

Line On Line Relator

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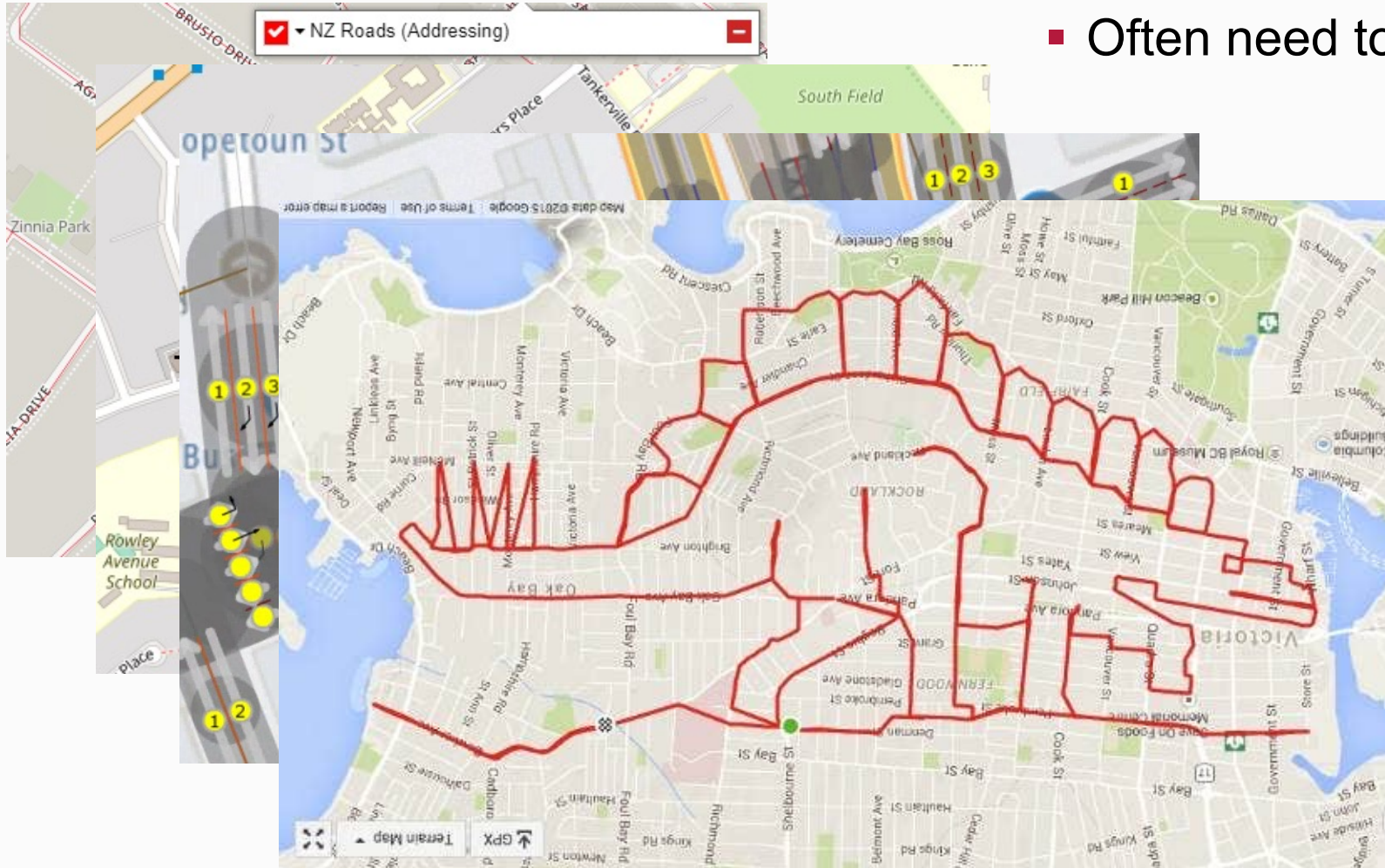
chris.tredinnick@abley.com



