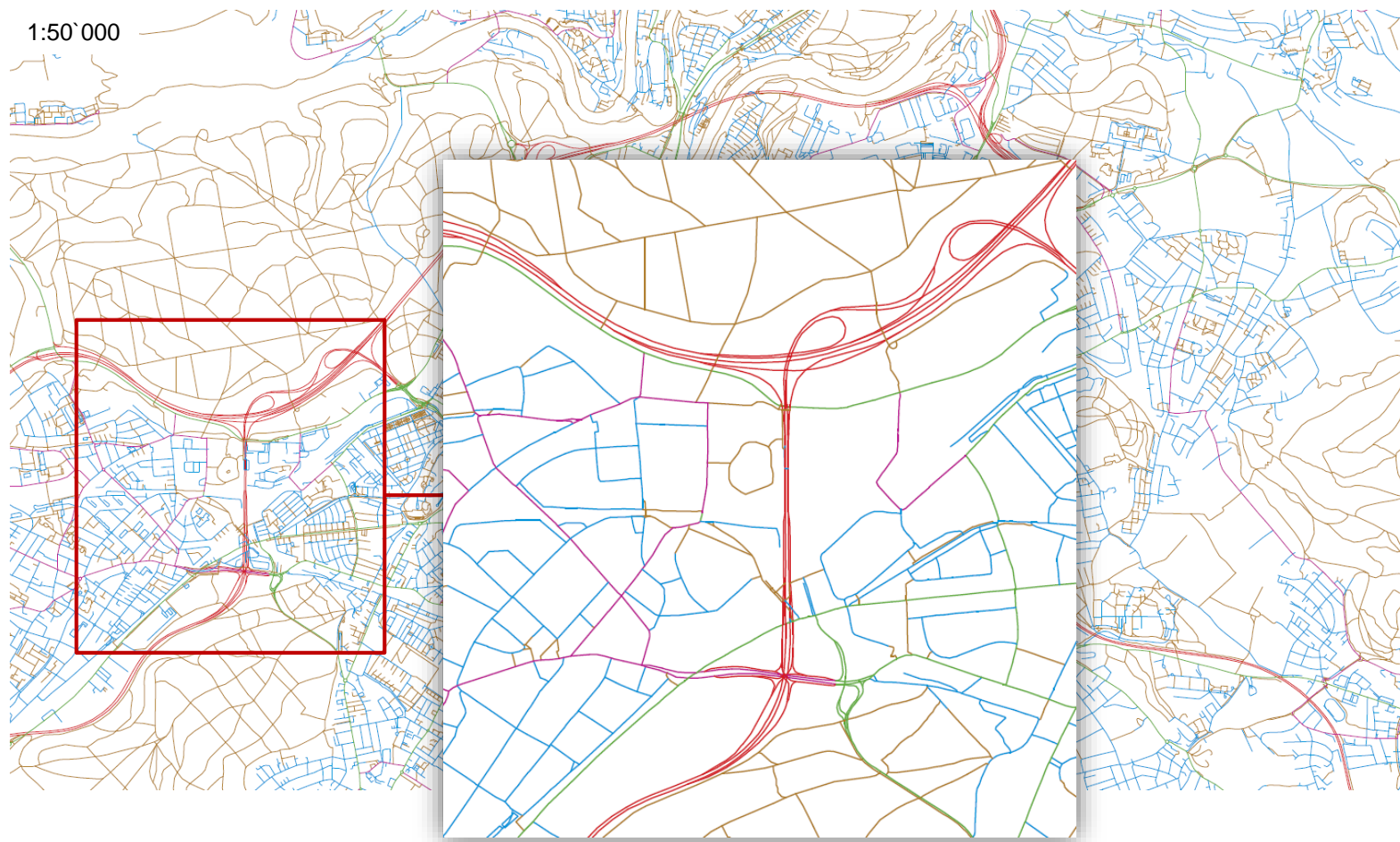
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Model Generalisation: Roads

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Model Generalisation: Roads

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1 # Model Generalisation: Roads

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Model Generalisation: Roads

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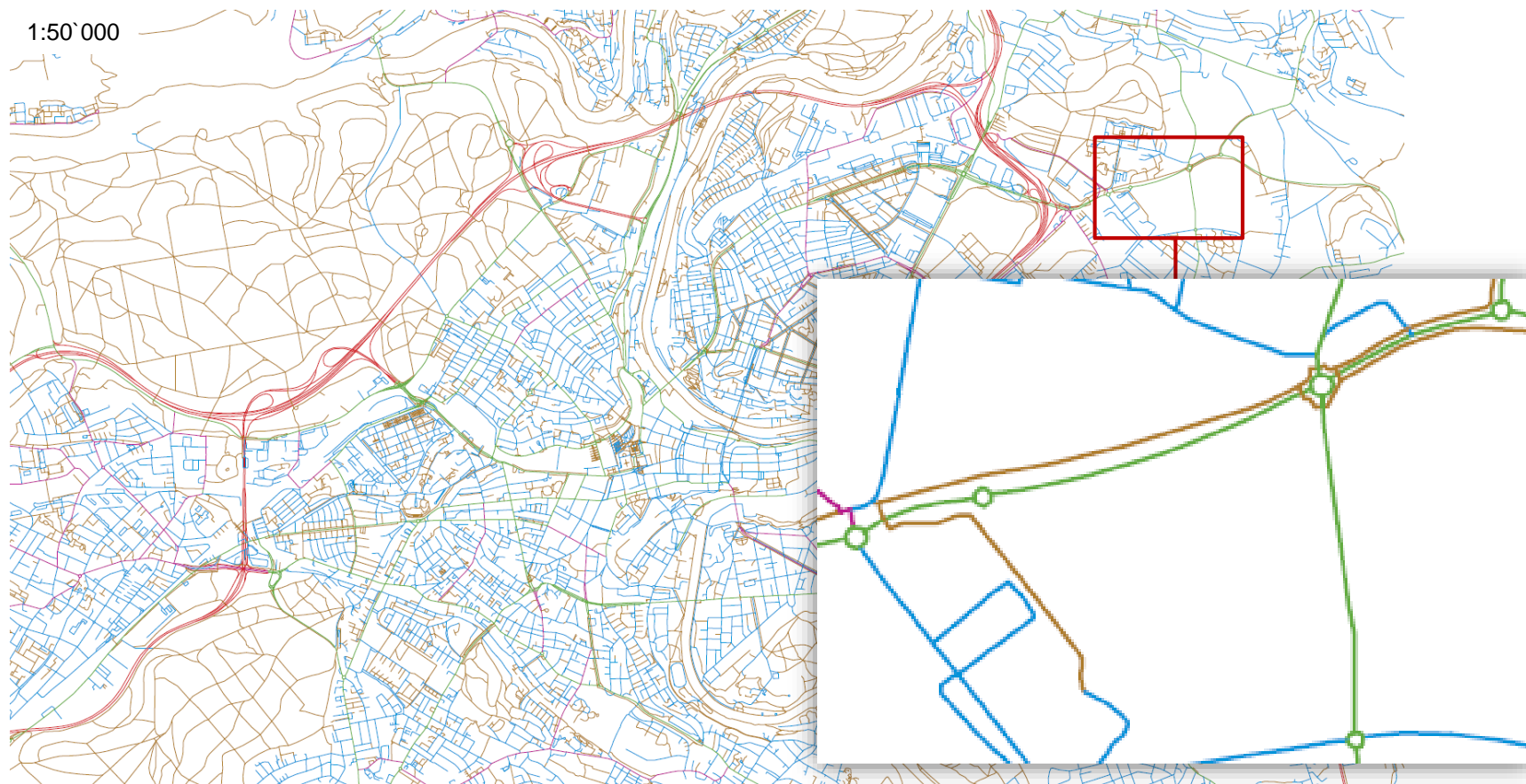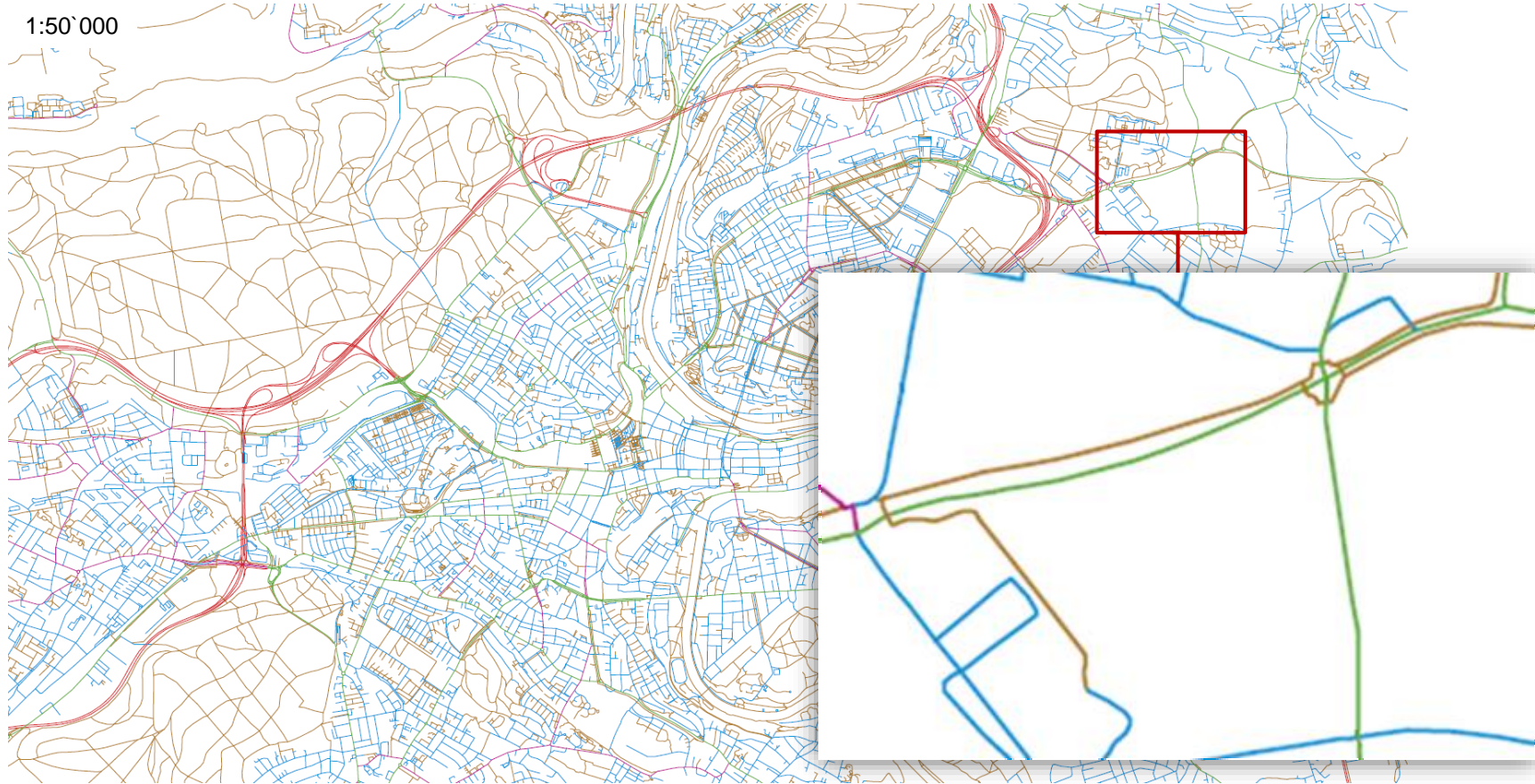
1 Model Generalisation: Buildings

+ Aggregate Polygons Tool
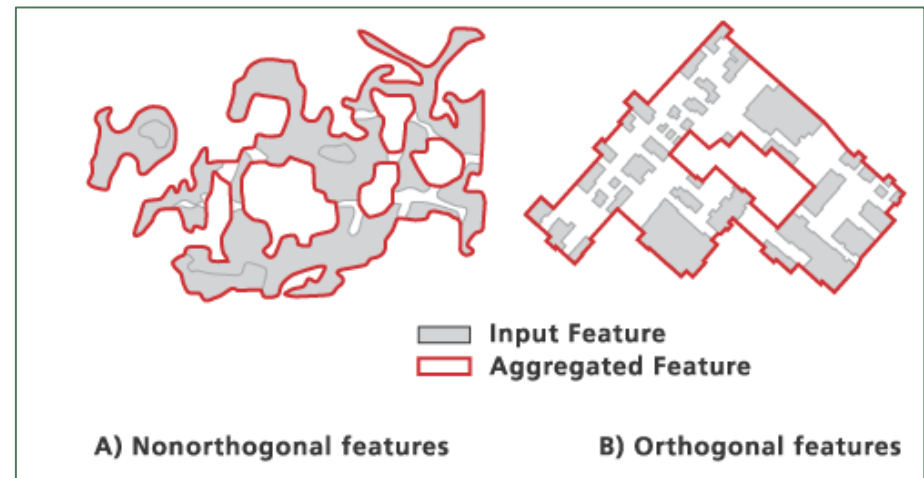
Input Feature
Aggregated Feature

