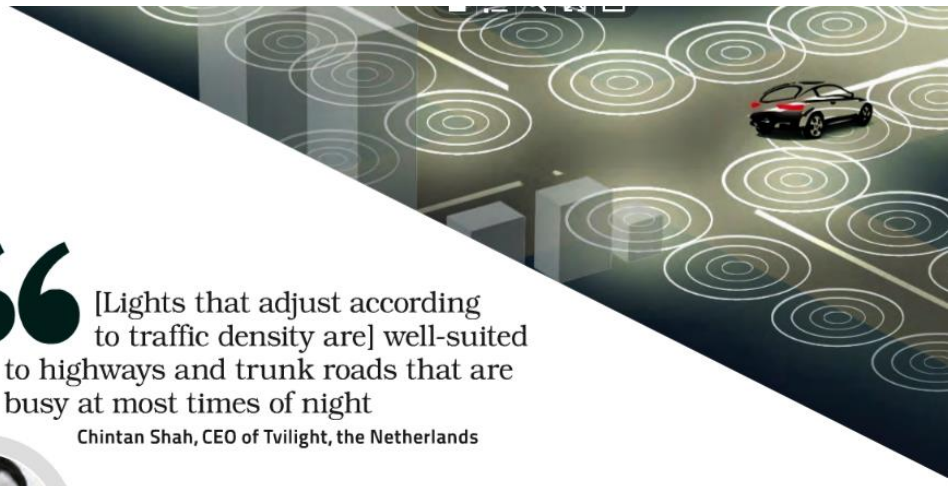
4. IT IS ENABLING LIGHTING ON DEMAND

With modern streetlights receiving upgrades to networked control systems on both sides of the Atlantic, a path is opening up for a broader deployment of traffic-sensitive lighting systems that not only adjust their brightness to traffic volumes but can also save lives.

With lighting systems that adjust to traffic volumes, the most common approach involves sections of lights that regulate their brightness according to overall traffic density. "This approach is well-suited to highways and trunk roads that are busy at most times of the night," says Tvilight's Shah. San Francisco trialled three such systems last year and the county of Suffolk in eastern England has plans to implement traffic-sensitive lighting of this kind on as many as 10,000 LED streetlights by mid-2017.

But for quieter areas, such as residential streets and ring roads, sensing technology is now available to produce what Shah calls light on demand – lighting that only brightens when the presence of a car, cyclist or pedestrian is detected and only illuminates the immediate surroundings. It never turns off completely, to maintain a feeling of safety. In the Netherlands, among other places, the adoption of light on demand has accelerated, with Tvilight alone having installed it in some shape or form in 35 cities, 27 railway stations and a section of Amsterdam Airport Schiphol's outdoor parking lot.



> [Lights that adjust according to traffic density are] well-suited to highways and trunk roads that are busy at most times of night
>
> **Chintan Shah, CEO of Tvilight, the Netherlands**

Finally, when it comes to enhancing the safety of cyclists and pedestrians, the City of Copenhagen has been running a series of pilots that aim to address the fact that one-third of all traffic accidents happen after dark, despite much lower traffic volumes, according to Bahar Namaki Araghi, ITS project manager for the technical and environmental administration of the City of Copenhagen. Two-thirds of the people badly injured or killed in these accidents are cyclists and pedestrians.

The first pilot, which concluded last year, took streetlights at one particularly dangerous intersection from a 50% dim mode to full brightness when cyclists had the green light. And by next summer, five more intersections will be piloted with more sophisticated systems that brighten lights only when a cyclist or pedestrian is detected.