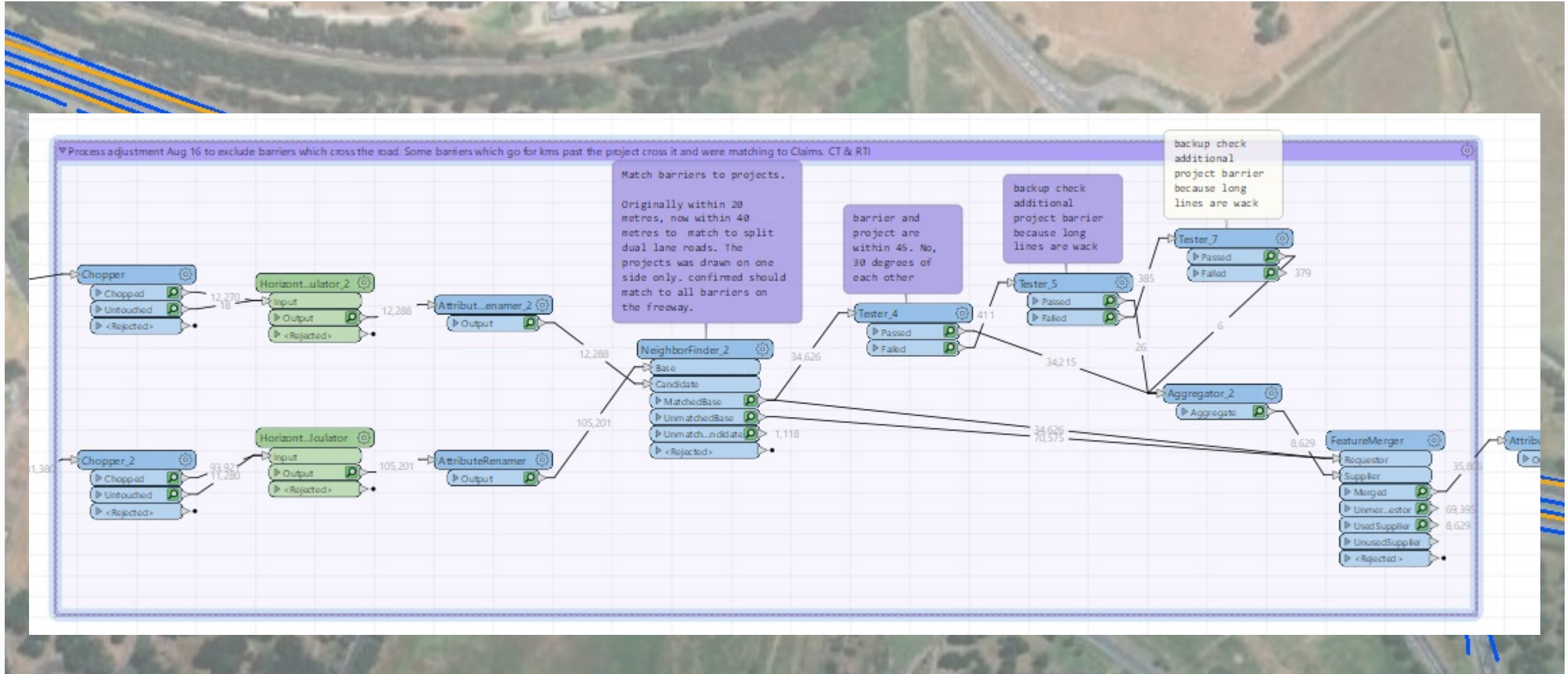
abley

We work with a lot of road data