A) Nonorthogonal features   B) Orthogonal features

+ Simplify Building Tool
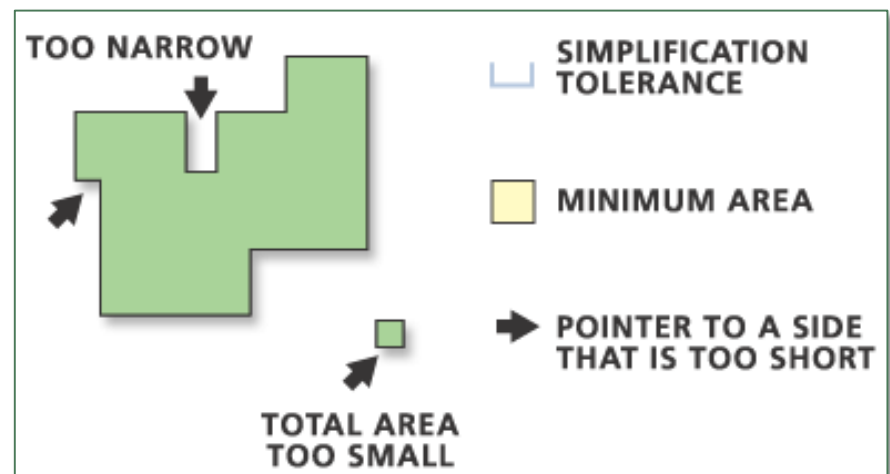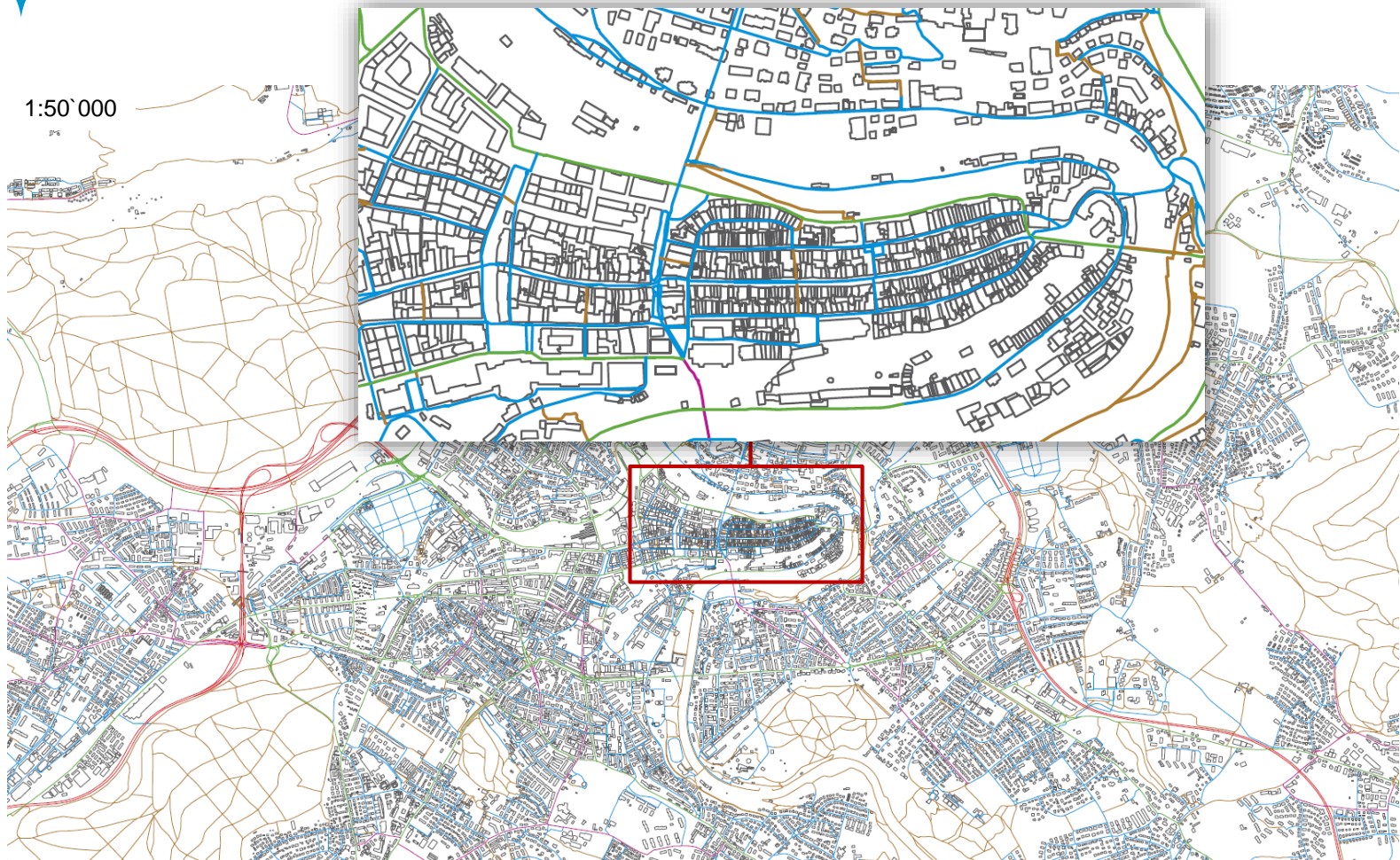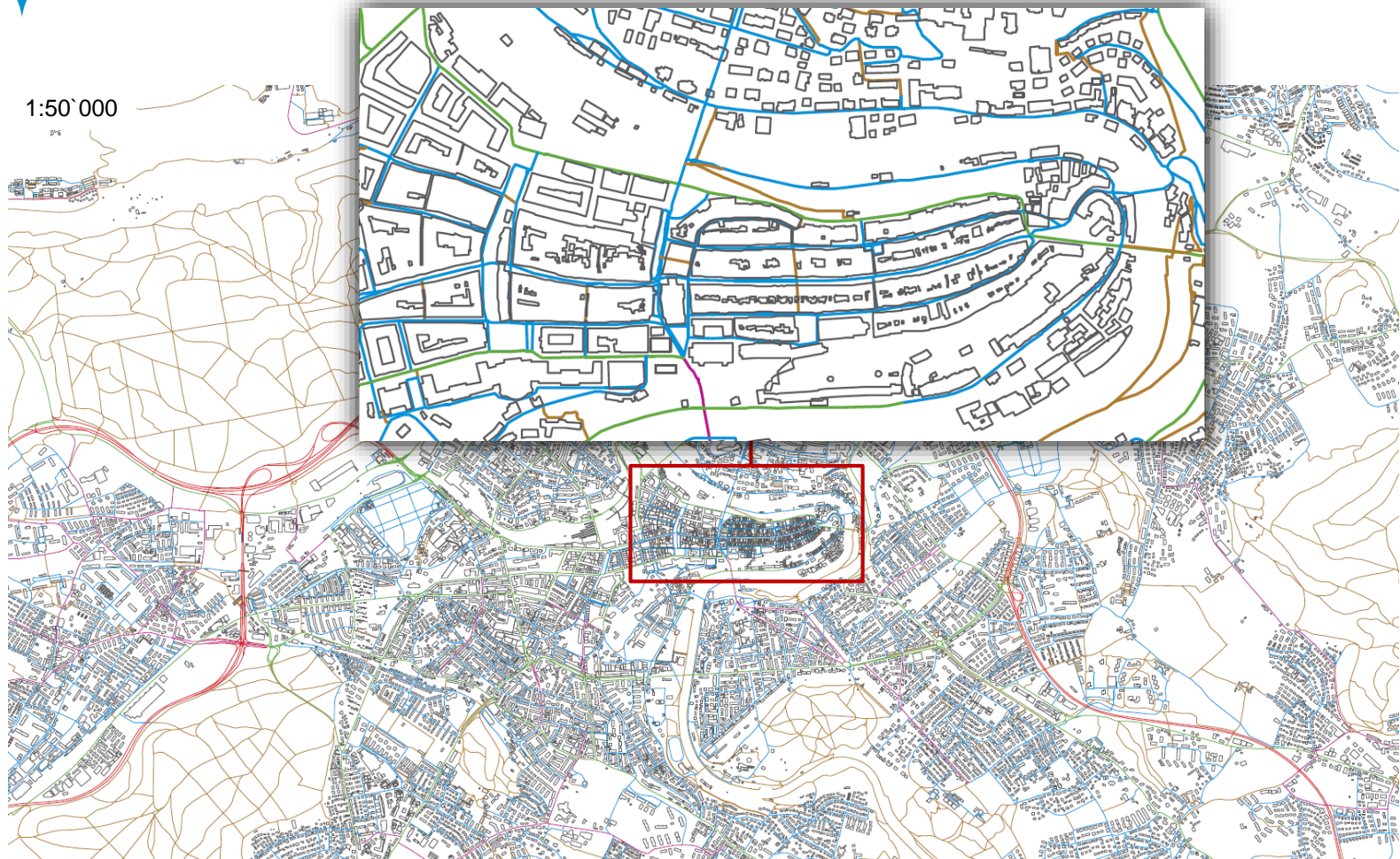
TOO NARROW

SIMPLIFICATION TOLERANCE

MINIMUM AREA

POINTER TO A SIDE THAT IS TOO SHORT

TOTAL AREA TOO SMALL

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Model Generalisation: Buildings

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1 Model Generalisation: Buildings

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Model Generalisation: Buildings

1

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1 Model Generalisation: Buildings

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Model Generalisation: Roads and Buildings

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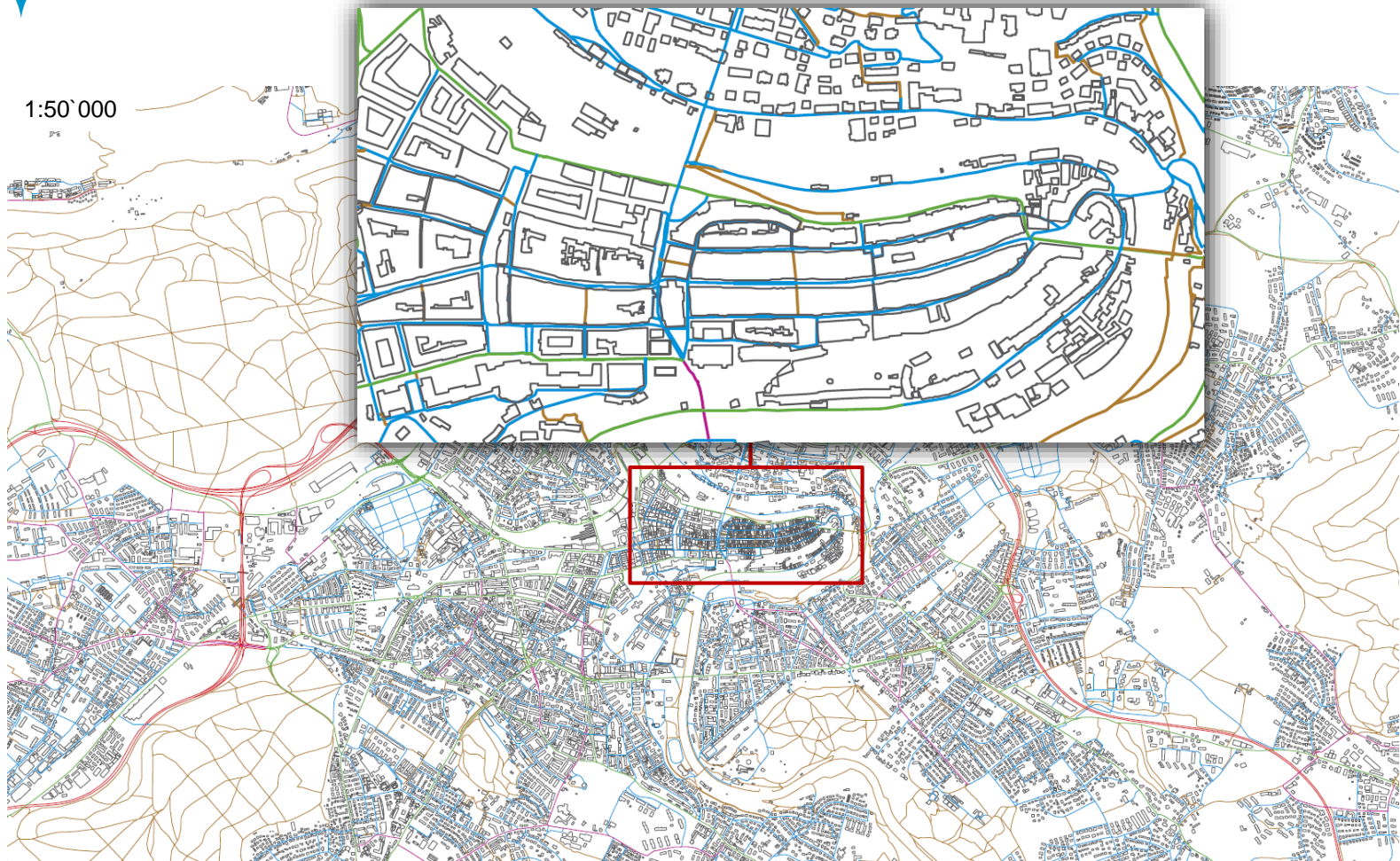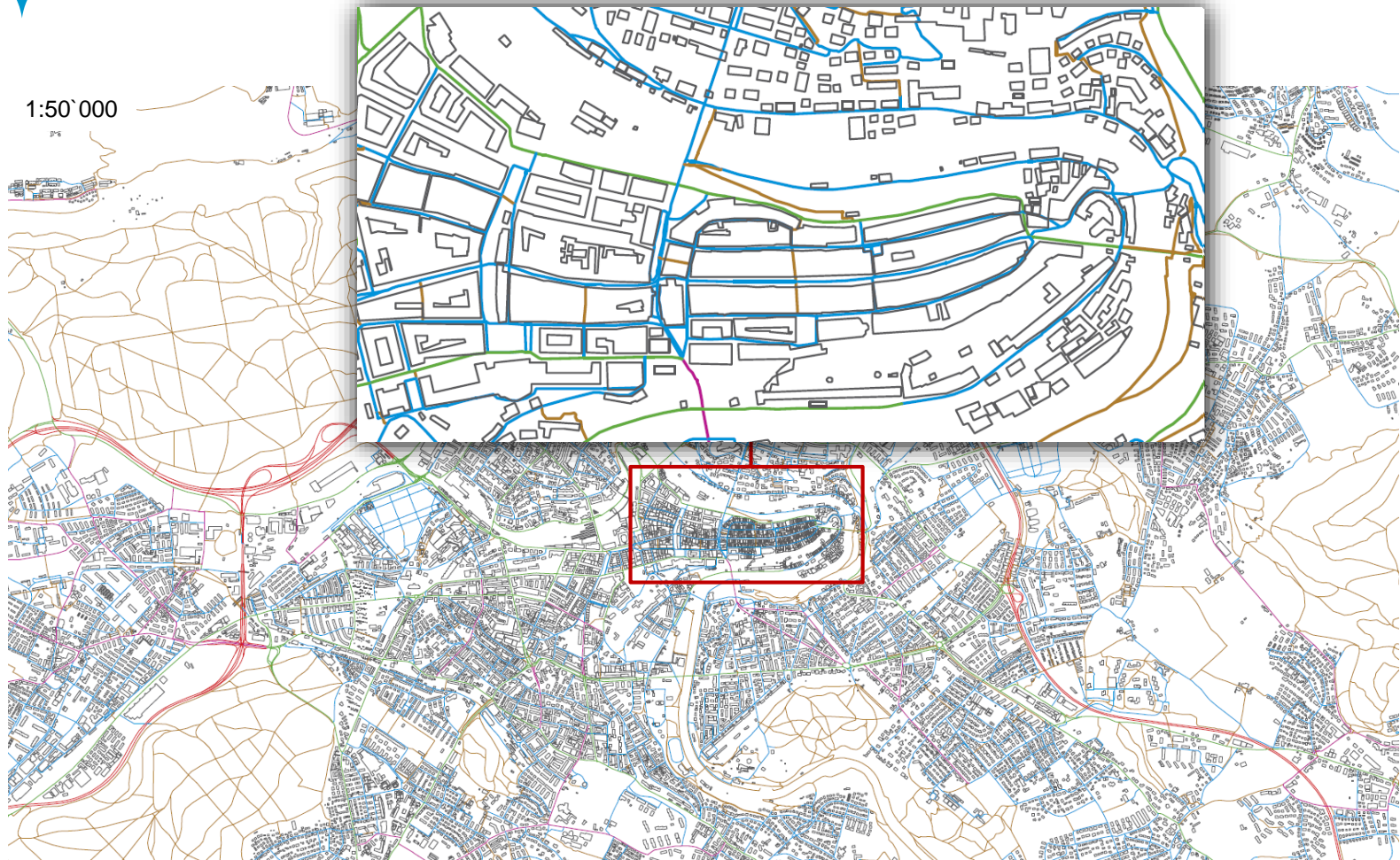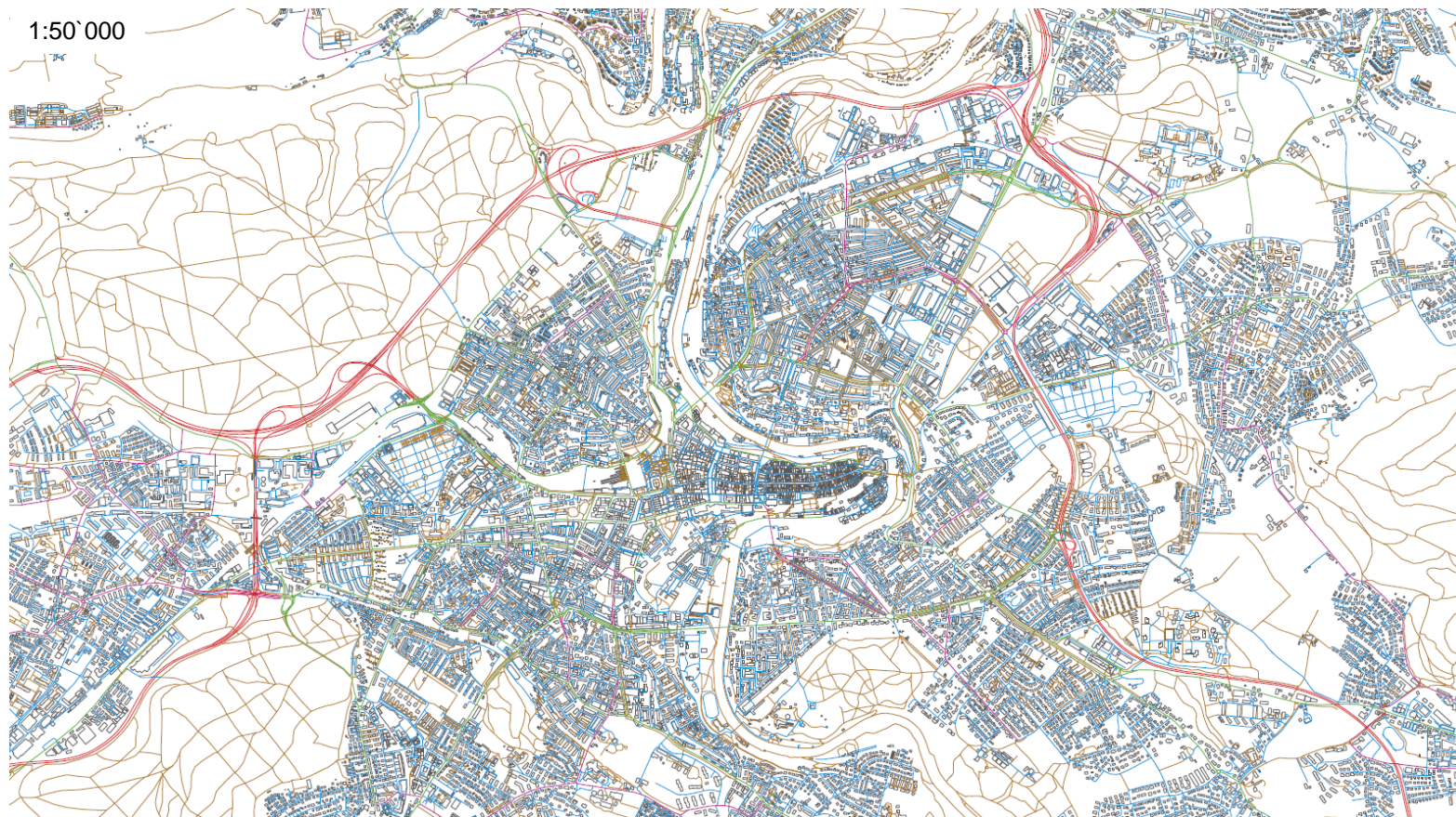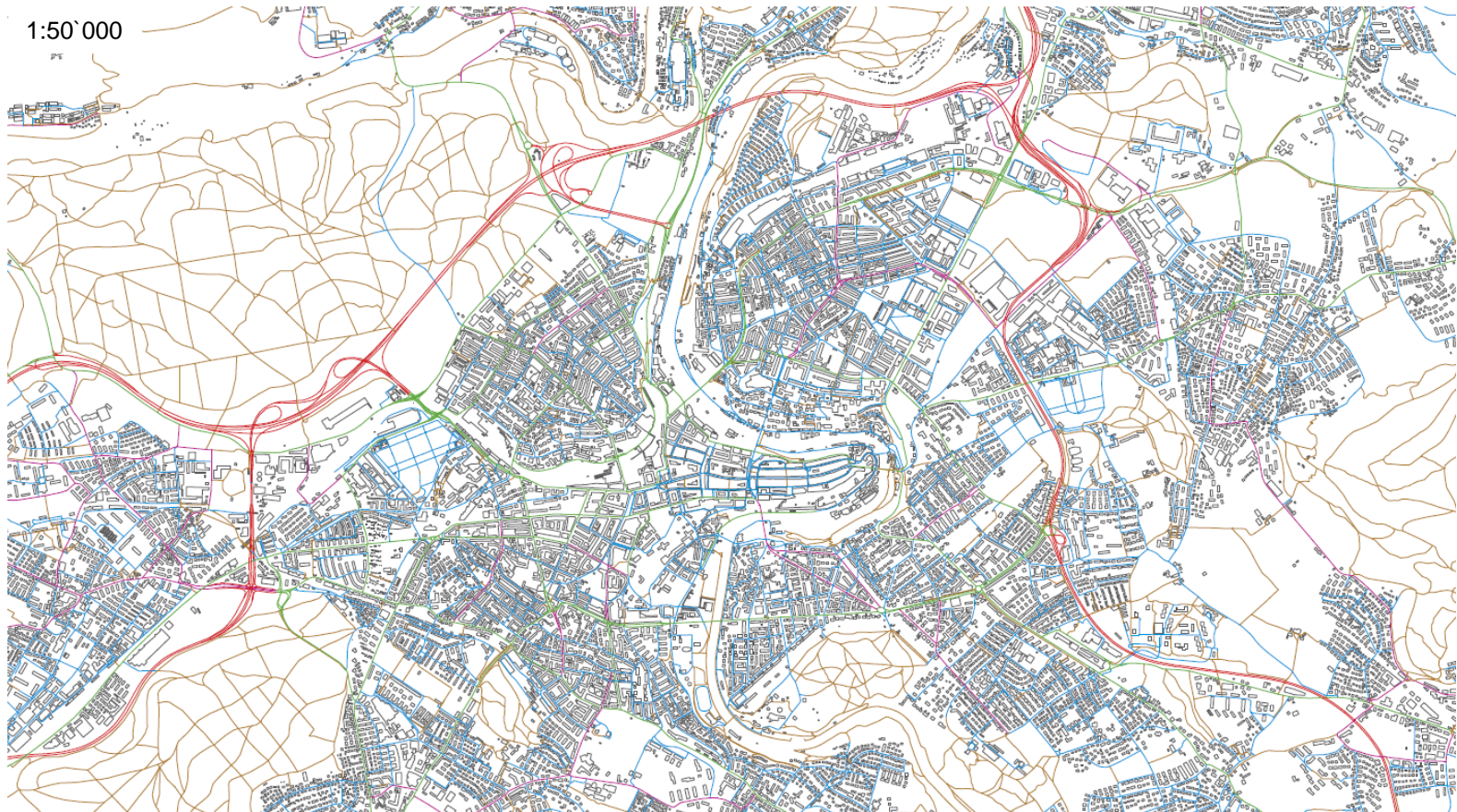
Geodatabase and Model Enrichment

