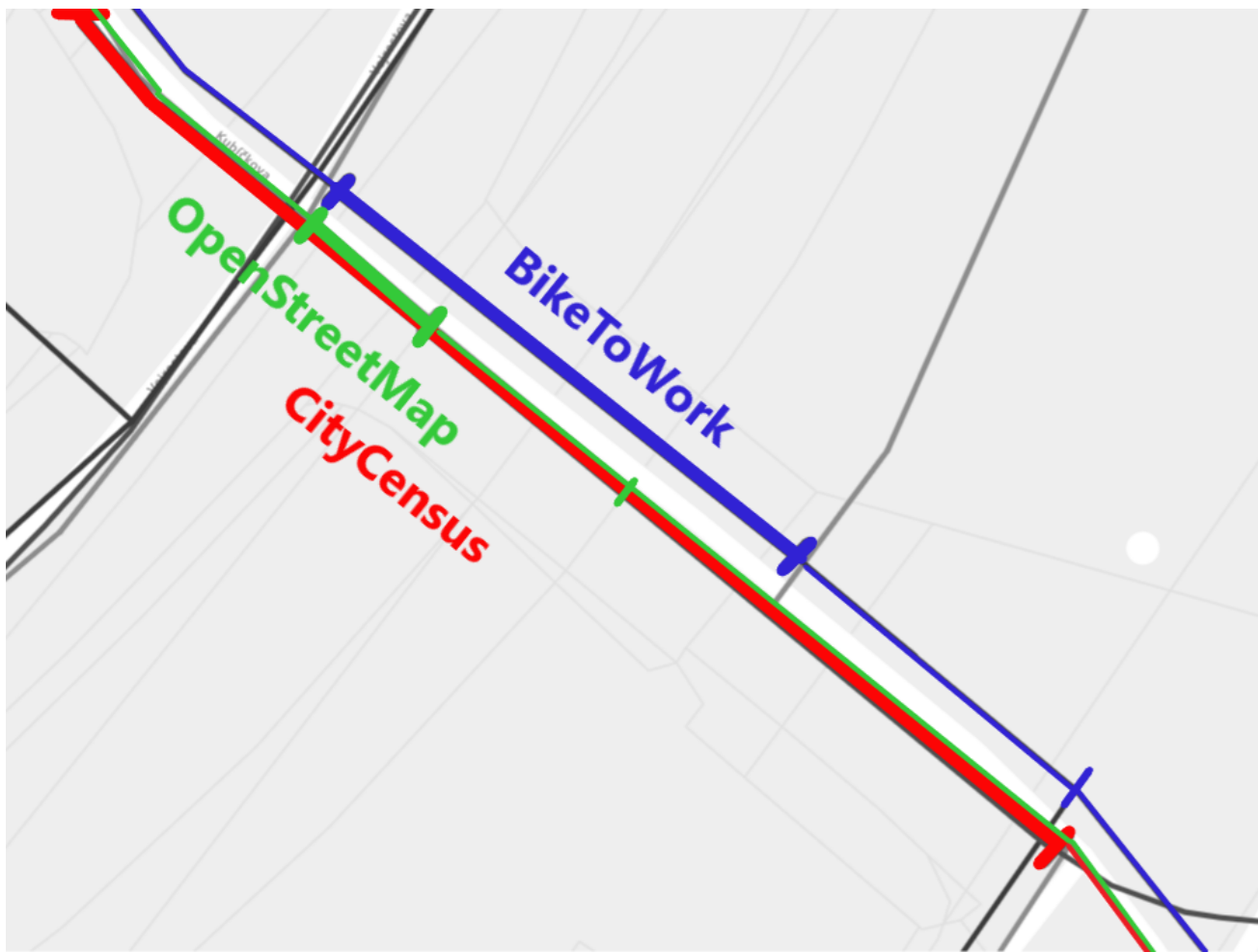# Model of Cycling Traffic Intensity in Brno
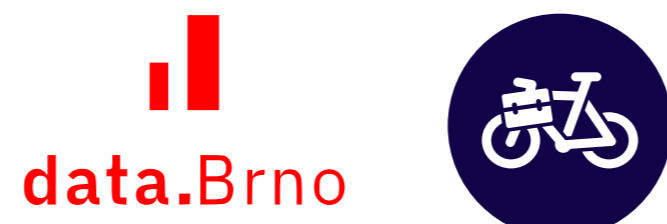
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Problem Definition

Each dataset is aggregated to a different basemap.

