

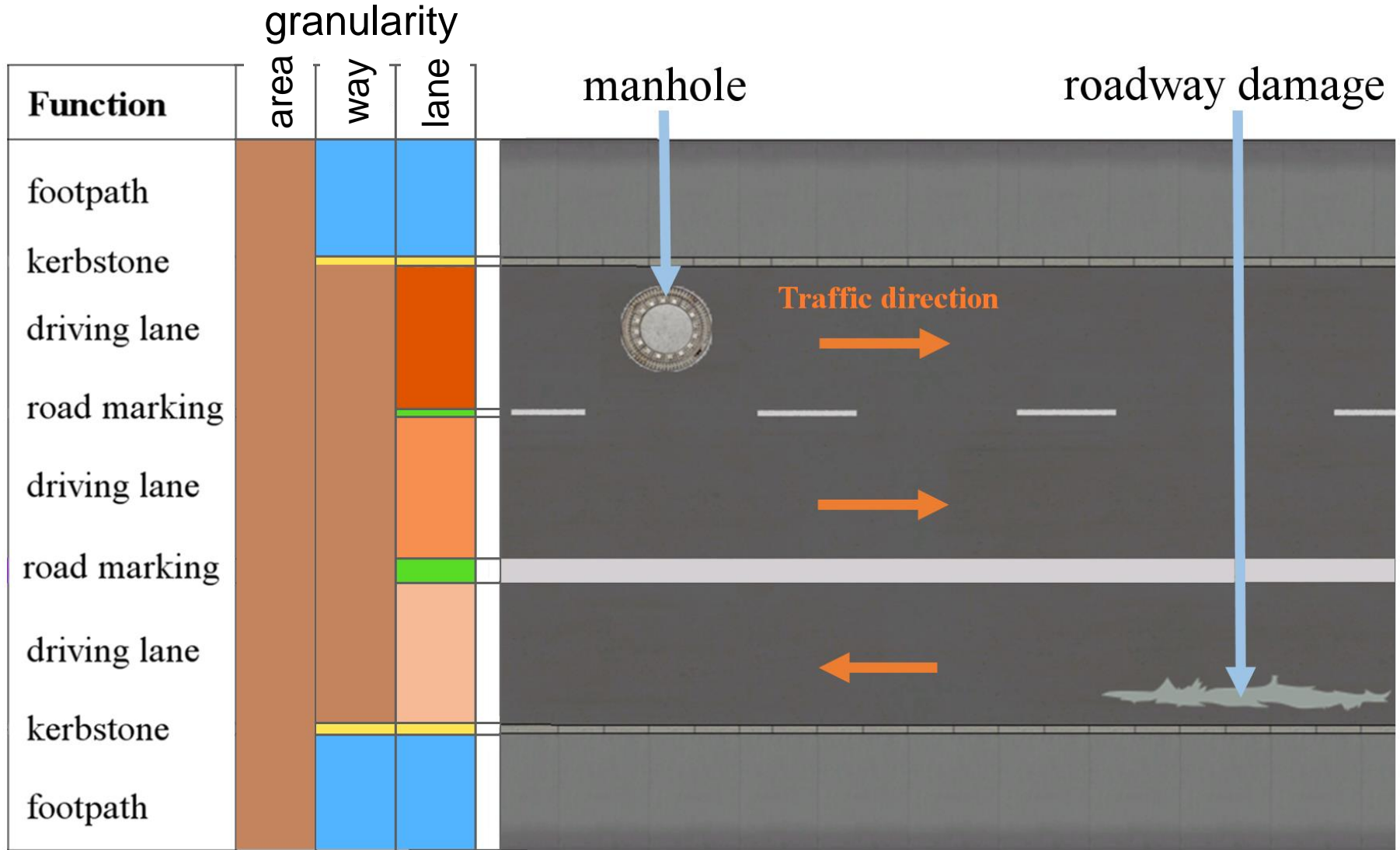
CityGML 3.0

Transportation Module

Changes in the CityGML Transportation Module

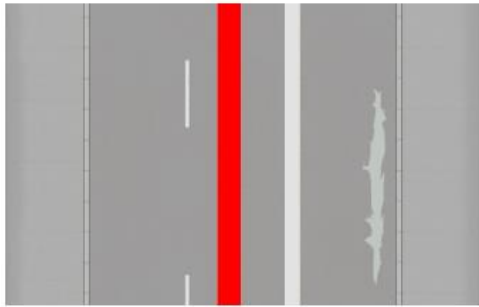
- ▶ Usage of the space concept
- ▶ Introduction of waterways
- ▶ Introduction of (road) markings and holes
- ▶ Introduction of clearance space
- ▶ Thematic separation of transportation objects like roads, railways, waterways into sections and intersections
- ▶ Introduction of three granularities: area, way, lane
 - all transportation objects (roads, railways, waterways, tracks) can be represented in three granularities: area, way, lane
 - graph + areal representations for all three granularities
 - data on 'lane' granularity usable for traffic & training simulations