Quality Control

Model Generalisation

Geodatabase Model Enrichment

1

2

Geodata

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Automated Cartographic Processing
- **Cartographic Generalisation**
- **CartoProcesses**

4

Interactive Editing

Digital Cartographic Model

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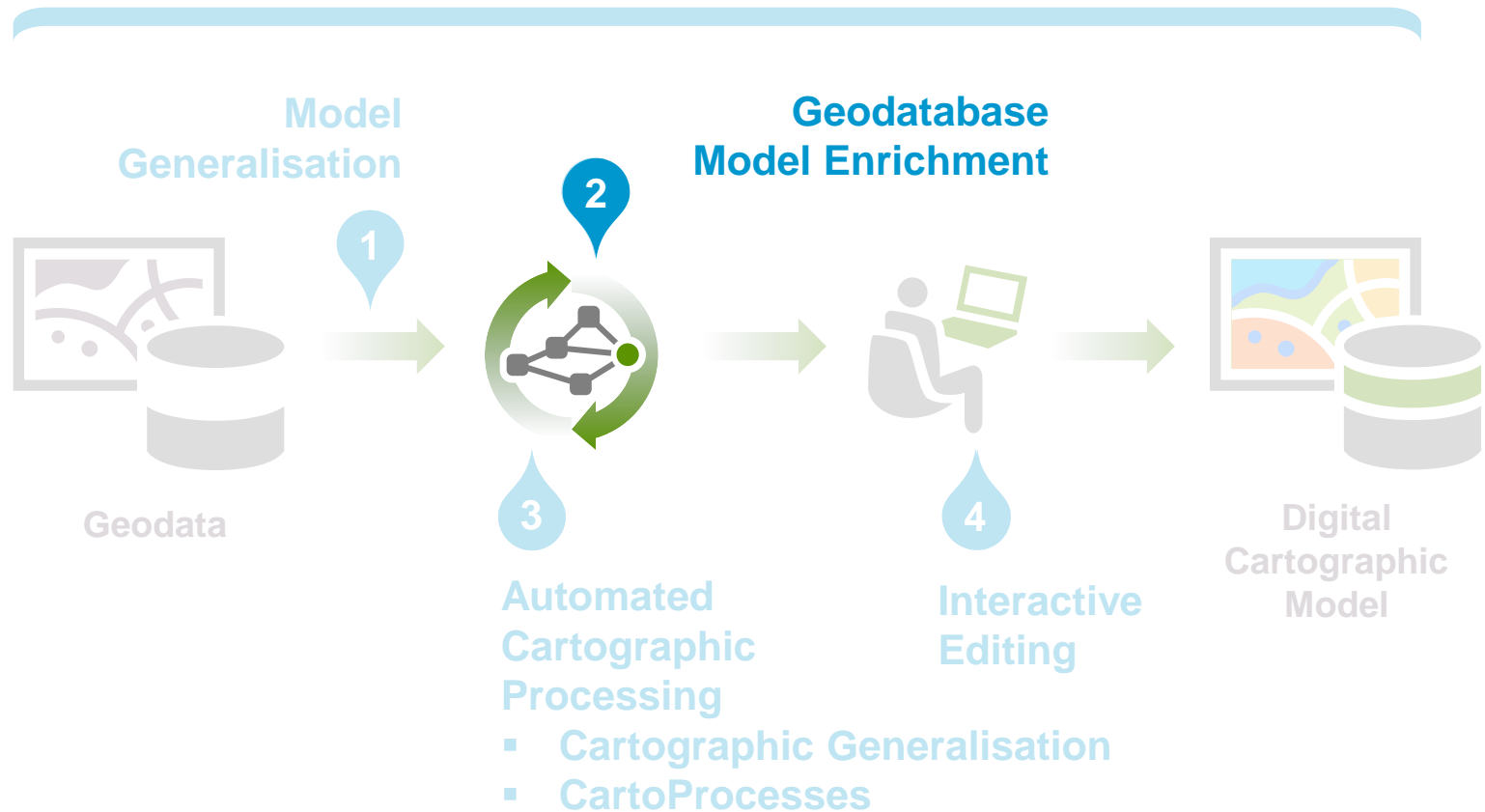
② Geodatabase and Model Enrichment

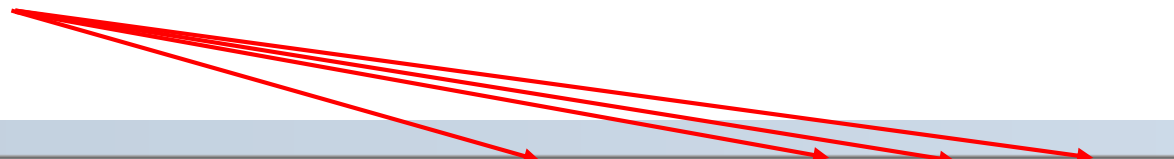**+ What's needed for Cartography and Cartographic Generalisation?**
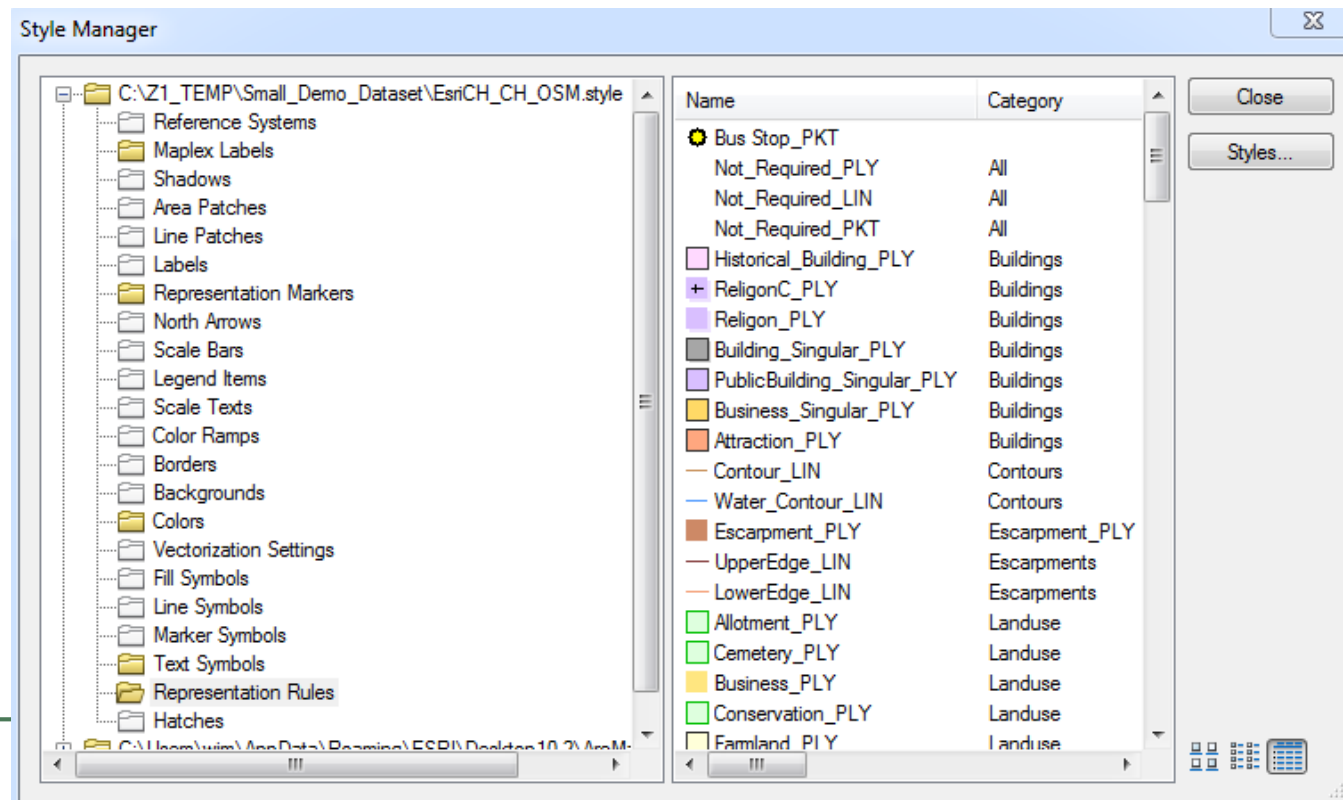
> Additional features?

