

## Case Study - Automated Speed Enforcement

# Mexico City

Road accidents reduced city-wide by 16 per cent after installing traffic cameras



Thanks to its accuracy and efficiency, more than 64 million pesos (\$3.7 million USD) were collected by the city from photo infractions captured by the TrafficCam 3D

### Finding a speeding solution in a big city

The Mexican capital has always been a transportation hub, with ancient trade routes linking the highlands with the Gulf of Mexico and Pacific coasts, lake districts and Puebla Basin. Today, Mexico City features a vast network of freeways connecting it to other major cities in the country.

The city's dependence on roads also comes at a price. Around five million vehicles move through Mexico City, making it one of the most heavily-polluted and congested cities in the world. Here, the average driver spends over eight days in rush hour traffic every year, crawling at 12 mph (20 km/h). Despite that, speed-related deaths remain high. In 2017, 35 per cent of all road crashes were caused by excessive speed, mostly involving people aged between 15 and 29.

To help curb the accident rate, local authorities looked at speed cameras as a possible solution, yet none were affordable, efficient or effective. When Viion came in, the TrafficCam 3D permanently changed the speed enforcement landscape in Mexico. Our cameras were easier to install and could be powered off-grid by solar power.

The idea of size and efficiency equally played a major role in the TrafficCam 3D's success in Mexico City. While small and lightweight, the TrafficCam 3D camera comes equipped with dual camera sensors, an IR illuminator and a powerful quad-core processor, unlike other cameras which, due to the nature of their complex electronics, need bigger housings and more structural support during the installation process.

**Client:** Mexico City/Government of Mexico

**Products:** Viion TrafficCam 3D

**Industry:** Automated Speed Enforcement

**Location:** Mexico City, Mexico



Viion TrafficCam 3D

### TrafficCam 3D captured 64 million pesos worth of speeding photo infractions

A big testament to the efficiency of our TrafficCam 3D smart camera is its incredibly-high capture rate.

Alejandro Araujo, Director of IntelTrafico, whose company has been using Viion products and services since 2016, said just months after its deployment in Mexico City, the TrafficCam 3D brought in 64 million pesos for the government in photo infraction speeding tickets alone.

"Viion's intelligent TrafficCam 3D cameras have rendered an extraordinary service," Araujo said.



Mexico City's heavy traffic congestion is a daily and dreaded task

## Road fatalities drop after TrafficCam 3D deployed throughout Mexico

During the last three years since TrafficCam 3D cameras were installed in Mexico City and the rest of Mexico, the number of deaths due to traffic accidents decreased in speed enforcement areas as a result. When photo infractions went into effect at the end of 2015, there was a downward trend in the number of fatalities; for example, in early 2015, there were 739 road-related deaths, yet by end of the year, there were just 550 cases. Photo infractions also helped reduce the impact of road accidents and injuries; 4,122 were registered in 2015, a total of 4,041 in 2016 and then a significant decline to 3,684 by November 2017.

## Reliable speed enforcement around the clock with TrafficCam 3D

One of the biggest challenges for efficiently enforcing speed in Mexico City was the lack of 24/7 enforcement, leaving times during the night or day vulnerable that speedy drivers could take advantage of. In addition, police speed traps are predictable and their location can be easily given away via social media or visually by other incoming drivers.

In addition to Mexico City, Viion also has TrafficCam 3D cameras deployed in Puebla, Guadalajara, Monterrey, Guerrero and Quintana Roo. Its tracking and detection efficiency is as good at night as it is during the day, thanks to continuous-wave-time-of-flight Light Detection

## “Viion’s intelligent TrafficCam 3D cameras have been an extraordinary service”

- Alejandro Arajuo, Director, Inteltraffico

and Ranging (LiDAR). Unlike most LiDAR speed enforcement devices relying on scanning lasers, the TrafficCam 3D captures full 3D pictures of reflectors and license plates at a sequence of precise intervals. Ultimately, this technological advantage over other cameras allows the TrafficCam to precisely determine the vehicle’s location on the road by using multiple reflection signals at each time interval, resulting in higher accuracy.

“We are using [Viion] cameras as electronic tools to detect and gather pieces of evidence of infraction of vehicles driving over the established speed limit to support the issuance of fines,” Arajuo said. “In the past three years, we processed over three million infraction evidence packages.”

Unlike stationed police officers at speed enforcement checkpoints, local authorities noted that speed cameras made a bigger difference in overall speed reduction in the city, mostly because they are more numerous, unpredictable and are “watching” the roads 24/7. This, in turn, dissuaded otherwise reckless drivers from continuing on their poor driving behaviour.



A TrafficCam 3D monitors speed near a busy roadway in Mexico City