Street Space Modelling in three Granularities

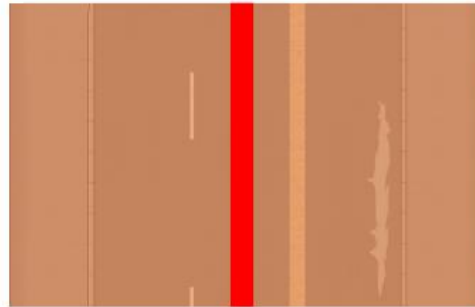


Street Space Modelling in three Granularities

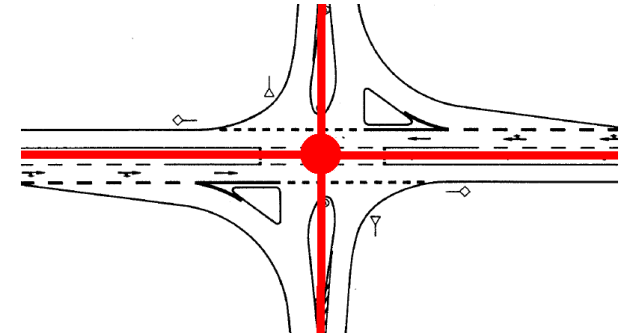
area



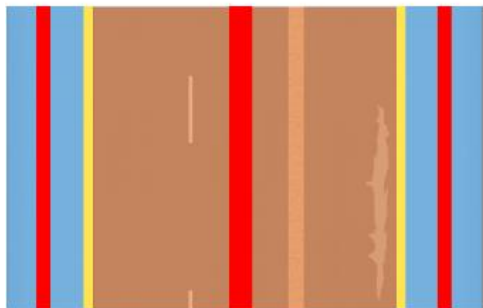
area



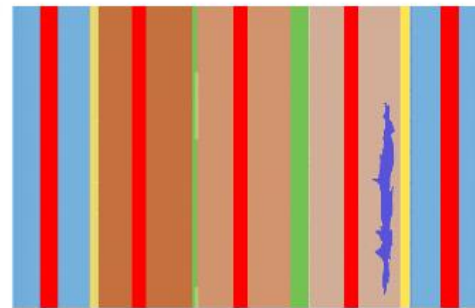
network on 'area' level



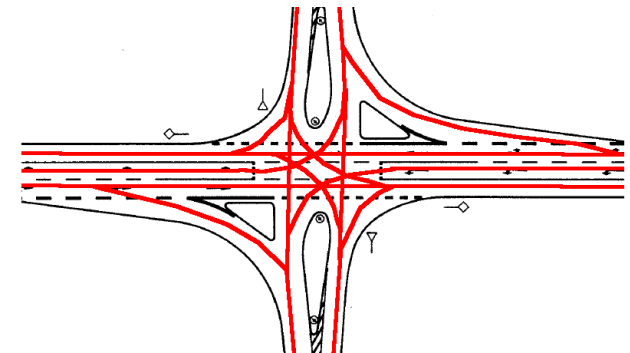
way



lane



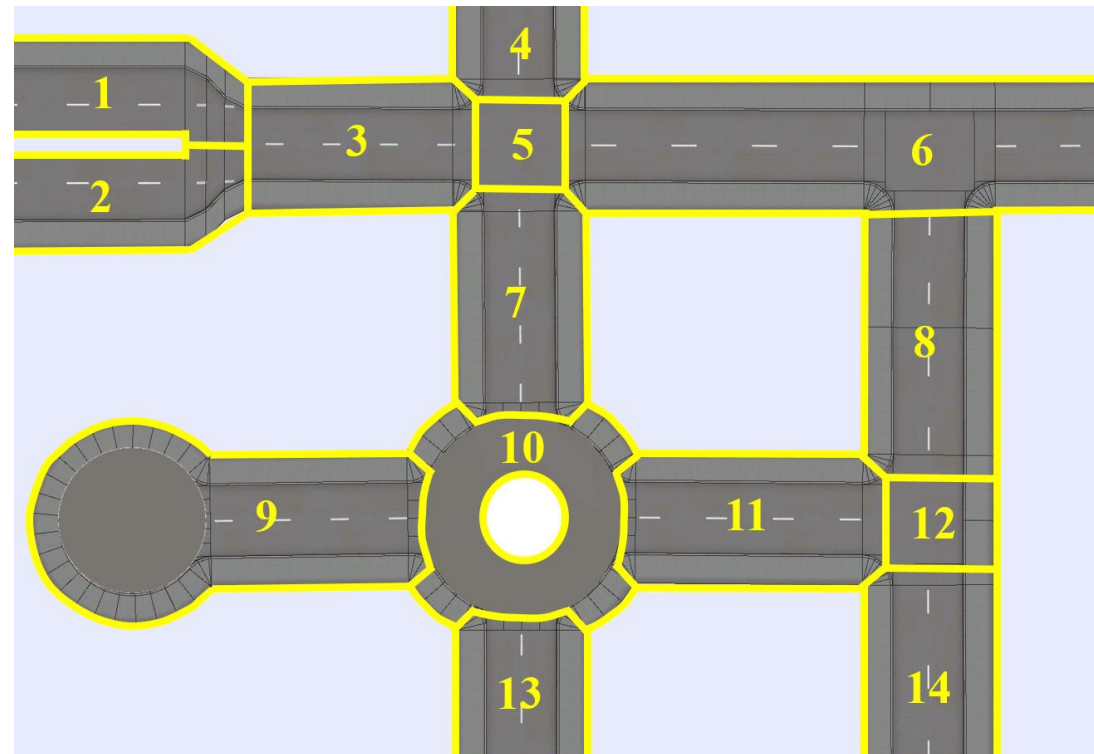
network on 'lane' level