- Automatic sensors
- BikeToWork campaign
- Cycling census
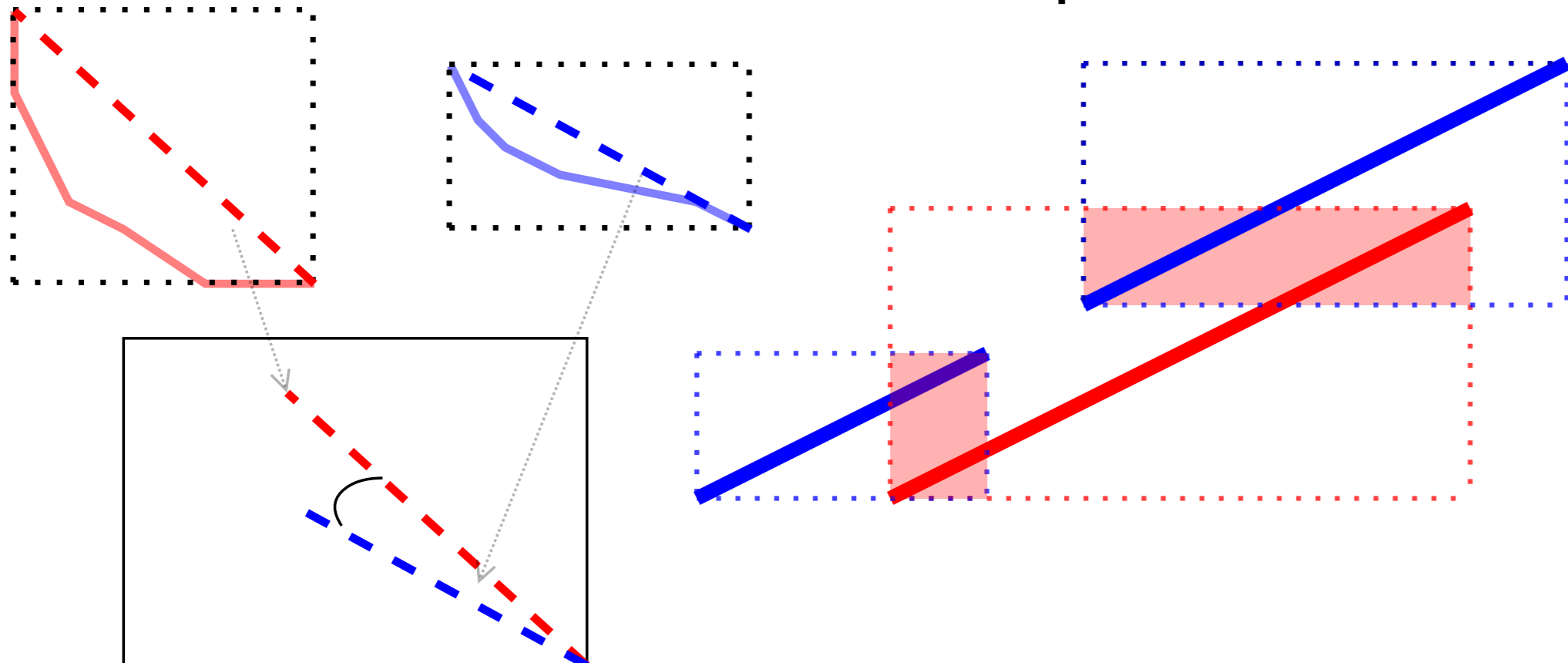- Strava app