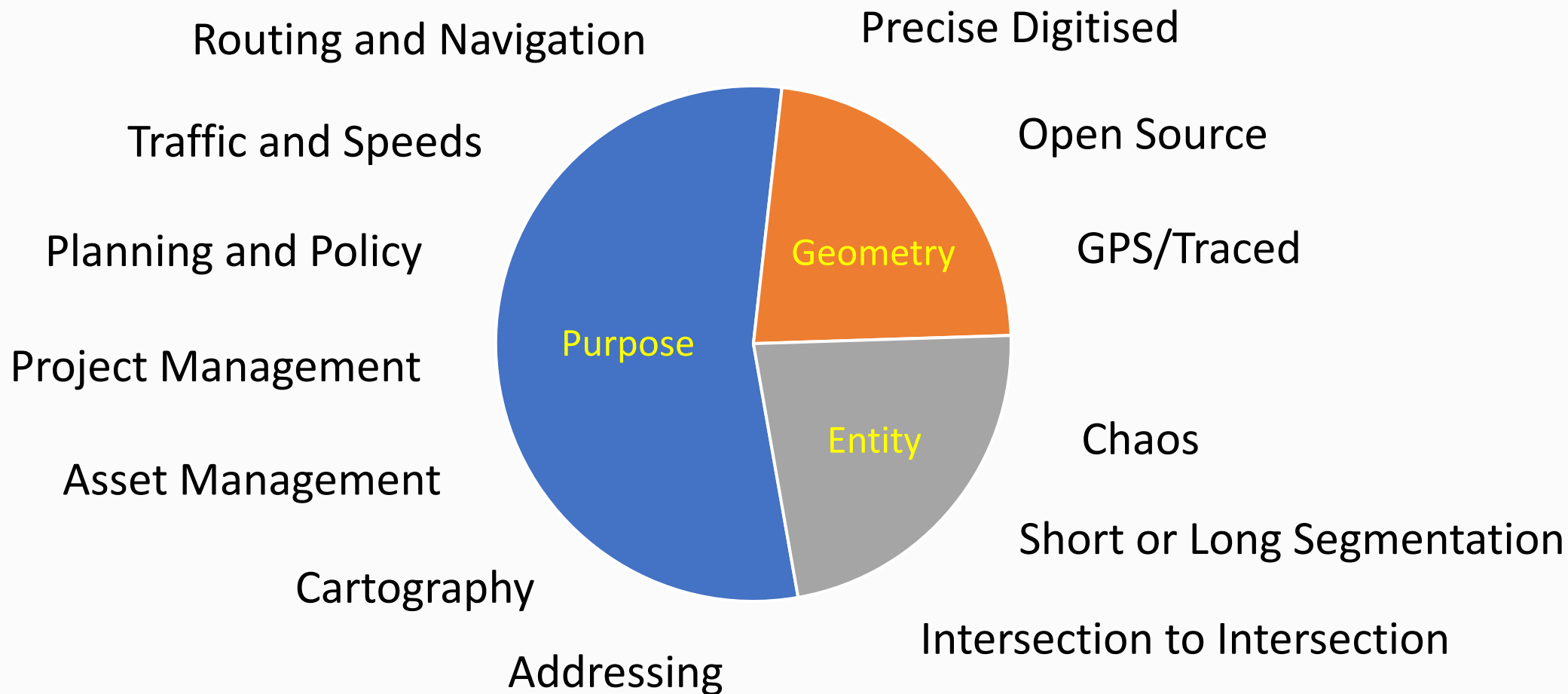
- Often need to combine/cross-validate data



