

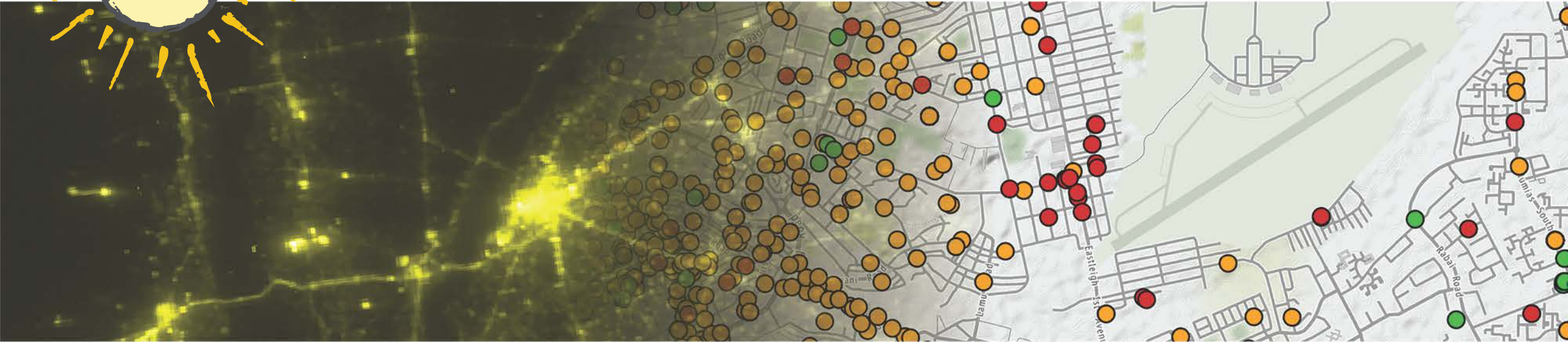


IE CONNECT FOR IMPACT

Transforming the Growth Potential
of Transport Investments

Using Computer Vision to Assess Road Safety Impact

Application in Addis Ababa, Ethiopia



From low to high-frequency outcomes



Road crash injuries and deaths can be **high-impact, yet low-frequency events***

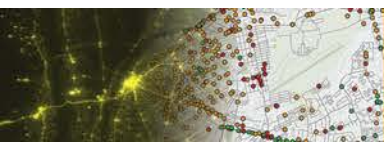


IE methods require **statistical power** to detect the impact of a road safety intervention



Alternative to use other road safety **observable outcomes occurring with higher-frequency**

*at the intersection level of analysis.



Traffic videos as data source

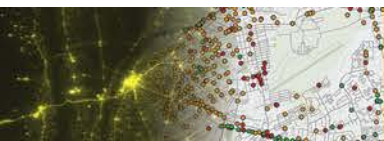


Collision analysis automates the calculation of road safety outcomes applying **computer vision on video footage**

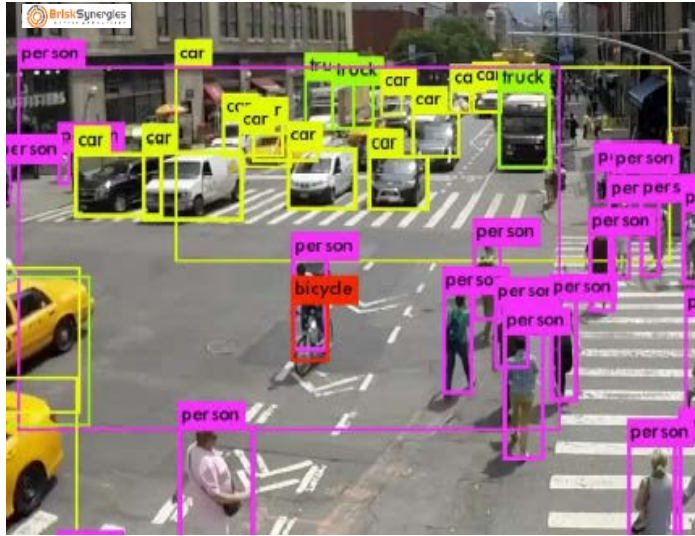


Example of the use of video-based technology to identify a vehicle to vehicle near-collision

