

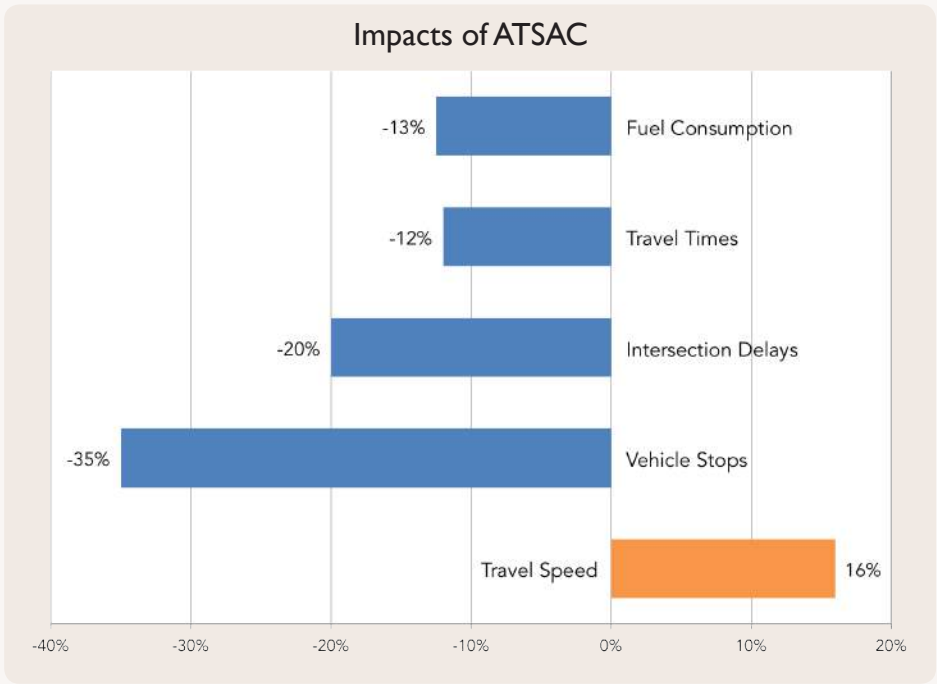
# Los Angeles applies data analytics to improve traffic flow

**data** over the past several decades, the city of Los Angeles has built a powerful data-driven system to automate traffic management

**impact** the system is responsible for a one million metric ton reduction in emissions and increased economic productivity, with fiscal benefits exceeding costs almost tenfold

Photo: Los Angeles Dept.  
of Transportation  
Los Angeles, USA

Despite the rapid increase in car ownership in Los Angeles, the city's Department of Transportation has been able to curb traffic through a well-implemented data management and analytics system. By installing sensors throughout the city's intersections, Los Angeles was one of the first cities to automatically control traffic flow through smart algorithms that adjust traffic lights according to congestion. The system has greatly reduced impacts to the environment and public health while improving economic efficiency.<sup>1,2</sup>



ATSAC has had many positive social and environmental impacts, including improvements in fuel consumption, travel times, intersection delays, vehicle stops, and vehicle speed. Source: Rowe 1991 and California Assembly Bill 1447, Senate Committee on Environmental Quality

### from pilot to large-scale implementation

With the 1984 Olympics approaching, the Los Angeles Department of Transportation (LADOT) installed magnetic sensors to gather data on vehicle build-up at major intersections in three areas of the city. An automated control system then used the data to adjust the timing of traffic signals. The pilot project was so successful in mitigating traffic congestion that LADOT won state and federal funding for citywide implementation of the Automated Traffic Surveillance and Control (ATSAC) system.<sup>3</sup> In 2013, Los Angeles became the first major city in the world to have a completely synchronized traffic management network. ATSAC covers over 4,100 intersections throughout the city. LADOT also incorporated priority signaling to ensure that public transit routes run as efficiently as possible, as well as incident detection capability to quickly respond to congestion caused by accidents.<sup>4</sup>

### the drivers of change

ATSAC's success is an example of a municipal government utilizing data to develop alternatives to established ways of addressing problems. The shift in policy is attributable to two causes: anti-growth pressure from a public who had lost confidence in supply-side (road construction) solutions, and shrinking municipal public budgets that did not permit expensive new infrastructure projects.<sup>5</sup> The success of the ATSAC system led to similar initiatives being implemented across the world, with cities in Spain, South Korea, and the Netherlands taking the lead on further innovations in data-driven traffic management.<sup>6</sup>