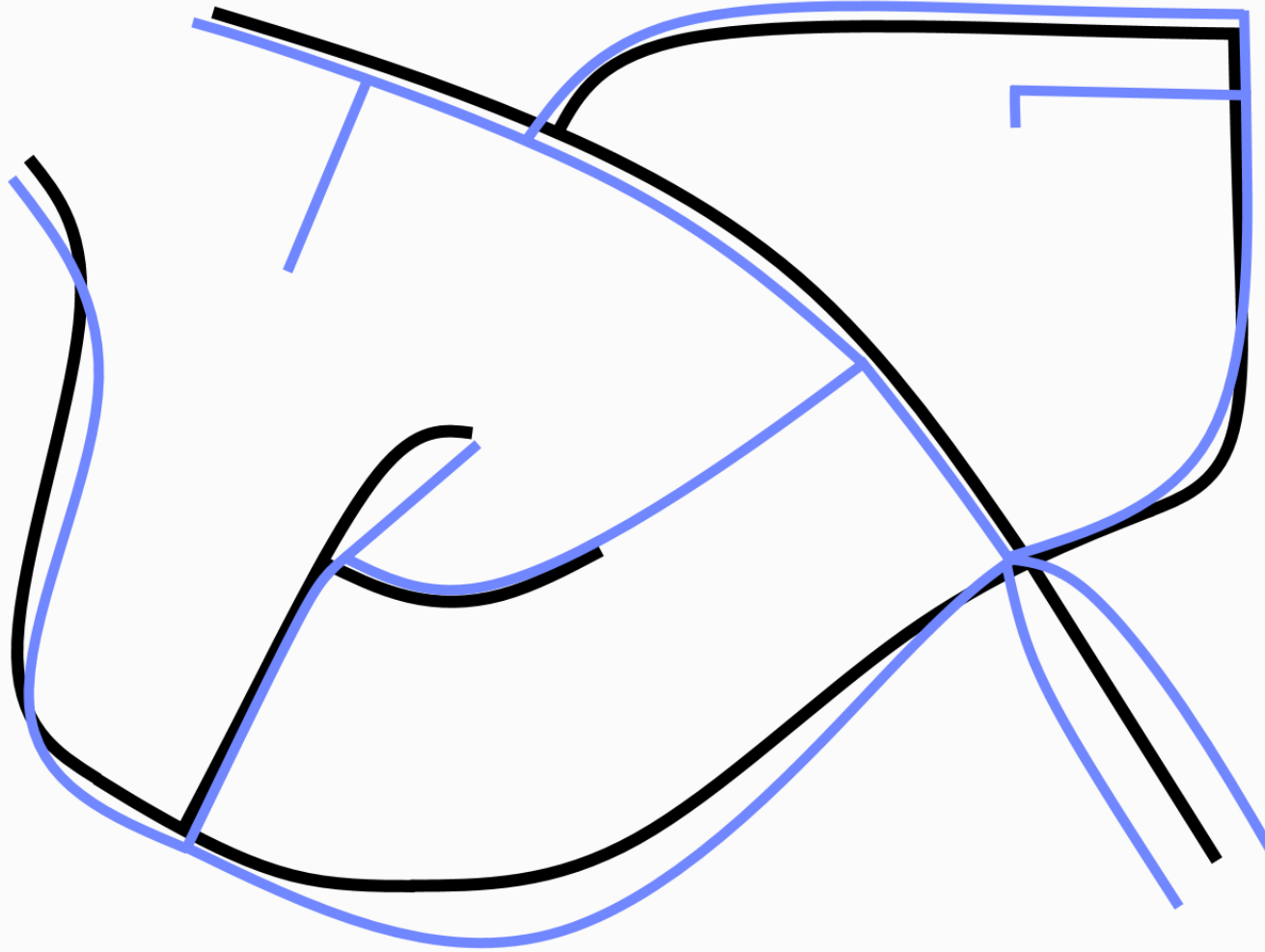
We work with a lot of road data



Different data sources



General Solution?



General Solution?

<https://community.safe.com/s/question/0D54Q00009IV7eLSAT/is-it-possible-to-calculate-the-average-distance-between-two-lines->



hkingsbury

a year ago

Here



Then using an intersector 'cut' C into three parts, then use a spatial filter to find the C segments that fall between A and B

On l
thos



per

now calculate
the C lines.



takashi

Edited February 11, 2022 at 2:59 AM

Hi @katt , here is another approach. The basic concept is:

average distance = area between the two lines / longer axis length of the area

The attached workspace is an implementation example.