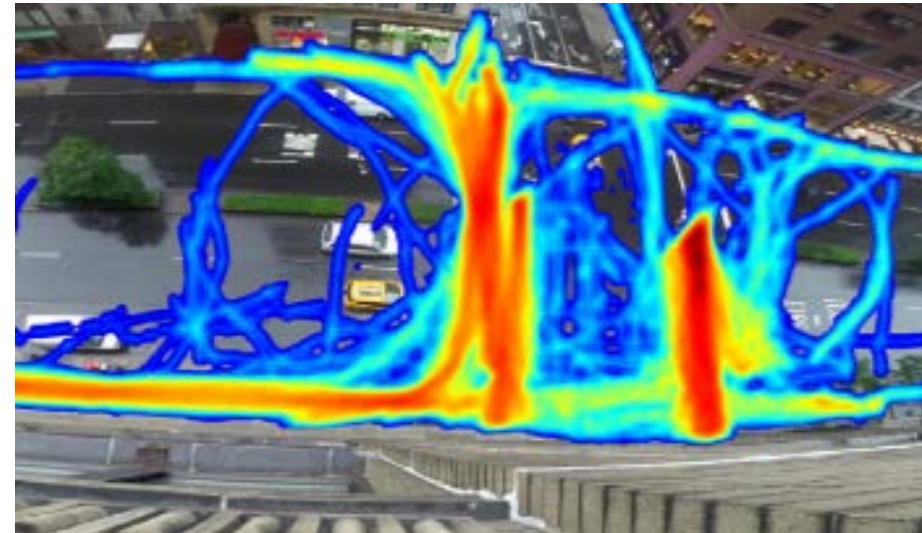
Source of figures: Brisk Synergies



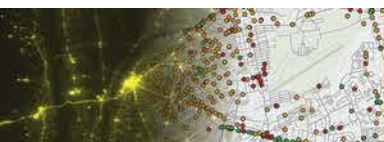
Traffic videos used to assess road user behavior



Use of computer vision to identify unique road users



Heatmap of pedestrian crossing in a sample junction



Outcomes Assessed



Example of the use of video-based technology (near-collision vehicle to pedestrian)

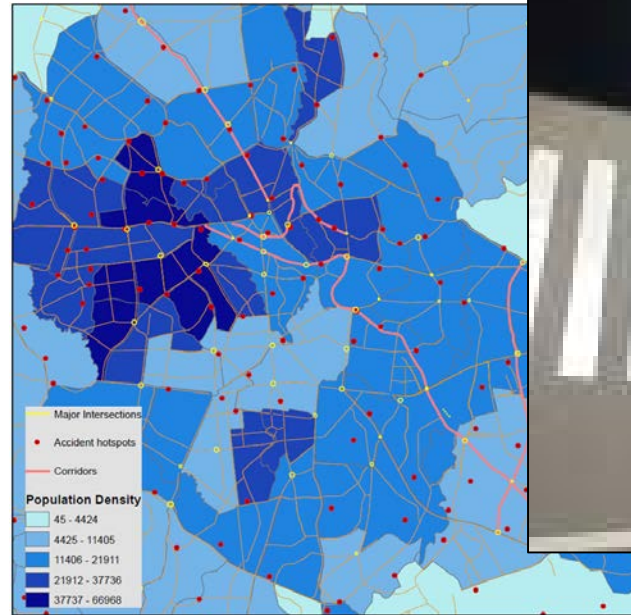
High-frequency road safety outcomes:

- Near-collisions
 - Vehicle to Vehicle
 - Vehicle to Pedestrian
- Red light violations
- Pedestrian jaywalking
- Speeding
- Right of way violations

Source of figures: Brisk Synergies

Application in Addis Ababa, Ethiopia

- **Objective of the IE:** To assess road safety outcomes from upgrading 250+ junctions and 5 urban corridors in Addis Ababa over 5 years, under a complete street design concept.



Road Traffic Fatalities 2016



Pop-up intersection upgrade in Addis Ababa

Thank You