data.Brno

STRAVA | METRO

Brněnské komunikace

Inconsistencies among basemaps.
- different partitioning
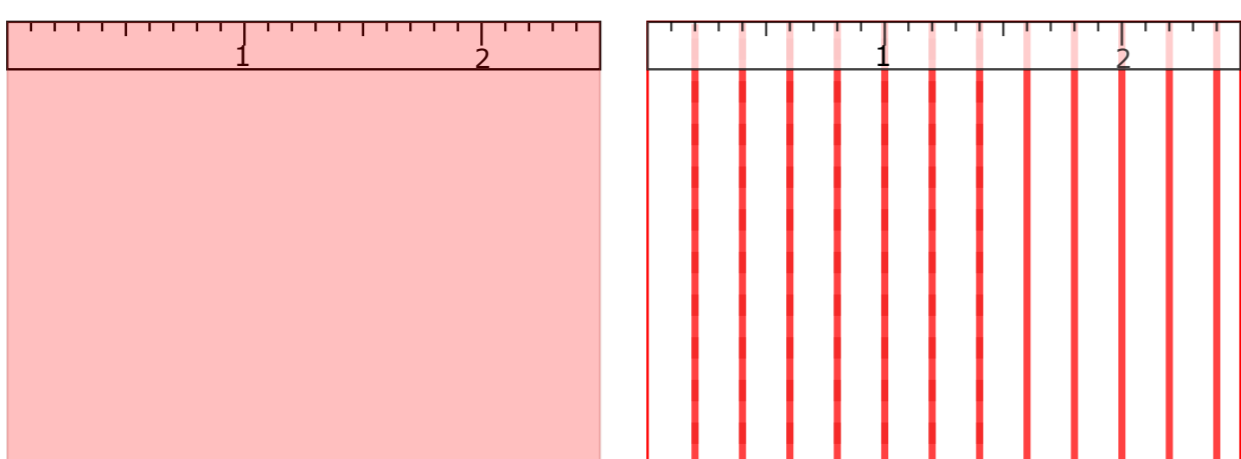- offset between the same streets
- divergent angles