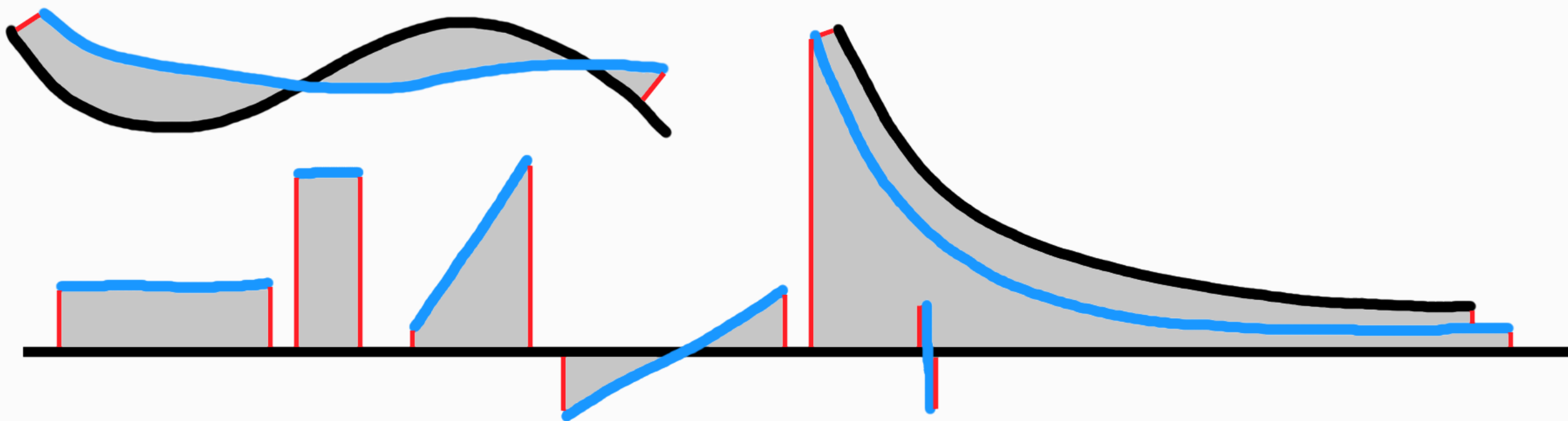
none2
77KB



average-distance
86KB

General Solution?

- Enclose the area between the lines, and approximate the average distance as Area divided by Length.
- This average distance is the maximum tolerance.
- Connector lines and area ratio can filter out bad matches.