> Markers

> Masks

Kleine Schanze

> .....
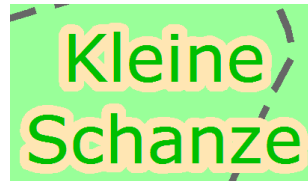
> Additional attributes?

Buildings										
	OBJECTID *	Shape *	osm_id	name	type	Shape_Length	Shape_Area	RuleID_1	Override_1	Visibility	Angle

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2 **Geodatabase and Model Enrichment**

+ Define a Symbol catalogue

> Style File

> Representation Rules

> Maplex Label properties

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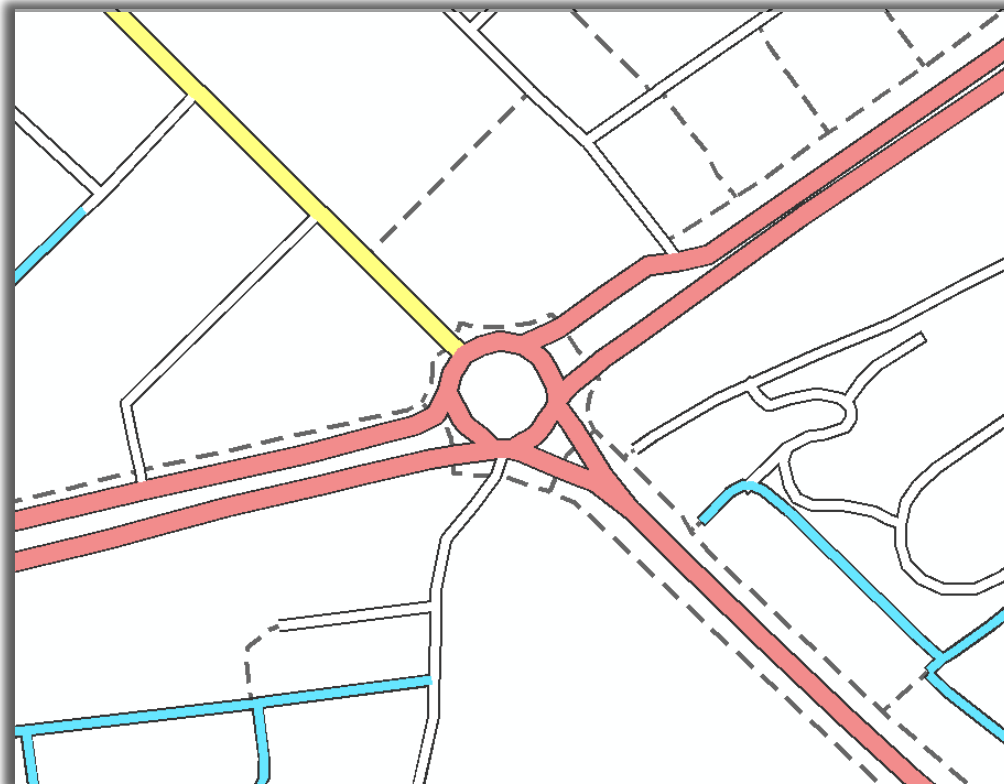**2** **Geodatabase and Model Enrichment**

+ Assign the symbol catalogue to the Geodata

> Mapping based on attribute value combinations

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2 **Geodatabase and Model Enrichment**

+ Assign the symbol catalogue to the Geodata

> Mapping based on attribute value combinations

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Geodatabase and Model Enrichment

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Geodatabase and Model Enrichment

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③ Cartographic Generalisation

Quality Control

Model Generalisation

Geodatabase Model Enrichment

①

②

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Automated Cartographic Processing
- **Cartographic Generalisation**
- CartoProcesses

④

Interactive Editing

Digital Cartographic Model

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3 Cartographic Generalisation: Roads

+ Merge Divided Roads Tool
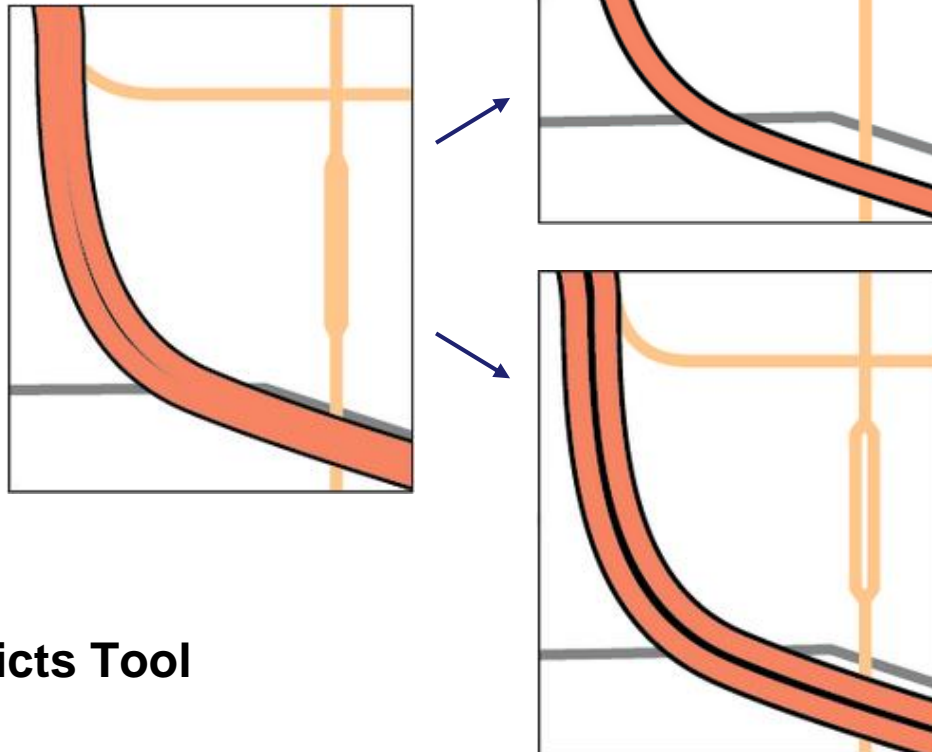
+ Resolve Road Conflicts Tool
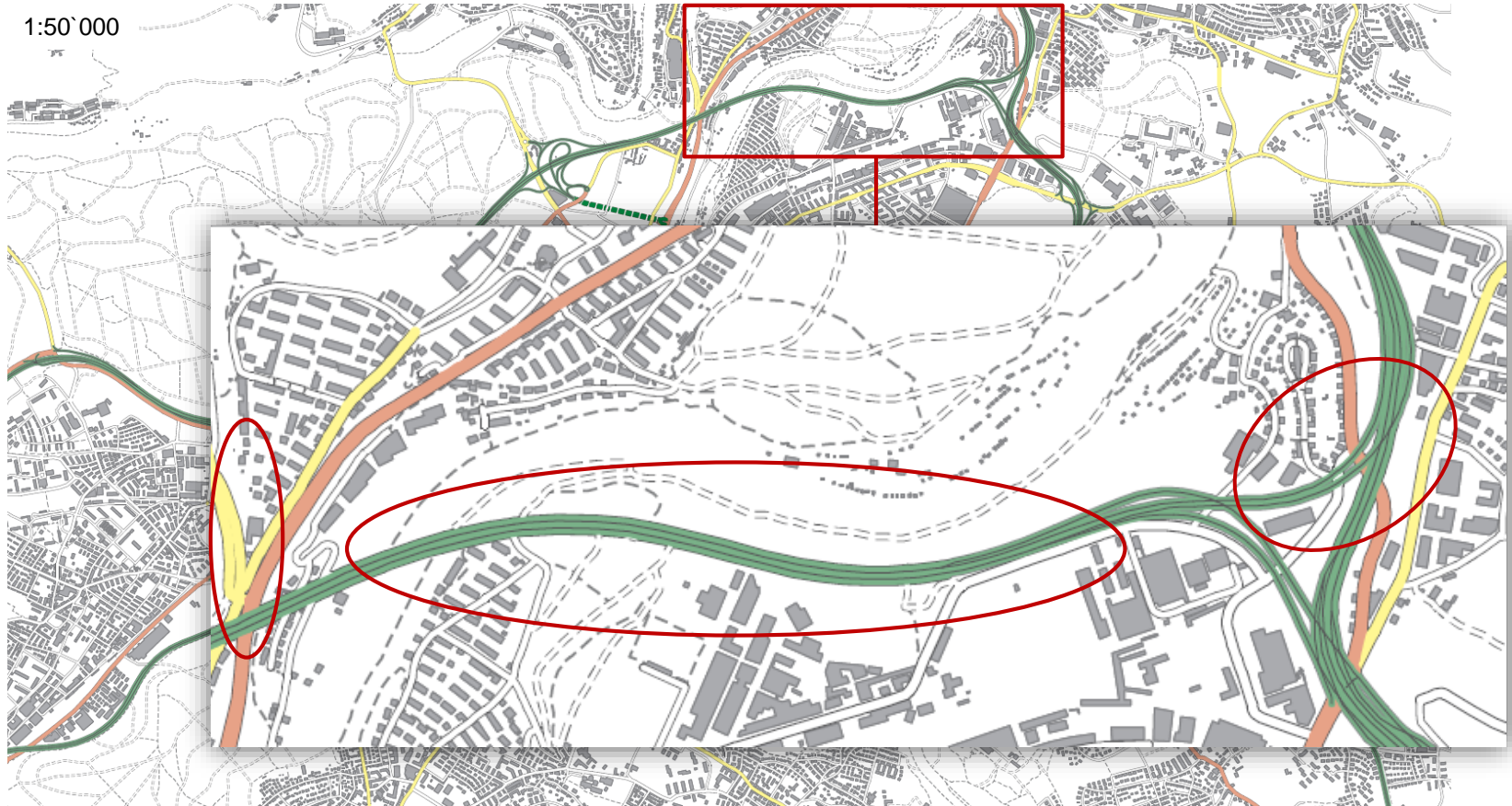
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Cartographic Generalisation: Roads

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Cartographic Generalisation: Roads

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3 Cartographic Generalisation: Roads

