

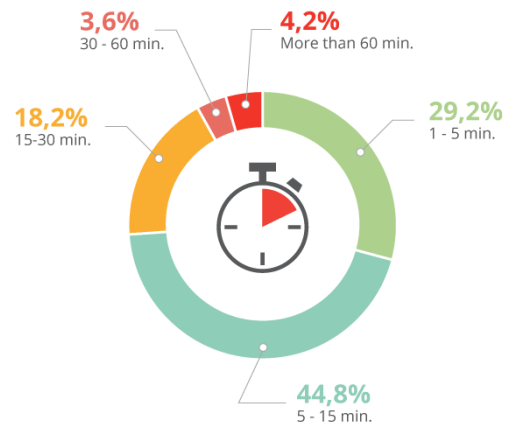
## Problem & Motivation

Having a car can be convenient, but finding a parking spot can be a pain in the neck, for both the driver and the society. It is found in 2011 IBM study that a third of drivers in New York City spend 20 minutes on finding parking in average, and 30 percent of a city's traffic is caused by people looking for parking. Other than time, energy is also consumed significantly during the parking hunting. A study conducted by Donald Shoup showed that there were about 3,600 vehicle miles each day, similar to 36 trips around the Earth each year, run simply for people searching for parking in a 15-block neighborhood in Westwood, Los Angeles. Even when there is a parking lot along with the destination like malls, finding an available space and remembering where it is after time can also be troublesome.

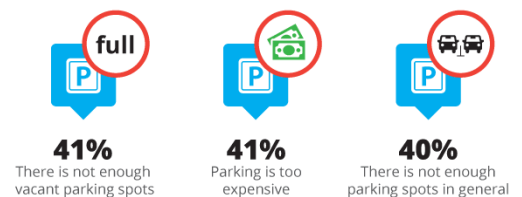
## Analysis of the problem

When people drive to a destination in an unfamiliar area, they don't know where to park their cars. People get anxious potentially in this kind of situation, and they usually end up leaving for the destination earlier, going back and forth around the blocks, trying to find a street parking spot or a public parking lot with reasonable price rates. Also, sometimes they can park in an unsafe area or be lost in a huge parking lot finding their cars. It is time-consuming, and it is a waste of energy for both environmental and biological aspects. Moreover, it creates problems not only for the driver himself but also for others by causing traffic. There are some existing relevant approaches that partially solves the problems about parking. For instance, Maps in iOS 10 marks the location of the car when iPhone is disconnected from the car, which helps the users remember where they park the vehicles. Apps like BestParking and ParkWhiz help the users find and pre-pay for collaborated parking lots based on locations. However, things can be improved more by interacting with multiple tracking data. Since traffic is built on numerous vehicles, the solution to its problems needs more than one individual involving. The pain of finding proper parking space can be eased even more if there is a system that tracks every vehicle, collects data of how vehicles are parked in order to suggest parking choices in different time, events, and destinations. Information about the safety and rating can also be provided for user's further consideration. Traffic is dynamic and dependent, and so are the ways of approaching it.

Time spent looking for parking daily



3 biggest parking problems



## **Sources**

<https://www.sygic.com/blog/2015/live-parking-service-to-solve-parking-problem-of-80-drivers>  
<https://www.forbes.com/sites/emmajohnson/2014/12/18/5-parking-apps-that-help-you-save-time-and-money/#6dd443135ba9>