- Linear representation
- Areal representation

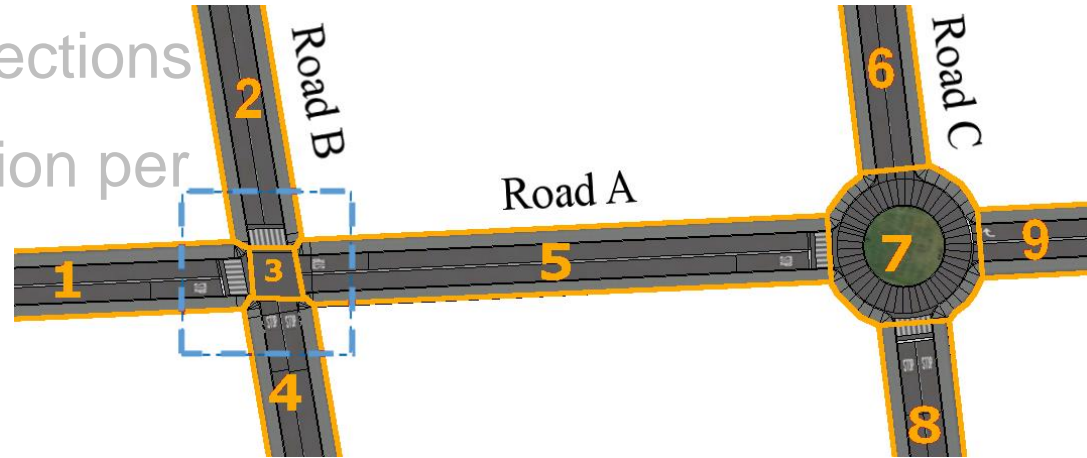
Street Space Modelling with CityGML 3.0

- ▶ New: subdivision into sections and intersections
- ▶ One section / intersection per
 - Road / Railway / Waterway segment
 - Road / Railway / Waterway intersection
 - Roundabout
 - Dead End
 - ...
- ▶ XLink Concept
- ▶ Each section can be divided into TrafficSpaces & AuxiliaryTrafficSpaces

