POC

1.

According to the research paper

Y. Geng, C.G. Cassandras

"A new 'smart parking' system infrastructure and implementation
Procedia - Soc. Behav. Sci., 54 (Oct. 2012), pp. 1278-1287

Around 30% of the vehicles on the roads of major cities are manually searching for vacant parking lots and it takes around 7.8 min to find a suitable parking lot. The statistical figure mentioned above tells about the severe wastage of time and the initiation of traffic congestions around the big cities.

2.

Corresponding to

G. Fontaras, N.G. Zacharof, B. Ciuffo
"Fuel consumption and CO2 emissions from passenger cars in Europe – laboratory versus real-world emissions
Prog. Energy Combust. Sci., 60 (May 01, 2017), pp. 97-131
Elsevier Ltd

K. Zhang, S. Batterman
Air pollution and health risks due to vehicle traffic
Sci. Total Environ., 450 (451) (Apr. 2013), pp. 307-316

Traffic congestion affects the fuel consumption rate. As a result, the emission of Carbon Monoxide (CO), Carbon Dioxide (CO_2), Volatile Organic Compounds (VOCs), Hydrocarbons (HCs), and Nitrogen Oxides (NO_x) increases, which result in air pollution.
The order of 40%, or 47.5 gCO_2/km for 2015 average fleet emissions, but could range up to 60% or down to 19% depending on prevailing traffic conditions

3.

According to

J.I. Levy, J.J. Buonocore, K. Von Stackelberg
Evaluation of the public health impacts of traffic congestion: a health risk assessment
Environ. Heal. A Glob. Access Sci. Source, 9 (1) (Dec. 2010), p. 65

A study led by researchers of the Harvard School of Public Health estimates that traffic congestion will have an economic impact of $100 billion by 2020 .An estimated $13 billion will be spent in 2020 as health costs due to traffic congestion in the USA and this number is estimated to become $17 billion by 2030.

4.

According to

Infrastructure Australia
Urban Transport Crowding and Congestion the Australian Infrastructure Audit 2019 Supplementary Report
(2019)

According to the Australian infrastructure audit 2019 , the total cost due to road congestion in the year 2016 in Australia was around $19 billion, which is estimated to reach $39 billion by the year 2031.

5.

According to
Real-Time Dynamic Route Optimization Based on Predictive Control Principle
Zhanzhong Wang; Shuoqi Wang

According to the change in the road network state and the optimal solution result of the objective function, the real-time dynamic route selection based on the shortest driving time is realized by switching among different static shortest routes, and the rolling optimization

and combination of dynamic and static routes are implemented in the process.

6..
According to

The time dimension of parking economiCS by
Roman Zakharenko

The paper argues that parking congestion should not be viewed analogously to road congestion, and optimal parking rates should consider both the occupancy rate and the rate of new arrival.

7. According to

PIaaS: Cloud-oriented secure and privacy-conscious parking information as a service using VANETs

Qamas Gul Khan Safi, Luo Senlin, Wei Chao, Limin Pan

Research study underlined the annual waste of resources in searching for parking space and showing drastic figures of 47,000 gallons of gasoline consumption, 95,000 h of time (about 11 years) and production of 730 tons of CO_2 [2]. In terms of revenue, the annual damage to the economy of Schwabing (a district in Germany) had been reported as 20 million euro due to the parking search issues .