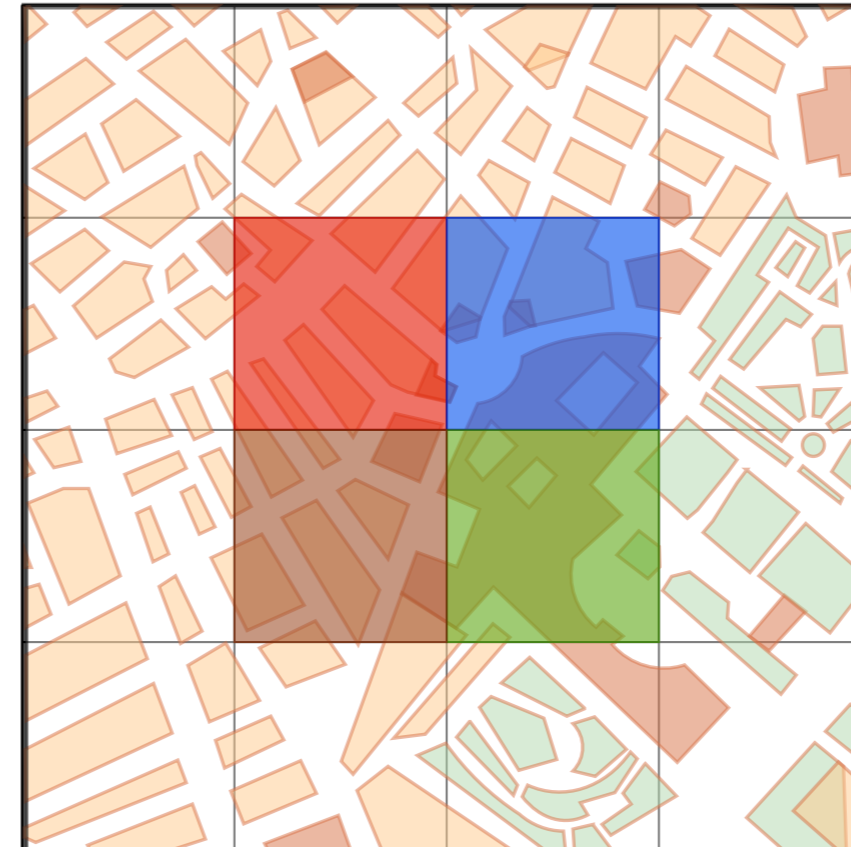## Algorithm for Street Matching

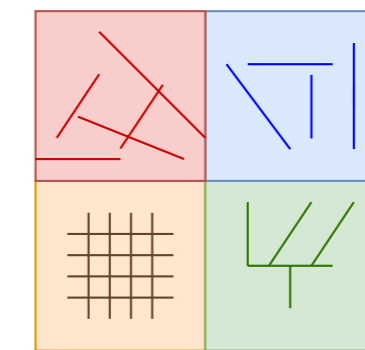Angle between polylines

Overlap between buffers

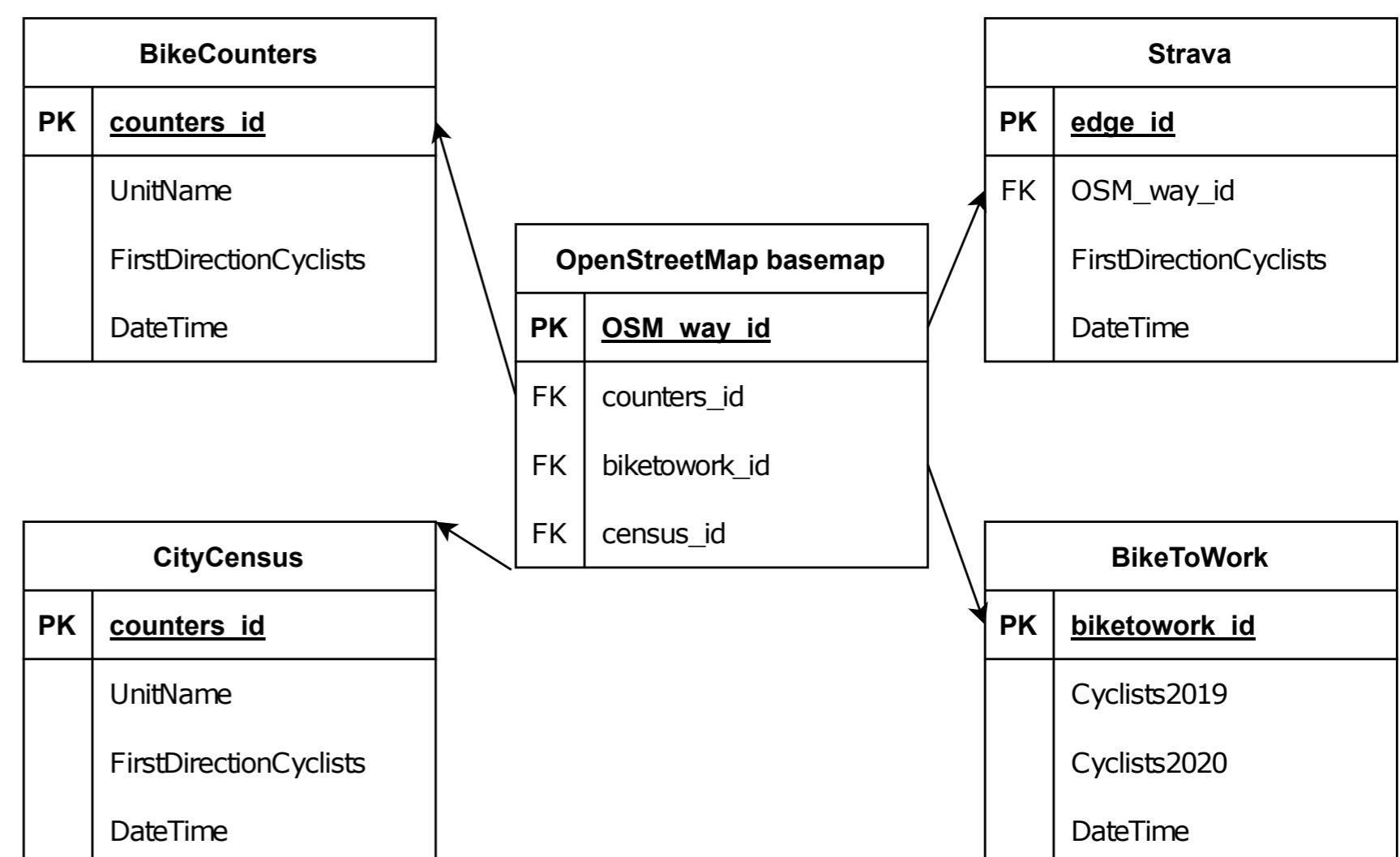Offset by coordinates roundup (continuous to discrete space)

Segmentation Optimalization

Maps are split into segments.

Streets are compared only to those in same segment.

Data Model

BikeCounters	
PK	counters_id
	UnitName
	FirstDirectionCyclists
	DateTime

Strava	
PK	edge_id
FK	OSM_way_id
	FirstDirectionCyclists
	DateTime

OpenStreetMap basemap	
PK	OSM_way_id
FK	counters_id
FK	biketowork_id
FK	census_id

CityCensus	
PK	counters_id
	UnitName
	FirstDirectionCyclists
	DateTime

BikeToWork	
PK	biketowork_id
	Cyclists2019
	Cyclists2020
	DateTime

OpenStreetMap basemap network = source of truth.
Datasets matched by
the proposed algorithm.
Output: OSM ID : Dataset ID map.

Dashboard

Dashboard uses ArcGIS integrated storage.
Endpoint datasets are managed by the Brno Data Department.
Dashboard pulls data from the storage by mapping their respective IDs.