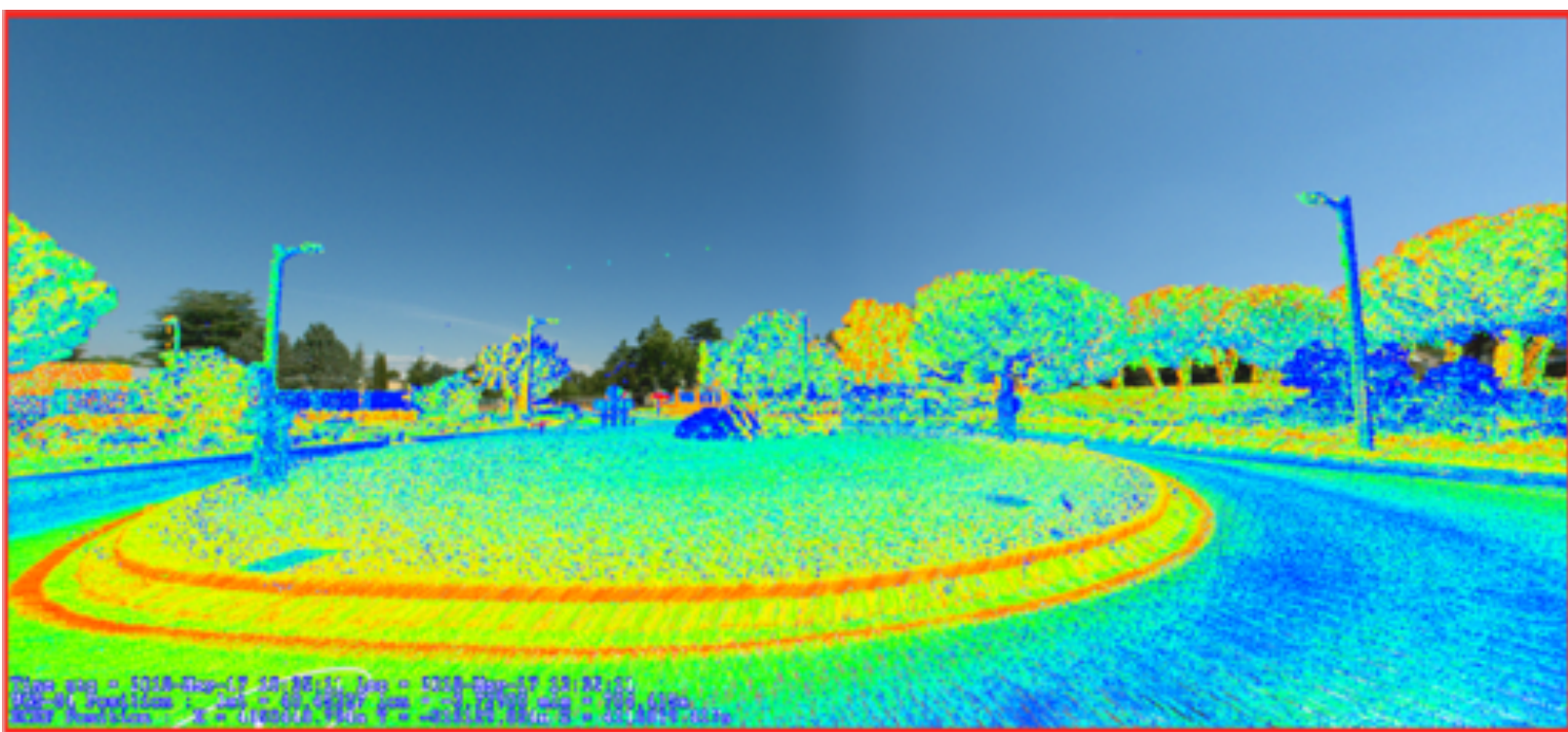


Objectives

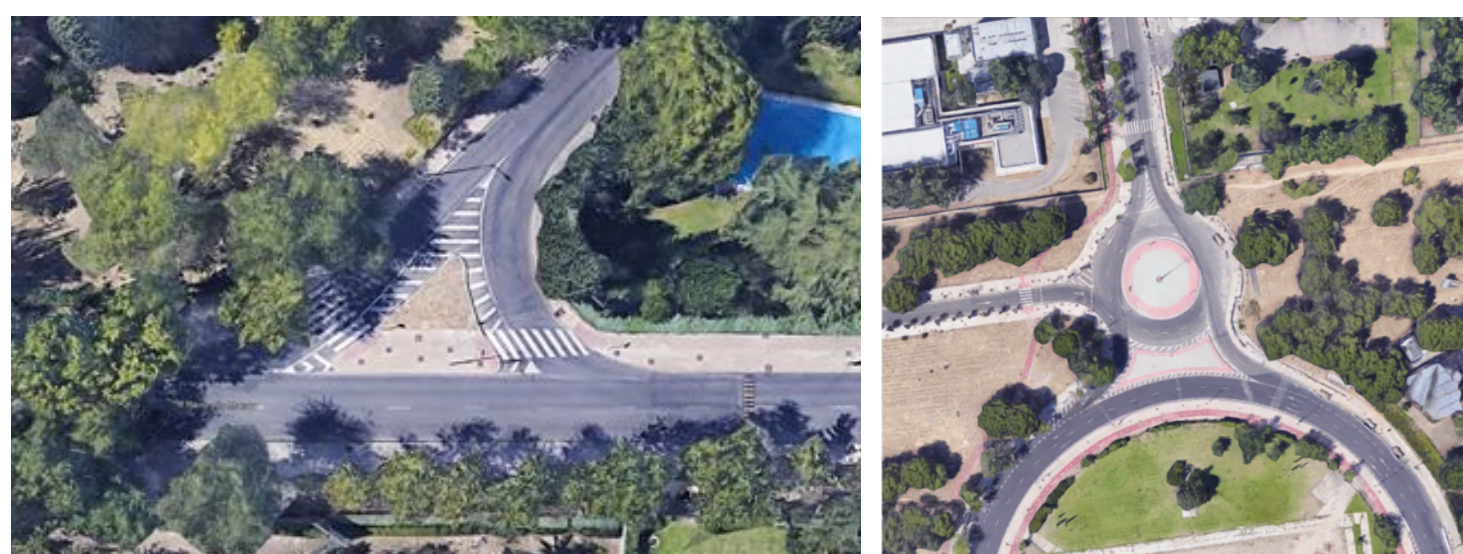
- Evaluate the benefits and challenges of utilizing geospatial technologies for sight distance estimations
- Assessment of Stopping Sight Distance and Intersection Sight Distance- drivers, cyclists, personal transport device riders and pedestrians
- Examine the possible effects of urban furniture elements → effects of their relocation