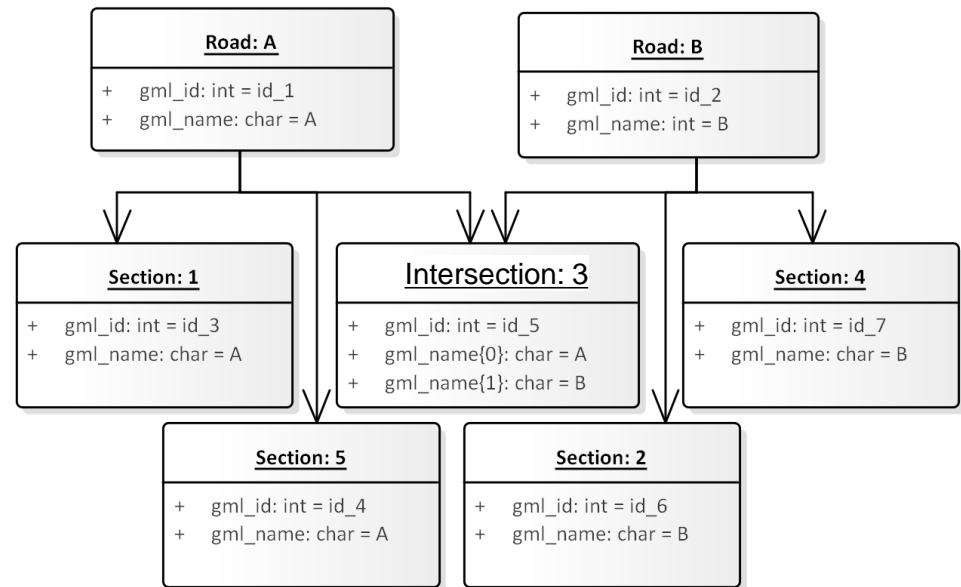


Street Space Modelling with CityGML 3.0

- ▶ New: sections & intersections
- ▶ One section / intersection per
 - Road / Railway / Waterway segment and intersection
 - Roundabout
 - Dead End



- ▶ Intersections belong to more than one Road (XLinks)
- ▶ Each section can be divided into TrafficSpaces & AuxiliaryTrafficSpaces

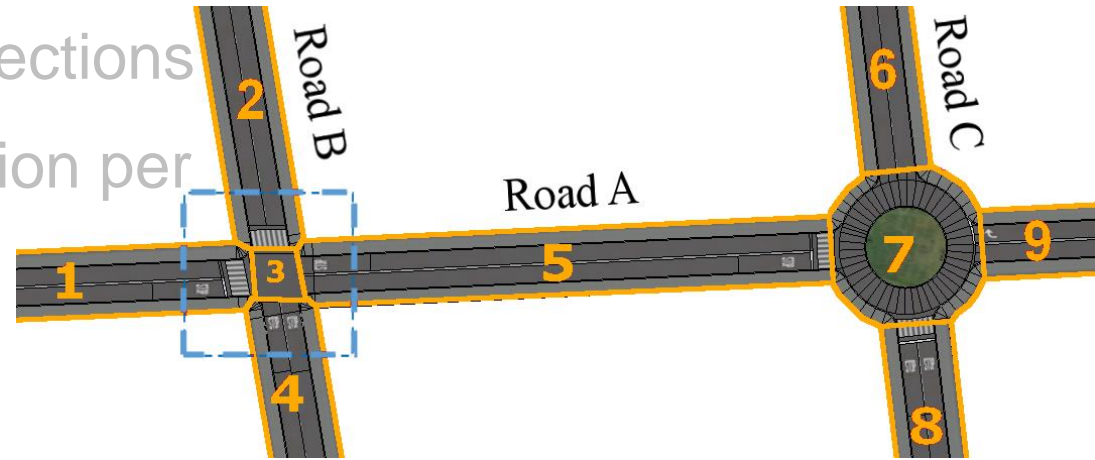


Street Space Modelling with CityGML 3.0

- ▶ New: sections & intersections

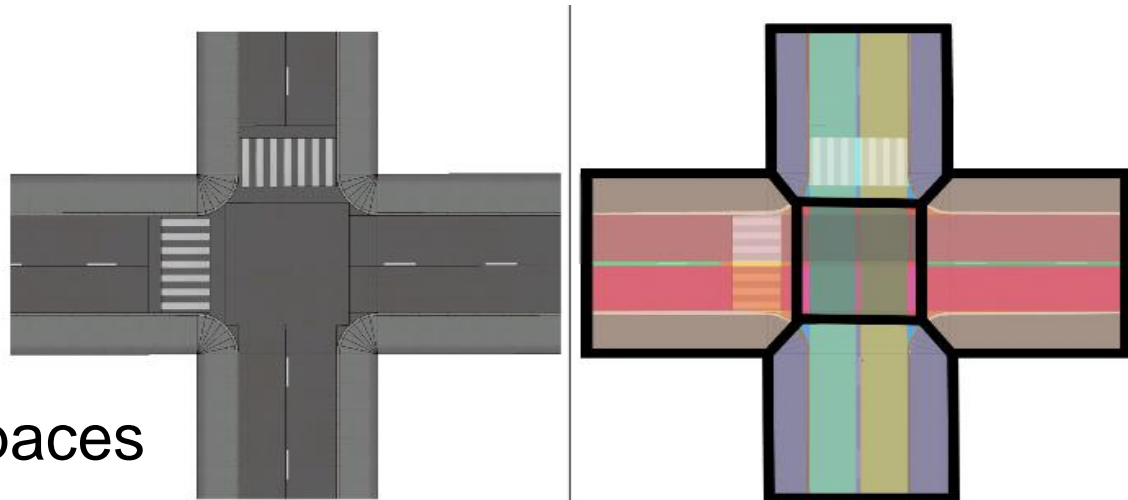
- ▶ One section / intersection per

- Road / Railway / Waterway segment and intersection
- Roundabout
- Dead End



- ▶ Intersections belong to more than one Road (XLinks)