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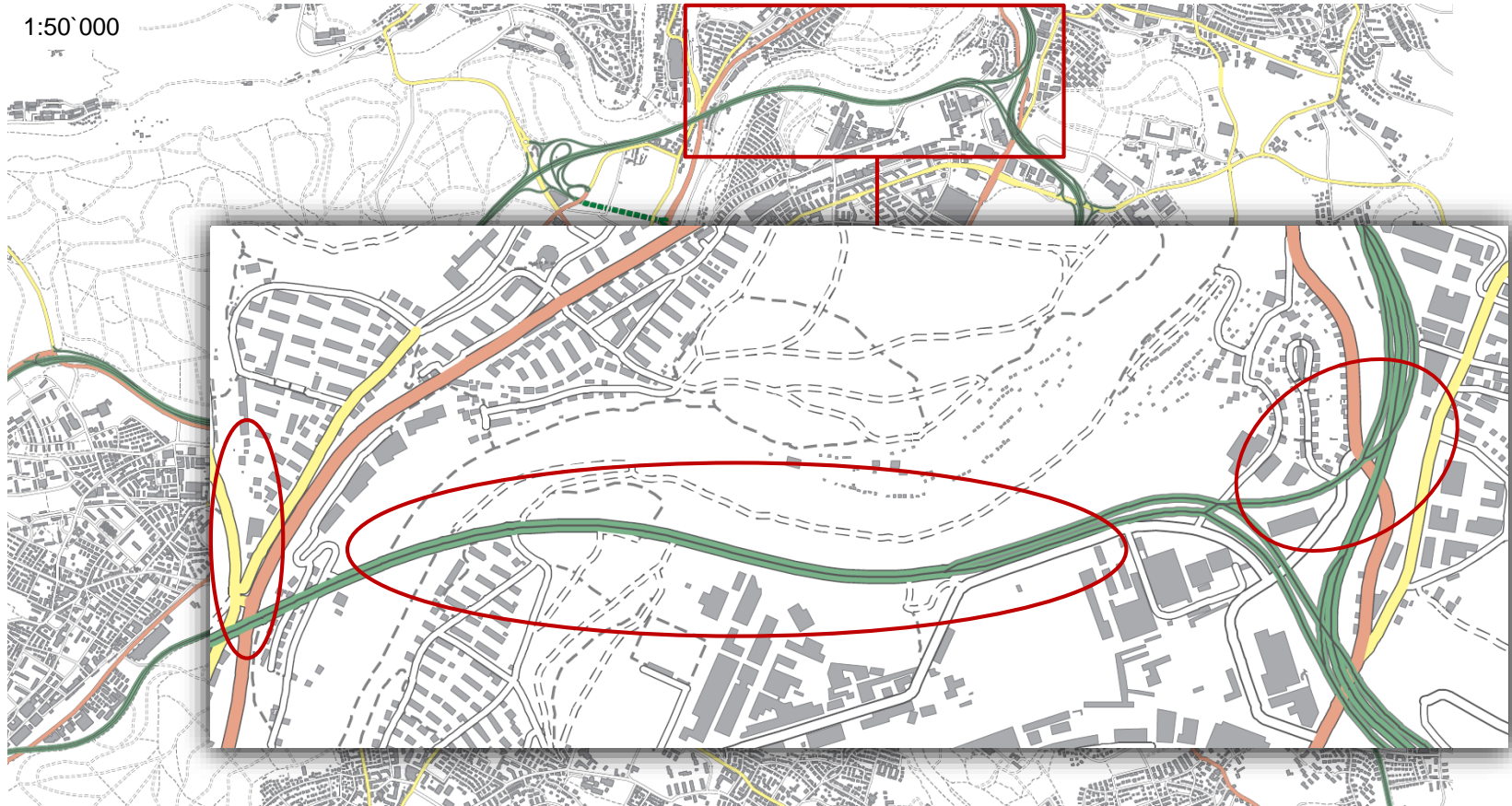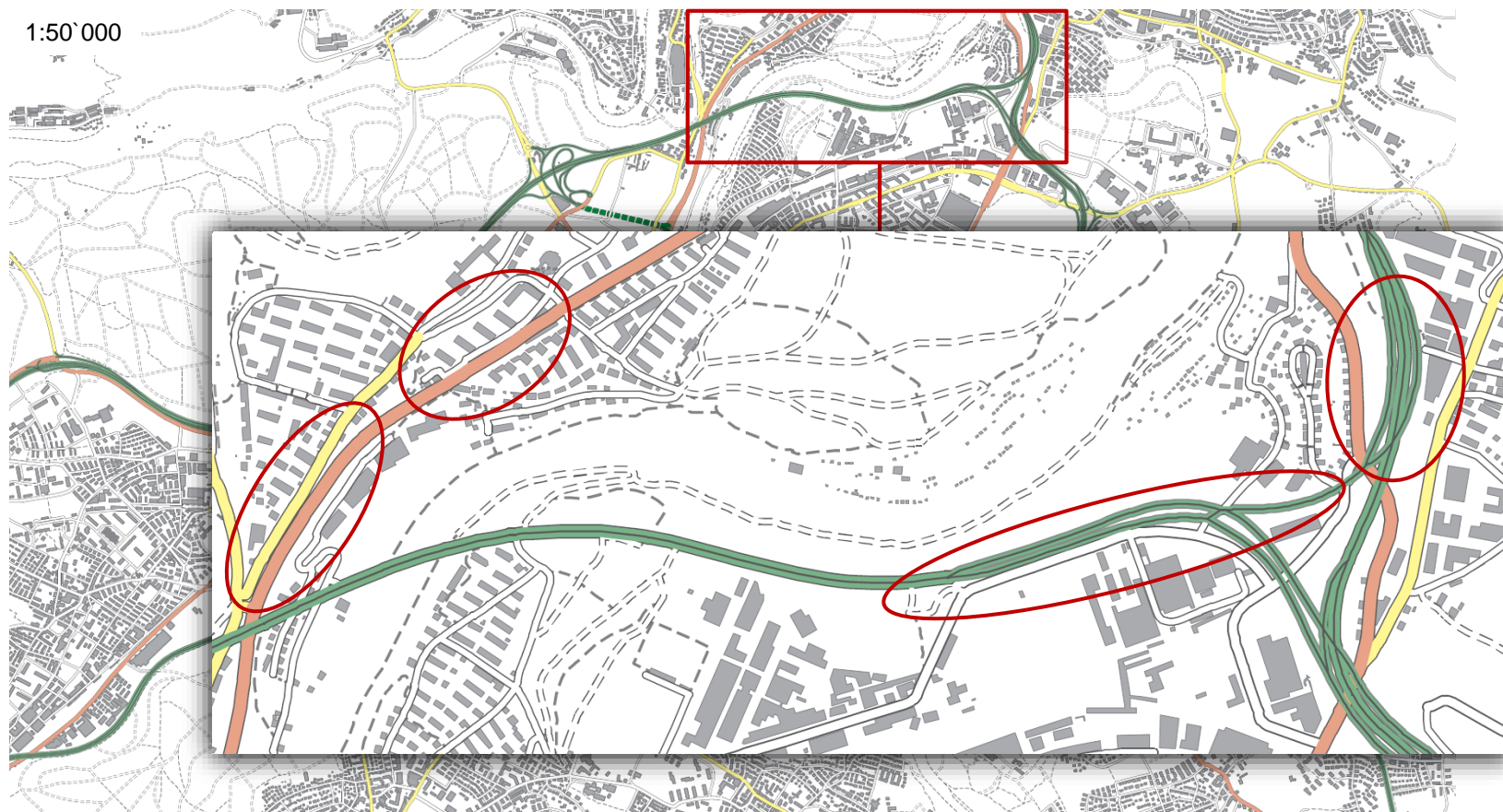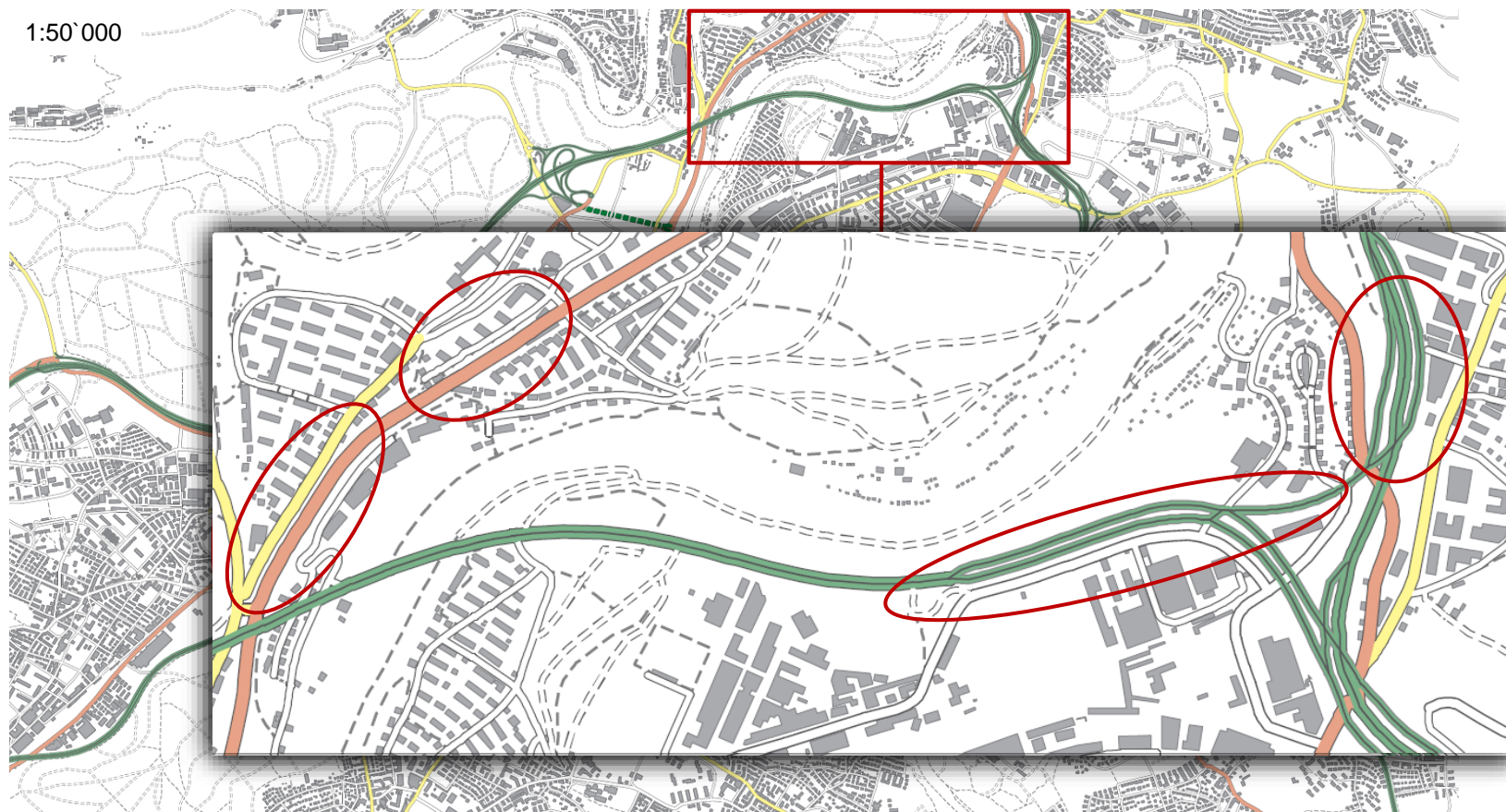
3 **Cartographic Generalisation: Buildings**

+ Propagate Displacement Tool

+ Resolve Building Conflict Tool
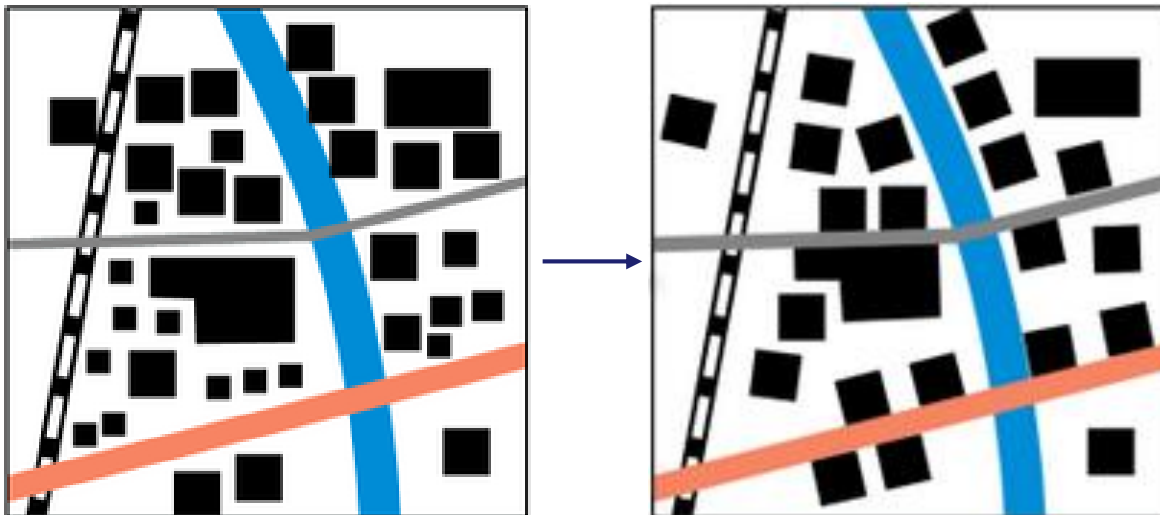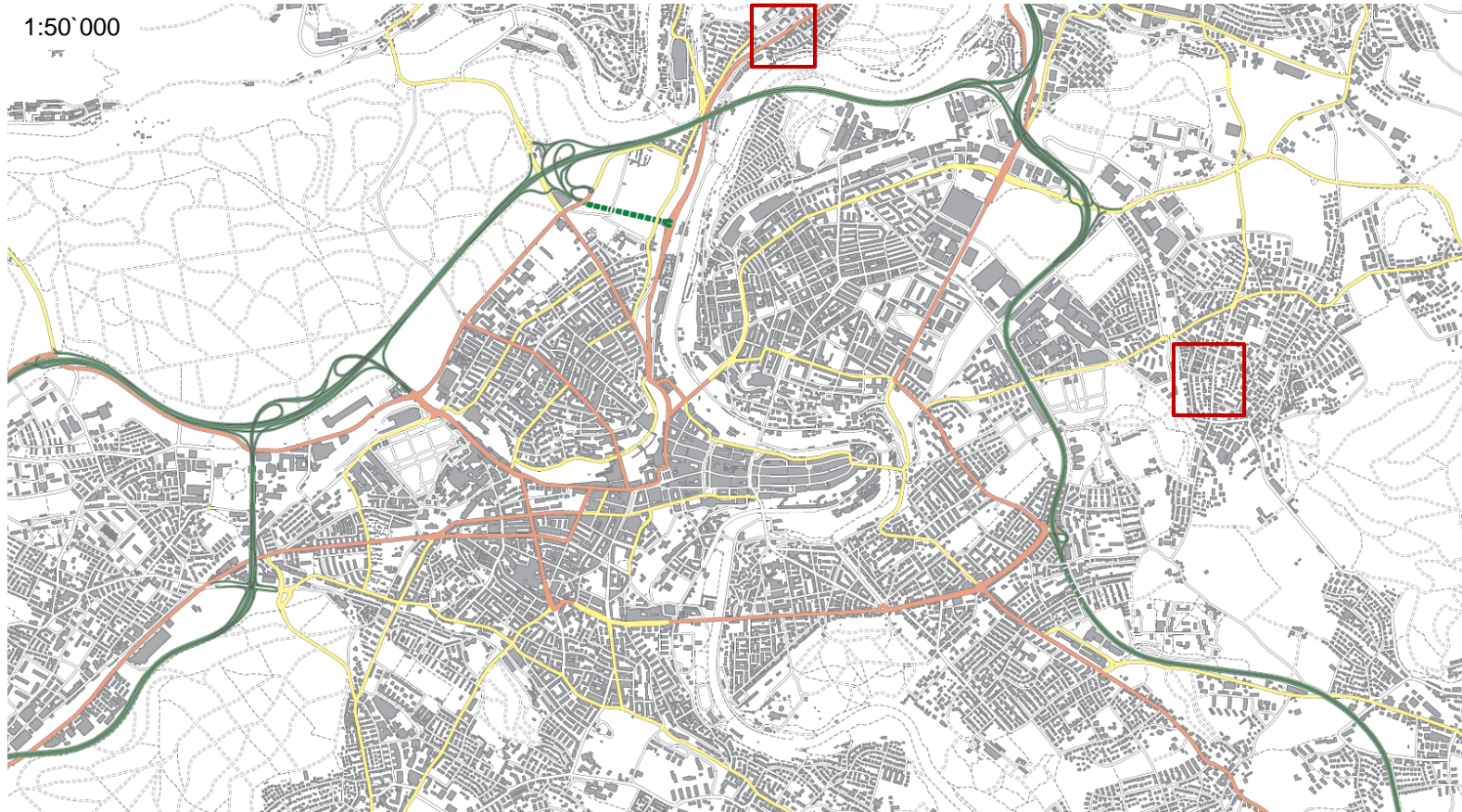
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Cartographic Generalisation: Buildings

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Cartographic Generalisation: Buildings

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Cartographic Generalisation: Roads and Buildings