Materials and Methods

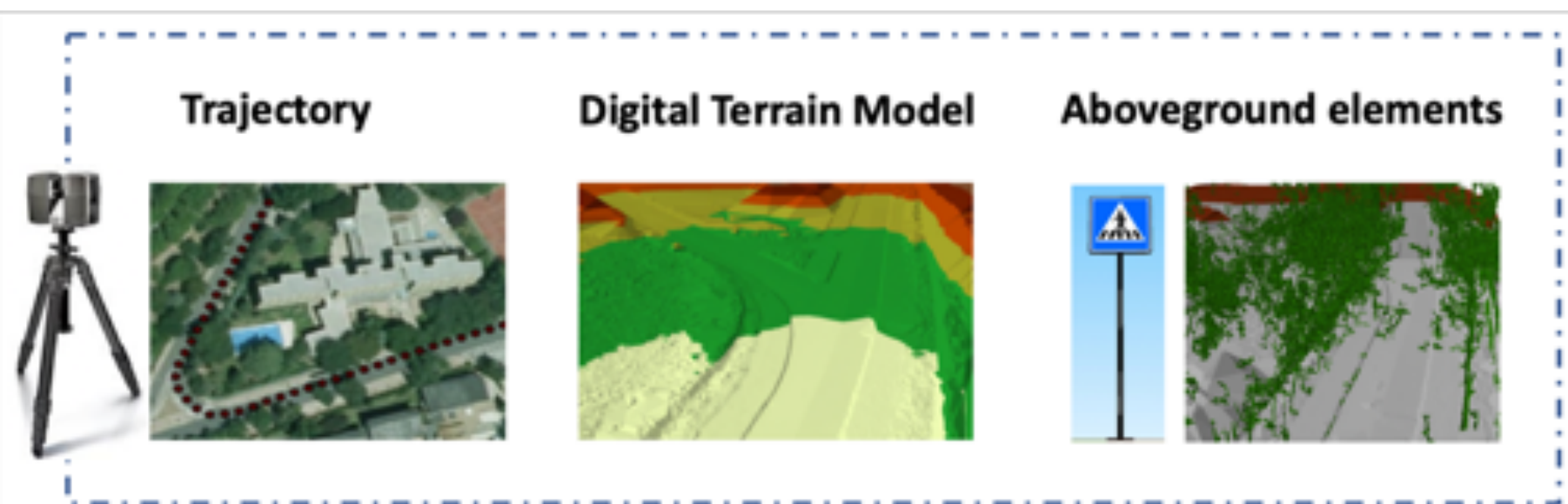
The overall methodology comprises the projection of lines-of-sight from the observer to distinct targets, its own path and conflict points. This procedure makes use of geospatial analysis functionalities from the ArcGIS software, mainly the tools: Line Of Sight and Construct Sight Line. A geoprocessing model was built utilizing GIS software. This model obtains the observer and target points' coordinates from the given trajectory, defined by equally spaced points, and calculates if the terrain surface, road configuration or any aboveground feature interrupts the line-of-sight from observer to target.