Transformer Refinement

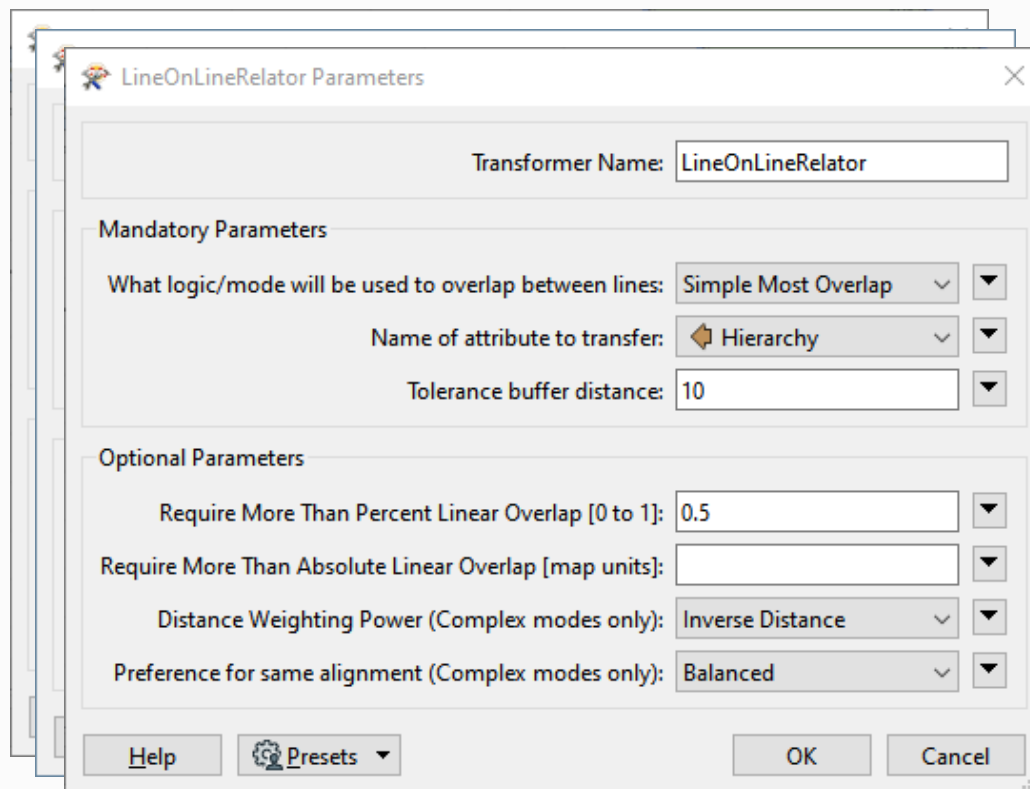
- Add in basic overlap functionality.
- Reverse approach of area on line to line on area. Whole thing was back to front.
- Rename all overlap modes and their descriptions to be better
 - First user testing with the team required a lot of explaining.
- Rename all ports to be like a FeatureMerger.
 - It's kind of similar!
- Adjust function and formulas of tolerances from testing with different datasets.
 - Every dataset is different. Expect to find anything.
- More parameterisation.
- Testing Testing Testing! Make fault-tolerant.

A Note on Usage

ID: 1567
Speed: 50
Hierarchy: Arterial

ID: 3065
Speed: 50
Hierarchy: Arterial

ID: 55489
Speed: 80
Hierarchy: Arterial



LineOnLineRelator Parameters

Transformer Name: LineOnLineRelator

Mandatory Parameters

What logic/mode will be used to overlap between lines: Simple Most Overlap

Name of attribute to transfer: Hierarchy

Tolerance buffer distance: 10

Optional Parameters

Require More Than Percent Linear Overlap [0 to 1]: 0.5

Require More Than Absolute Linear Overlap [map units]:

Distance Weighting Power (Complex modes only): Inverse Distance

Preference for same alignment (Complex modes only): Balanced

Help Presets OK Cancel

LineOnLineRelator Parameters

Transformer Name: LineOnLineRelator

Mandatory Parameters

What logic/mode will be used to overlap between lines: Complex Closest Single Match

Name of attribute to transfer: OBJECTID

Tolerance buffer distance: 10

Optional Parameters

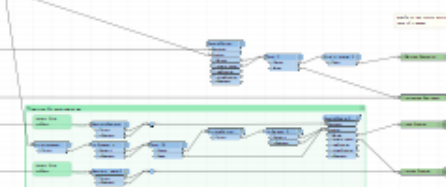
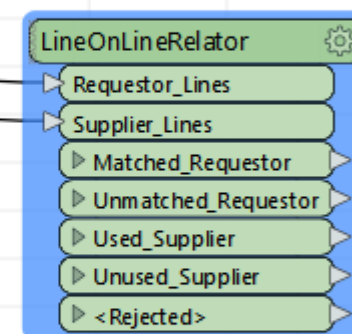
Require More Than Percent Linear Overlap [0 to 1]: 0.75

Require More Than Absolute Linear Overlap [map units]: 5

Distance Weighting Power (Complex modes only): Inverse Distance

Preference for same alignment (Complex modes only): Balanced

Help Presets OK Cancel



<https://hub.safe.com/publishers/abley-limited/transformers/lineonlinerelator>

QUESTIONS