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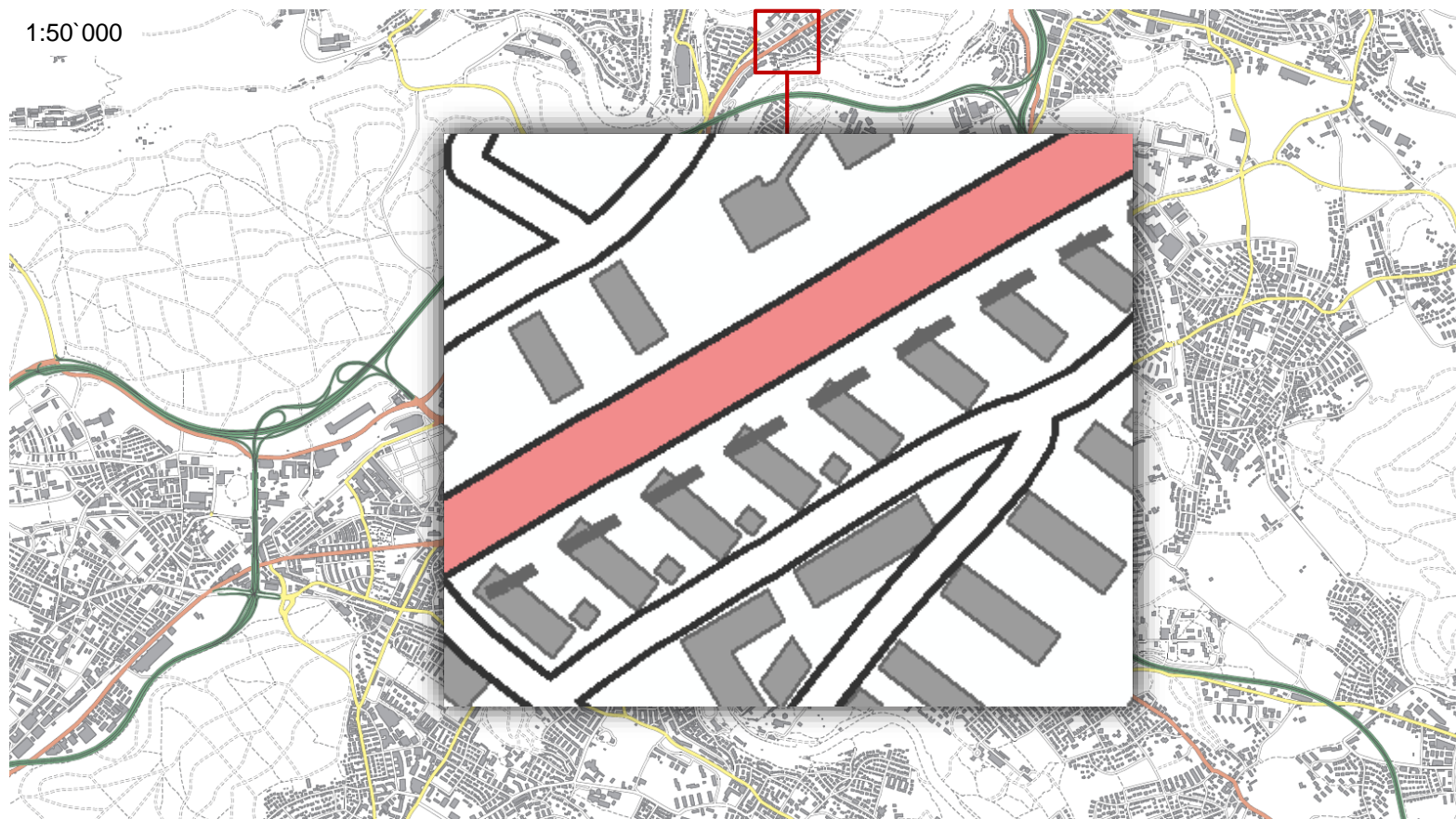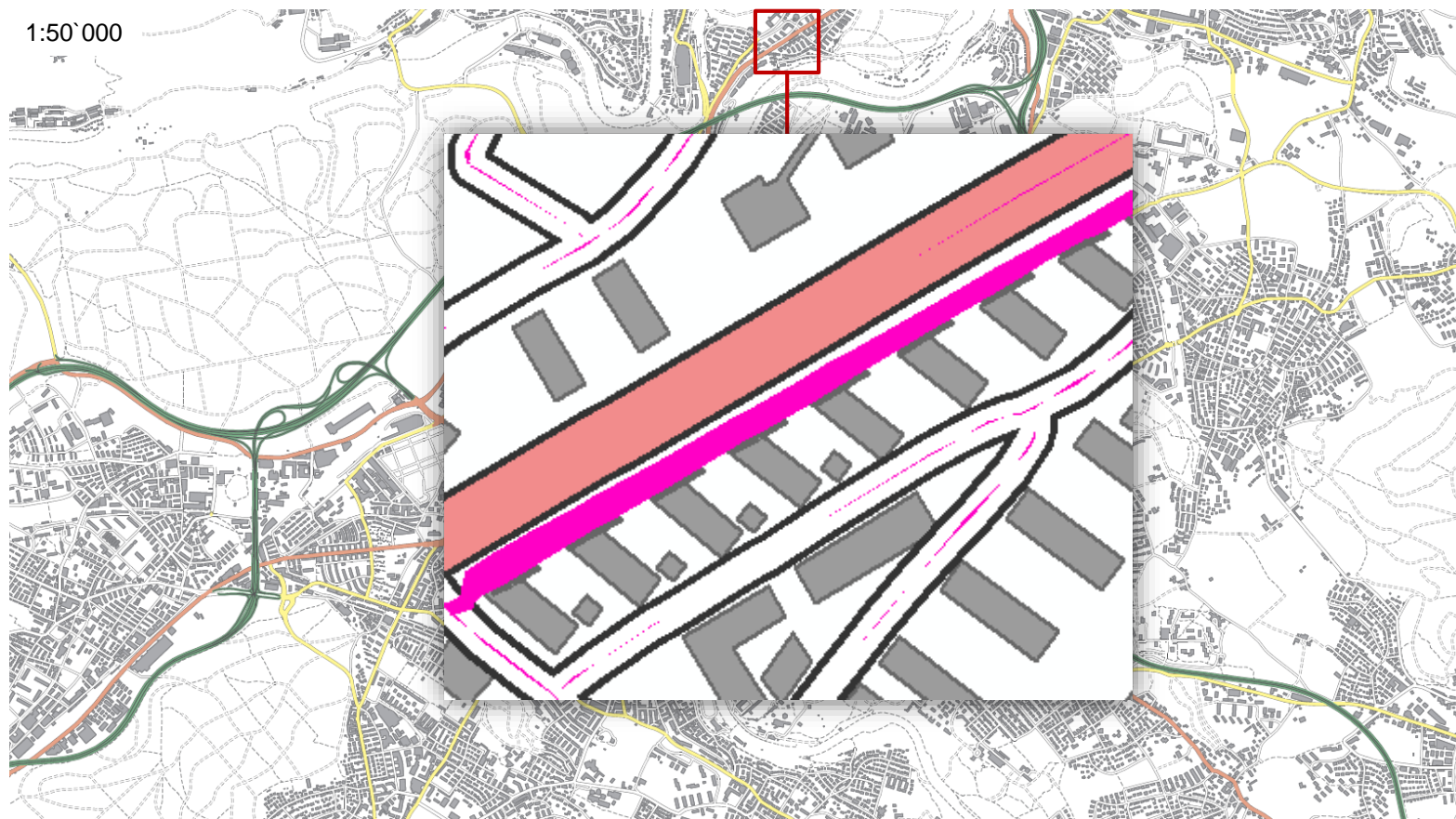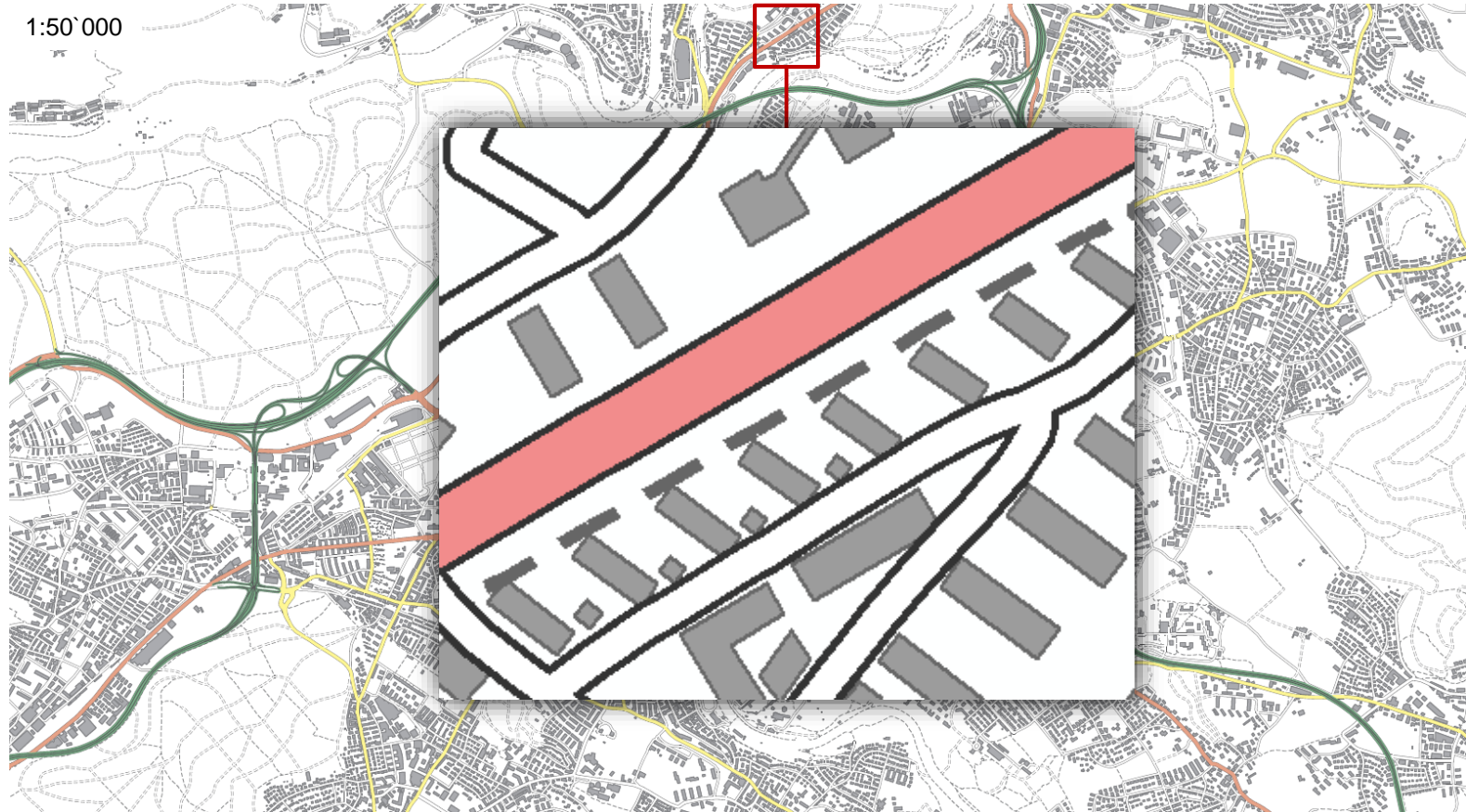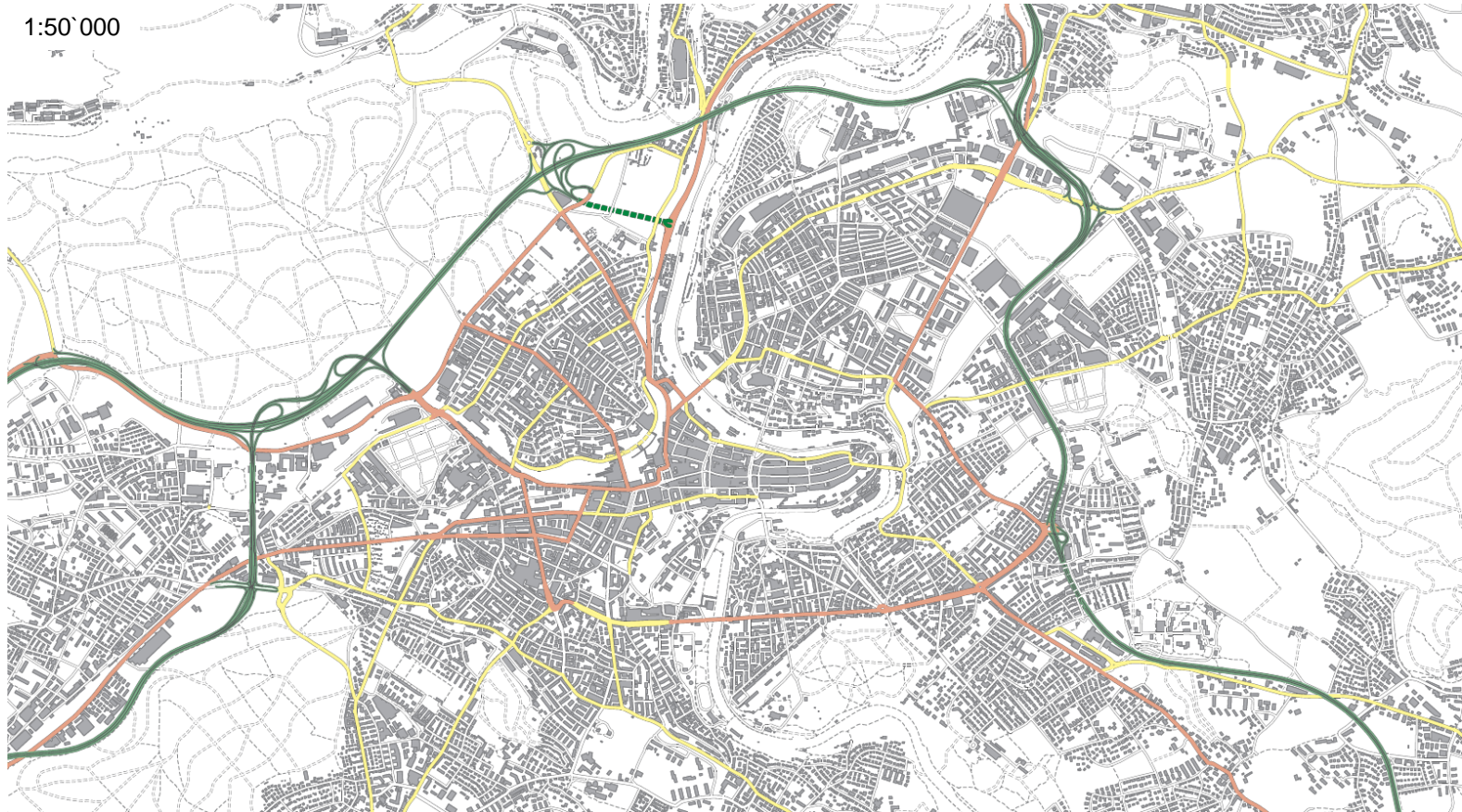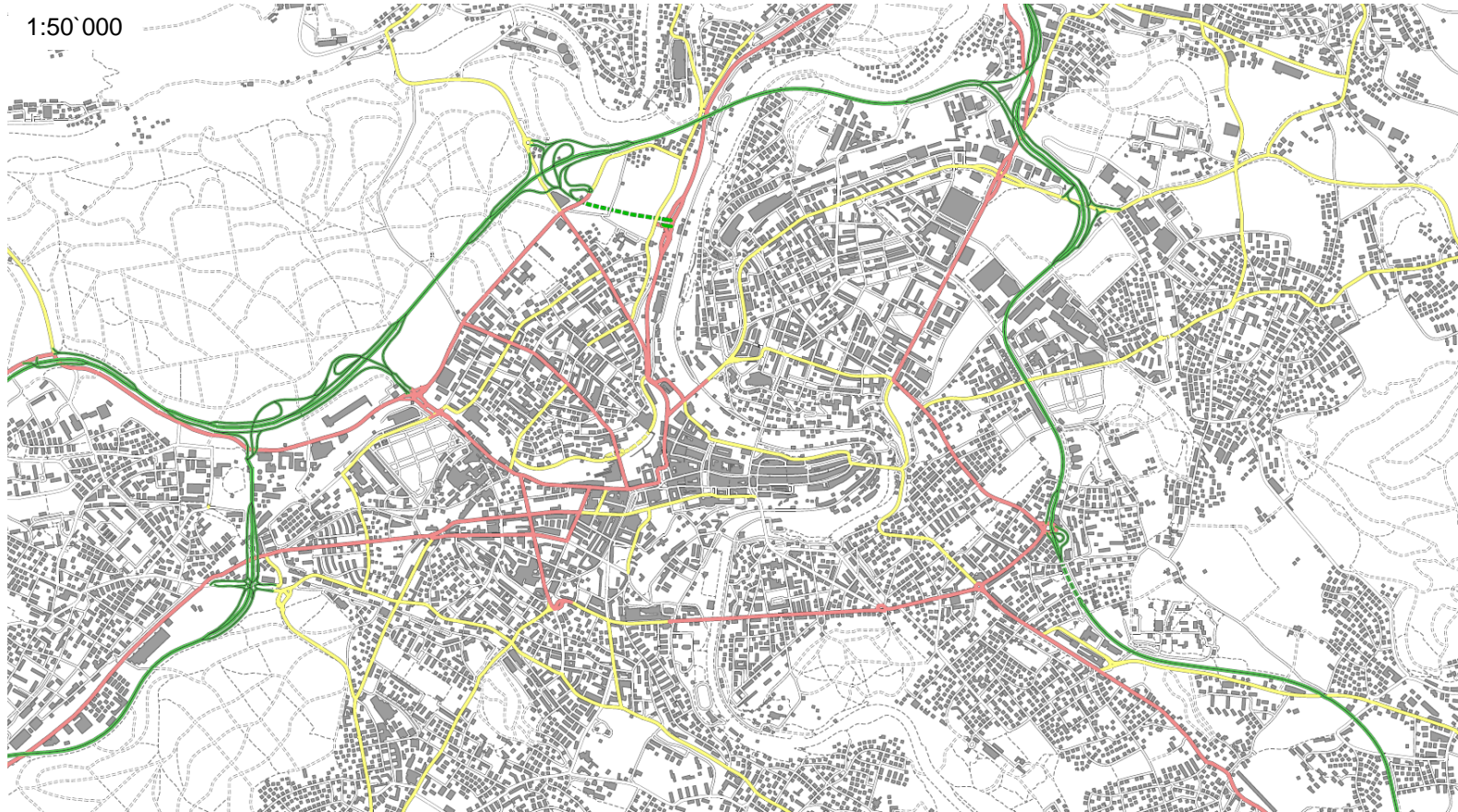
③ Automated Processing: CartoProcesses