Two urban intersections were mapped with distinct Mobile Mapping systems



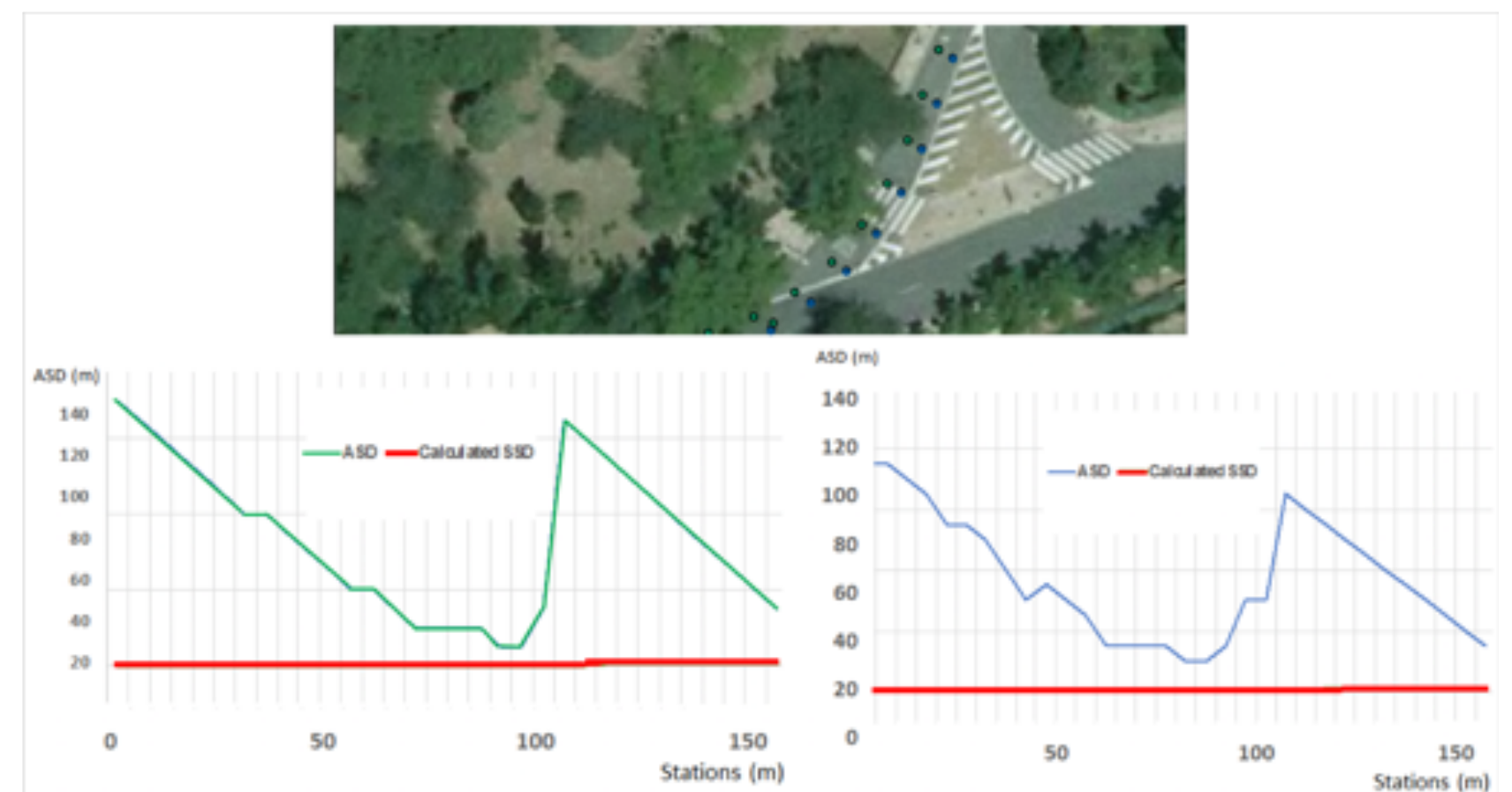
Procedure



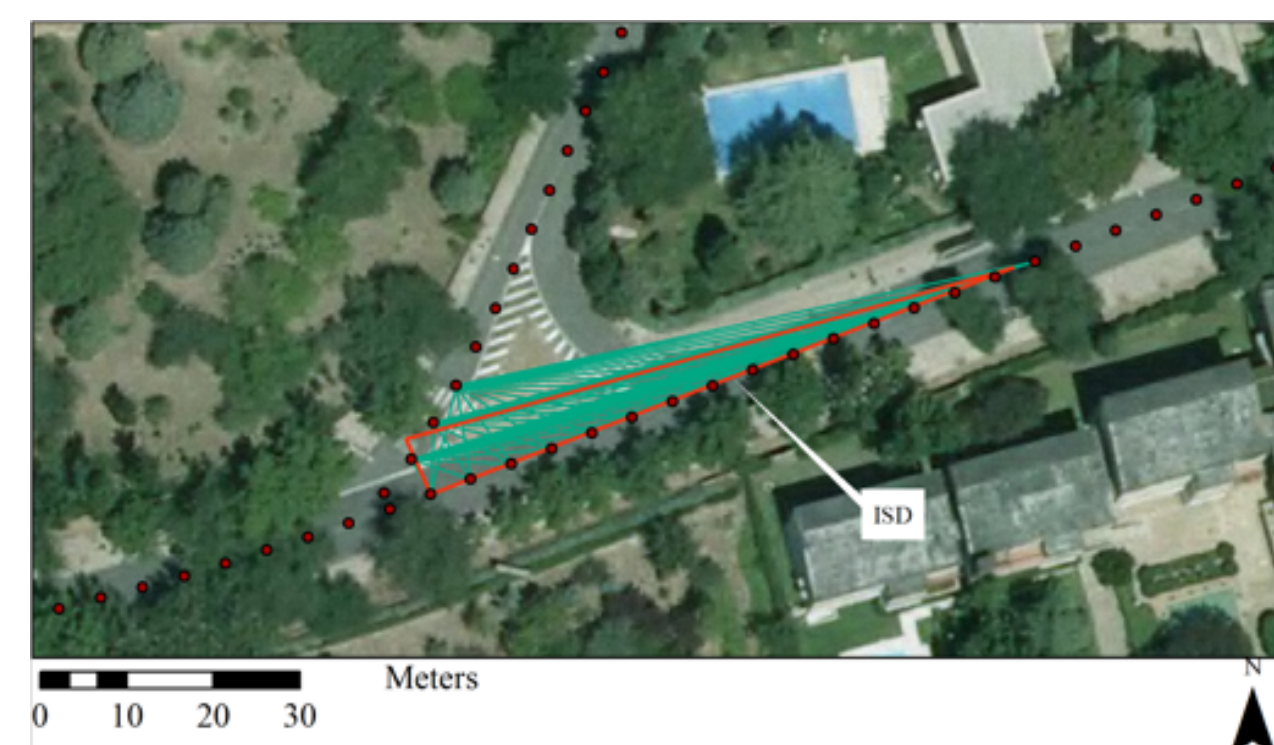
Results

ISD and SSD were calculated considering distinct observers speeds. From the comparison:

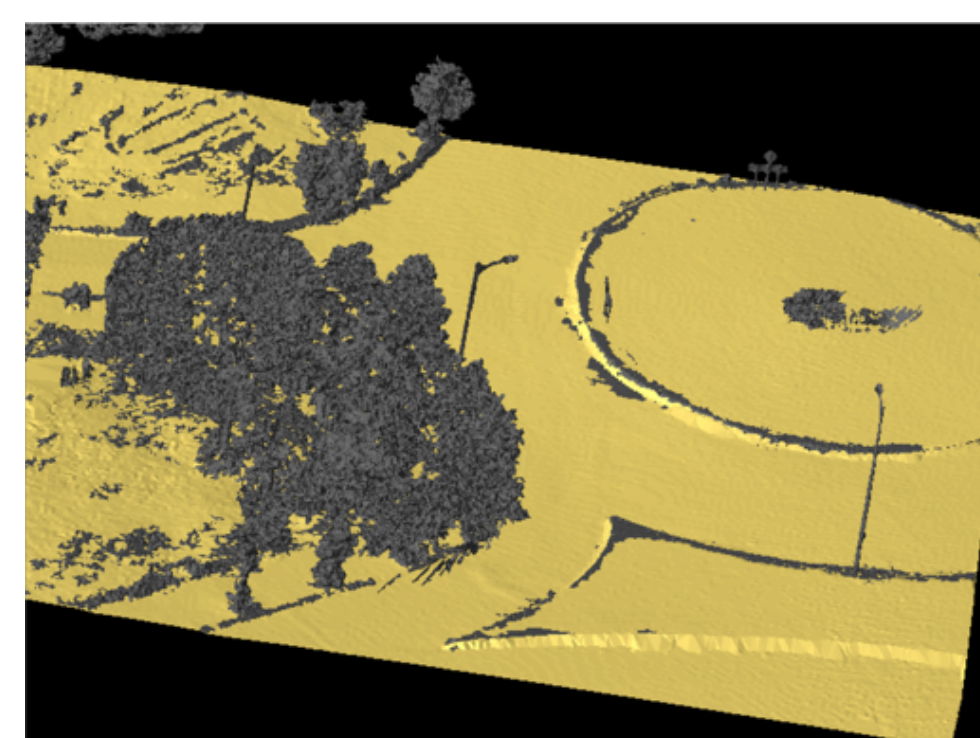
- SSD was provisioned for all turns in the T intersection and the main road of the roundabout
- Cyclists ASD varied based on their lane positioning



- Bus stop prevents cyclists spot drivers 10-20 m before the stop sign
- Departure sight triangle provisioned



- Both types of pedestrians are able to spot oncoming traffic



- Effects of vegetation on roundabout users were minimal.

Conclusions

- Leveraging the benefits of distinct data acquisition tools whilst carrying out efficient workflows is essential
- Adequate ASD is indispensable for creating safe driving conditions
- The number of vulnerable road users sharing the roads is increasing hence their visibility ought to be assured
- Small trajectory changes impacts visibility -> importance of evaluating possible trajectories of RVU

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