- ▶ Each section can be divided into TrafficSpaces & AuxiliaryTrafficSpaces



Street Space Example (Granularity 'way')

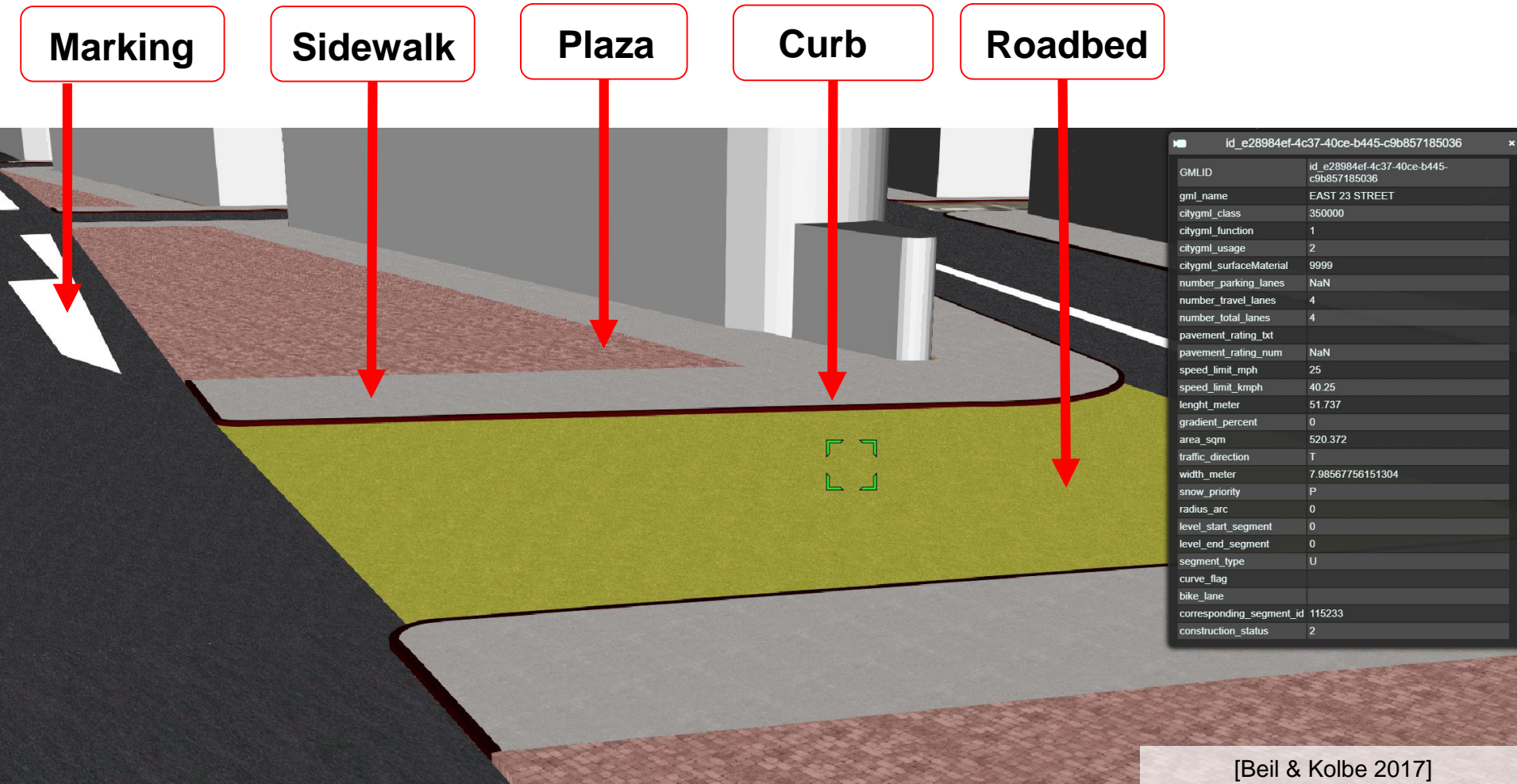
Marking

Sidewalk

Plaza

Curb

Roadbed



[Beil & Kolbe 2017]

Street Space Example (Granularity 'lane')



Street Space Model used for Traffic Simulation