Quality Control
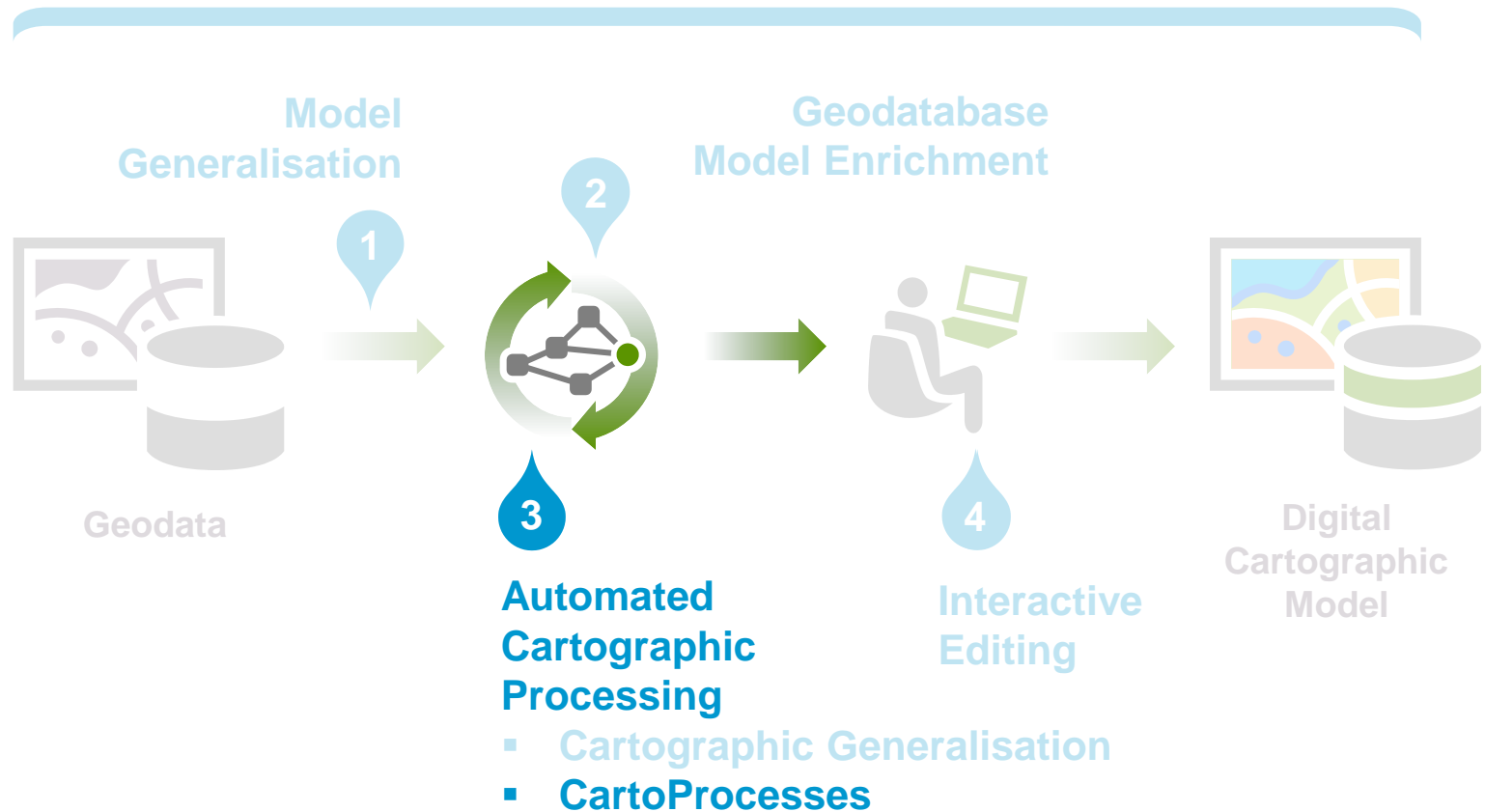
Model Generalisation

Geodatabase Model Enrichment

Geodata

Automated Cartographic Processing

- Cartographic Generalisation
- **CartoProcesses**

Interactive Editing

Digital Cartographic Model
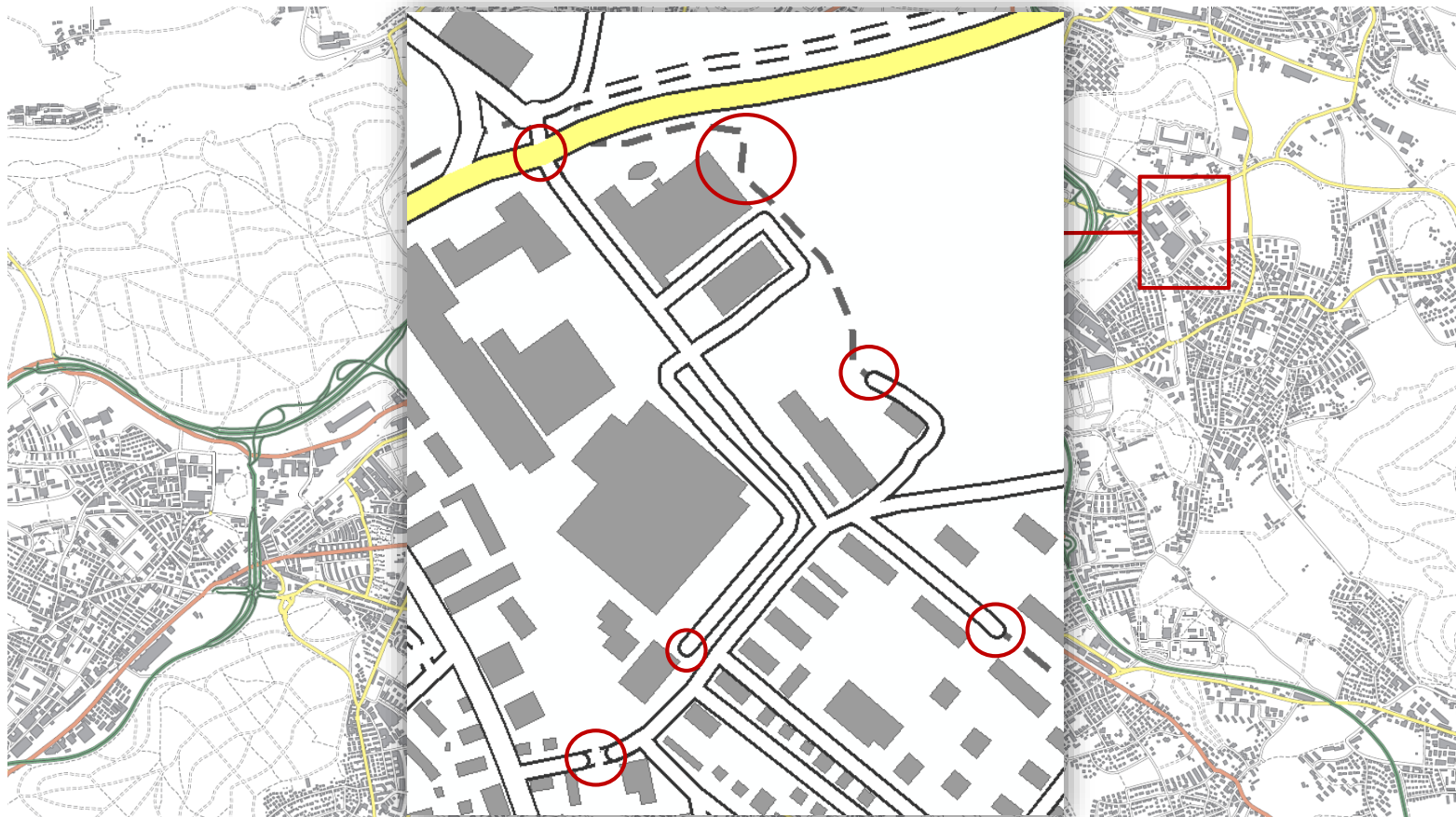
Automated Processing: CartoProcesses

+ Over 20 Processes for a better cartographic finish

3 Automated Processing: CartoProcesses
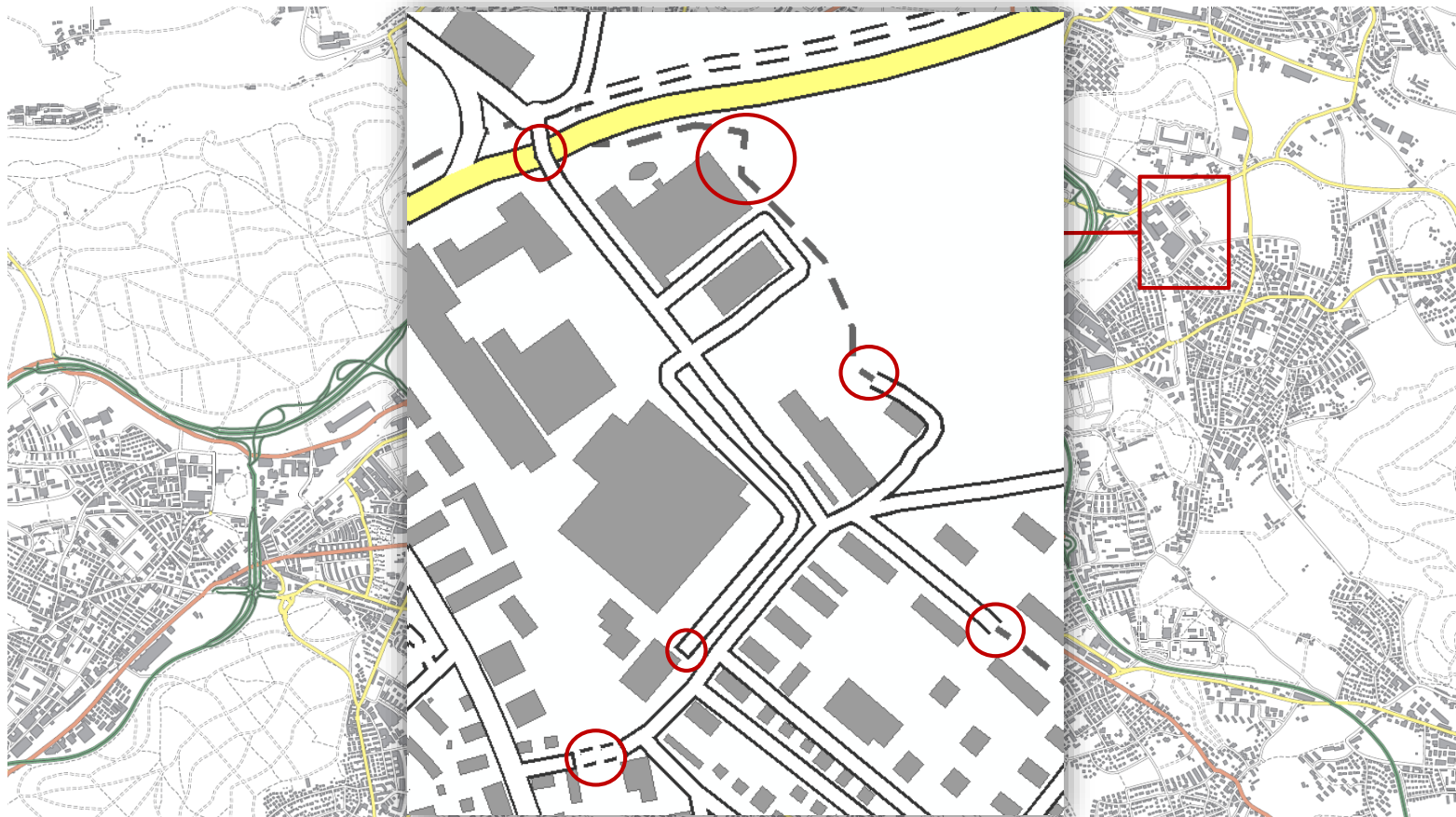
+ **Over 20 Processes for a better cartographic finish**

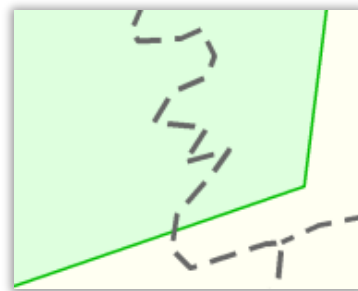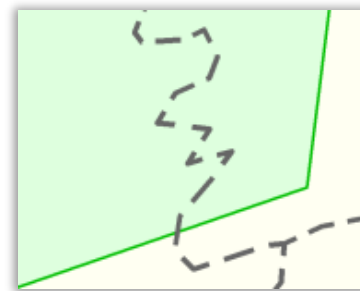# Automated Processing: CartoProcesses

+ Over 20 Processes for a better cartographic finish

Before

After

Before

After

Before

After

Before

After

④ **Interactive Editing**

Quality Control

Model Generalisation

Geodatabase Model Enrichment

① ②

Geodata

③

Automated Cartographic Processing
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④ **Interactive Editing**

Digital Cartographic Model

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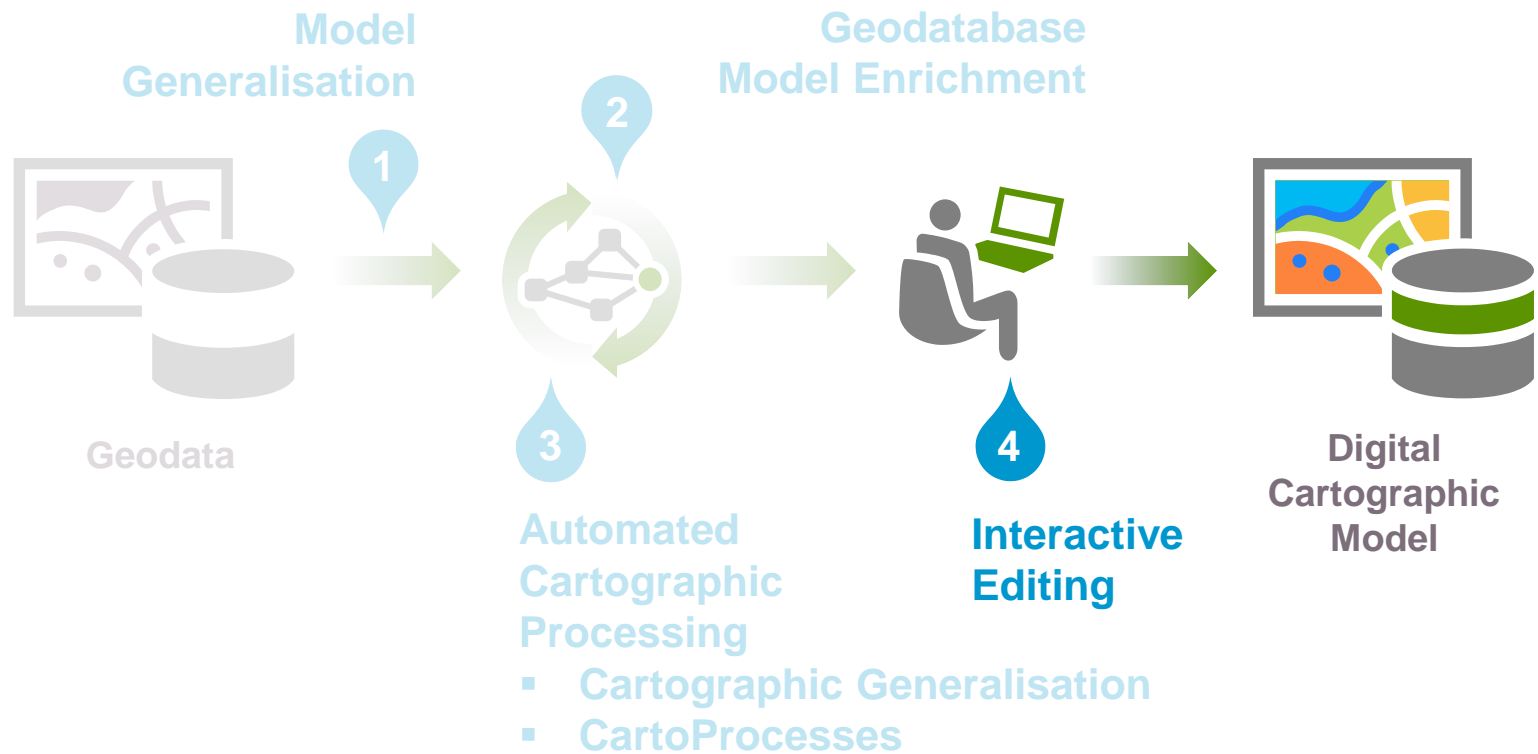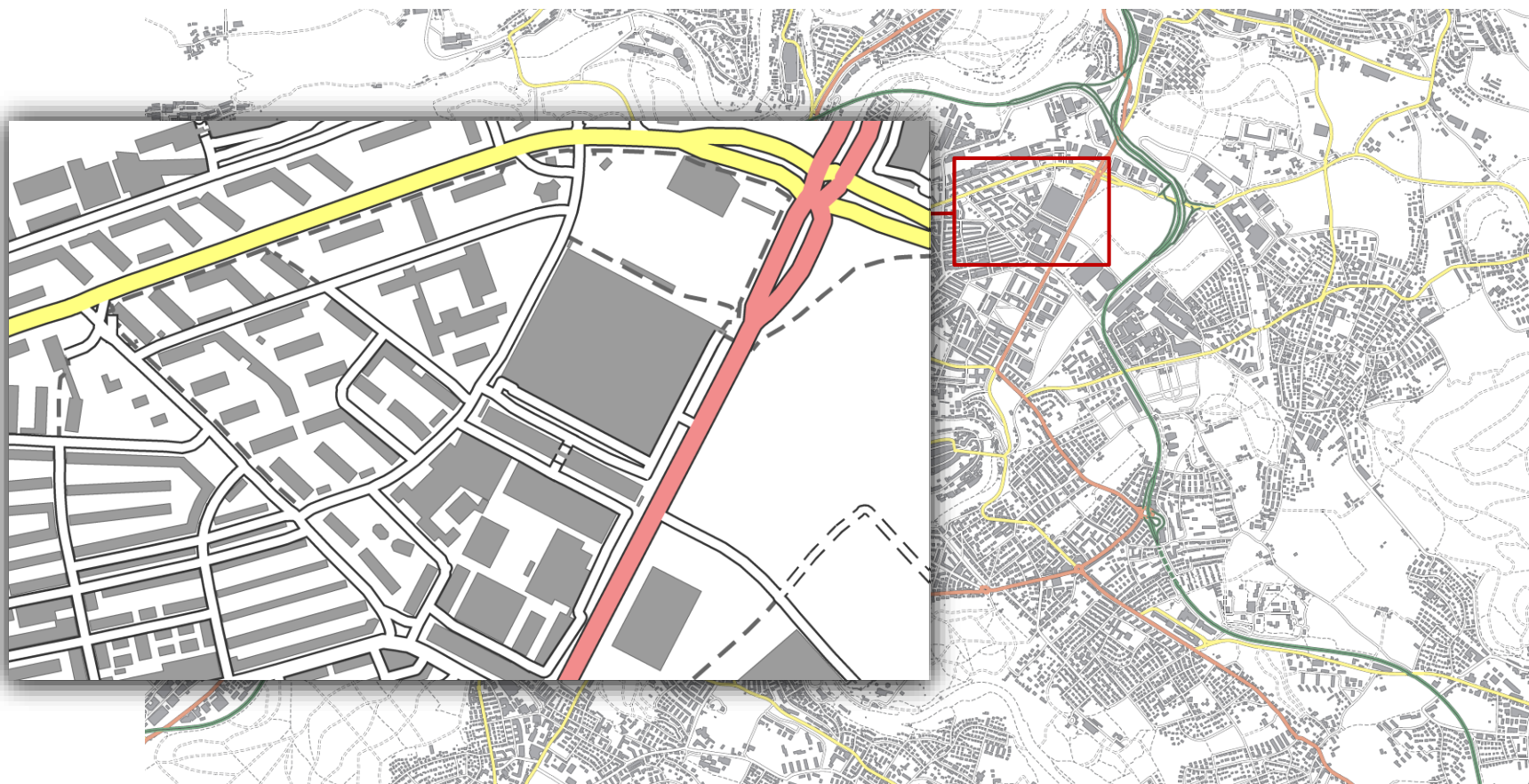
4 **Interactive Editing**

+ **One-Click Editing Tools for efficiency**
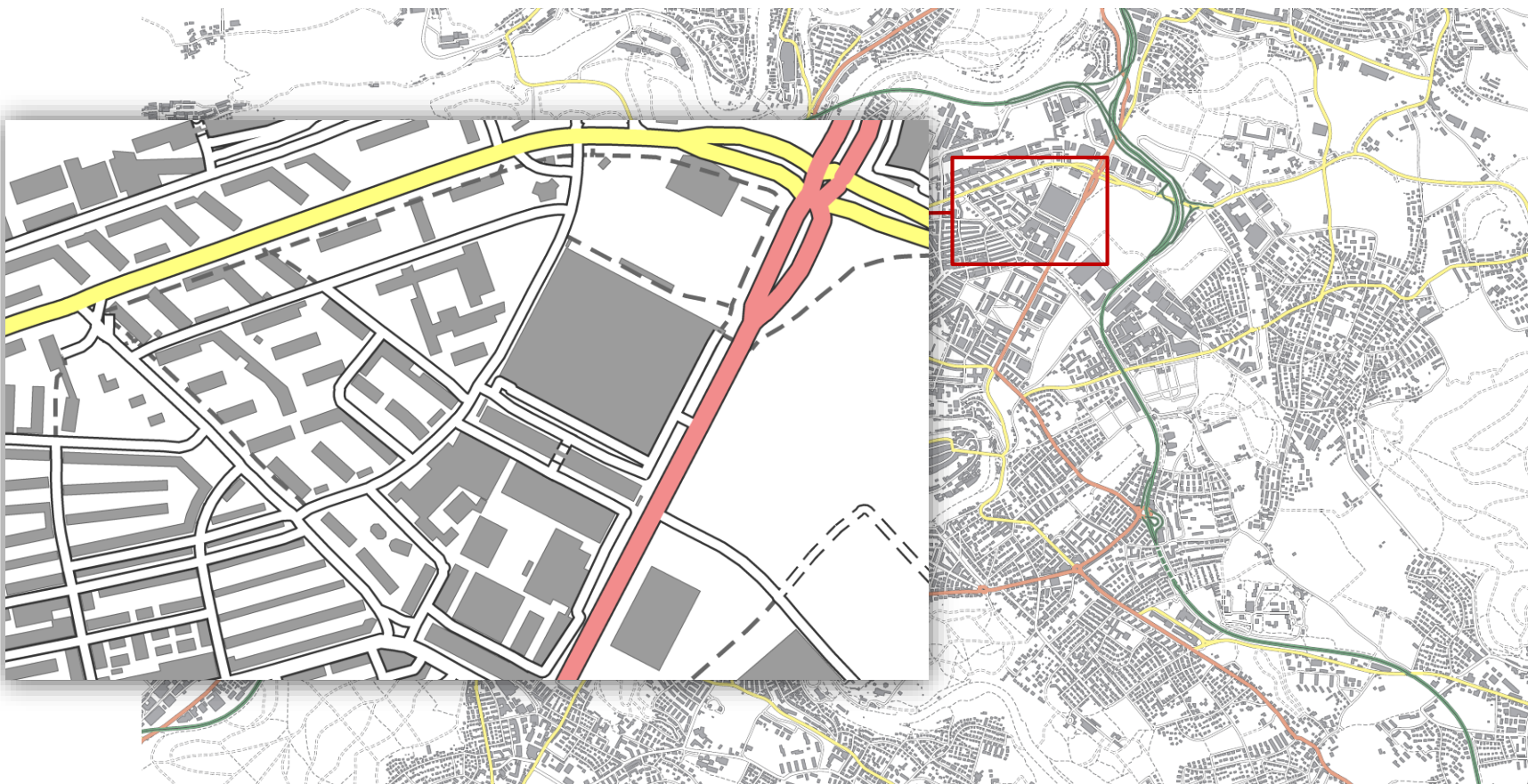
④ Interactive Editing

+ **One-Click Editing Tools for efficiency**

Challenging Cartography within a single system

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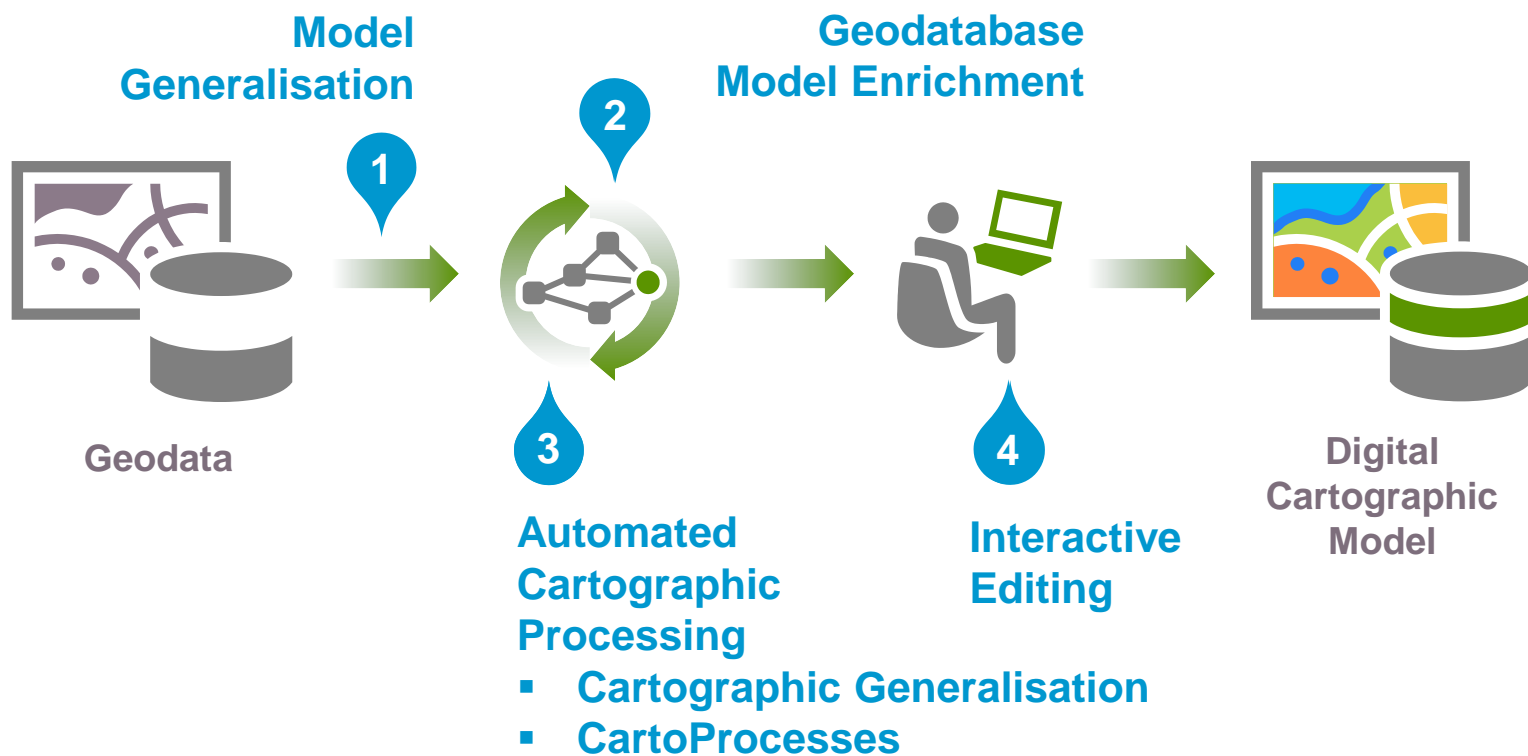
Takeaways!

+ The Esri Platform offers:

    > Model generalisation tools

    > Cartographic generalisation tools

    > Cartographic representations

+ Esri Switzerland offers:

    > Cartographic Project experience

    > A team of experienced cartographers

    > Specialised cartographic solutions

Thank you for listening and have a great Symposium

Any Questions?

esri Suisse

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Project Services

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