



What Is Curbside Management?



Over the last few years, use of the curb and curbside management in municipalities and academic campuses has rapidly evolved. From further reliance on deliveries to curb space being given over to outdoor patios for restaurants and other businesses, demands on the curb have never been so strong.

The current definition of curbside management is also very broad ranging from digitizing the curb (which is understanding supply), defining curb use cases (paid or unpaid parking, loading zones, EV, ADA, quick stops and other influencing factors) to management approaches for policy and enforcement to measuring successful outcomes, which vary from location to location.

In addition to all of this, the physical curb space itself can be impossible to increase, or as the parking guru Donald Shoup refers to it – a scarce perishable resource. This means it has become increasingly important for municipalities to embrace effective, flexible systems and strategies that optimize their use of the curb.

However, curbside management can seem like a lot to take on when starting from scratch. This tech brief will break down the basics of curbside management and explain how understanding demand provides the highest return on investment and the most efficient way to take control of the curb.



Arlington County, Virginia has initiated a comprehensive, award-winning [Performance Parking Program](#) to help them better manage their curbside and improve driver experience. Learn more about how they are balancing their parking space use by making parking available and easier to find by clicking [here](#).

WHY HAS CURBSIDE MANAGEMENT BECOME A FOCUS?

Every community is unique and has its own specific problems and opportunities. Curbside management can play a critical role in meeting key outcomes like reduced traffic congestion, greater safety, and improved access specific to your community's needs.

SUPPLY (KNOWING WHAT ASSETS EXIST)

There are many curb usage types competing for space, such as delivery, rideshare, electric vehicle charging, accessibility, and streetscapes. Most curb usage, however, is for paid or unpaid parking stalls so people can get out of their vehicles to shop, dine, work, and play. A good place to start your curbside management journey is to understand your inventory of parking stalls. For some communities it could be enough to know approximate numbers of stall types including paid, short-term, and accessibility stalls, for example. For other communities, it may make sense to capture a full inventory of regulations for parking and other curb uses like safety zones for fire hydrants with coordinates mapped into a GIS system.

Technology can be valuable in curbside management simply by helping to understand and maintain your curbside inventory. This can be a simple spreadsheet, a GIS tool, or a specific curbside management software solution that can serve as the sole source of truth for planning

purposes. Specific curbside management software will often provide extra capabilities like data aggregation, reporting, and parking finding tools like a website or mobile application.

DEMAND (HOW ARE THE ASSETS BEING USED?)

Understanding demand requires measuring the utilization including occupancy levels, dwell times, and turnover. The most common method of understanding demand is to perform a parking study that comprises of spot checks to measure utilization so that a report can be generated outlining strategy recommendations based on the data collected during those spot checks.

Some communities may have access to LPR data collected by enforcement vehicles which can provide more frequent snapshots in time. The most complete data that provides the highest quality utilization information can only be collected by a reliable and accurate vehicle detection system that continuously monitors the curbside.

There is a misconception in the parking industry that payment transaction data can be a suitable proxy for parking utilization. This is fundamentally flawed because it provides no information for days and times that are unpaid and even during paid hours; the accuracy of this type of occupancy data is dependent on payment compliance. On average, approximately half of all parking sessions are non-compliant. However, there is a great deal of compliance variation by parking zone, time of day and by day of week, so using payment information as a proxy for occupancy is at best as good as flipping a coin.



Click [here](#) to read about the Open Mobility Foundation's Curb Data Specification (CDS), a digital tool to help cities effectively manage curb space.

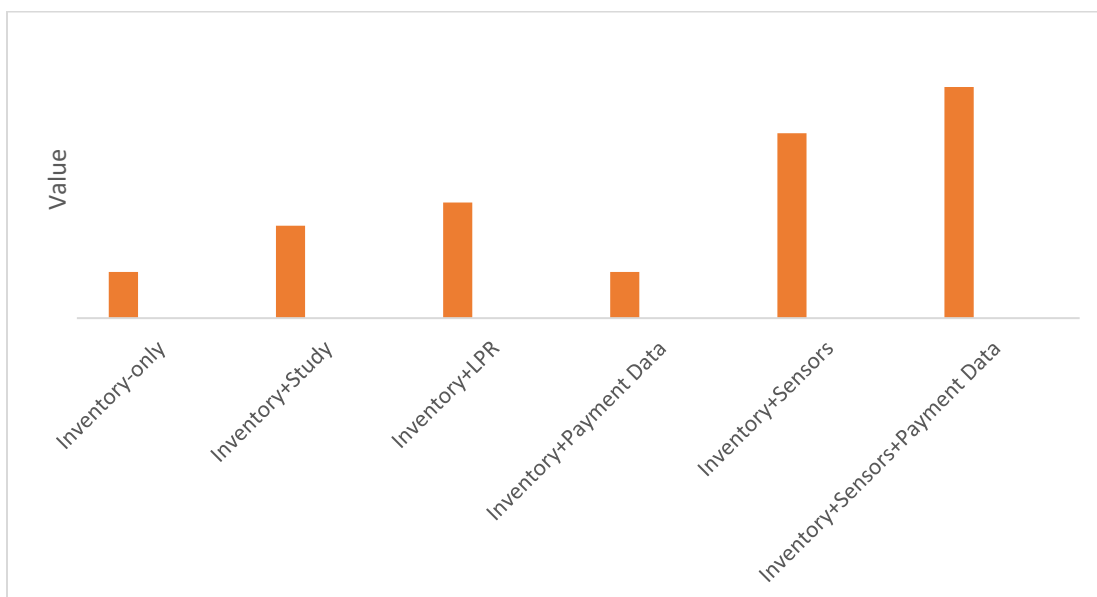


Figure 1: Illustration of value derived from different curbside management methods

ACHIEVING OUTCOMES

Each community (cities or campuses) will have unique outcomes it is seeking when starting its curbside management journey. Commonly desired outcomes are improved mobility, reduced emissions and increased safety and access for drivers and pedestrians. How can they be achieved?

On the inventory side, planning and policy decisions will impact how space is allocated and the curbside regulations (like parking time limits and fee structures) that can influence parking behavior. However, the quality of those decisions is largely based on the quality of the demand information. In addition, continuously monitoring the demand side is the only way to know if your decisions are having the desired effect or if adjustments should be made.

The best way to monitor demand is to have a real-time stall-level occupancy detection system that is reliable and accurate, and monitors parking events 24/7/365. Implementing this technology helps manage inventory better. (See Figure 2 for an example of rich analysis available with continuous occupancy monitoring.) It also unlocks additional methods to help influence parking behavior. Specifically, the real-time availability information can be shared with the public to help them find parking through a website, mobile application, and digital signage.

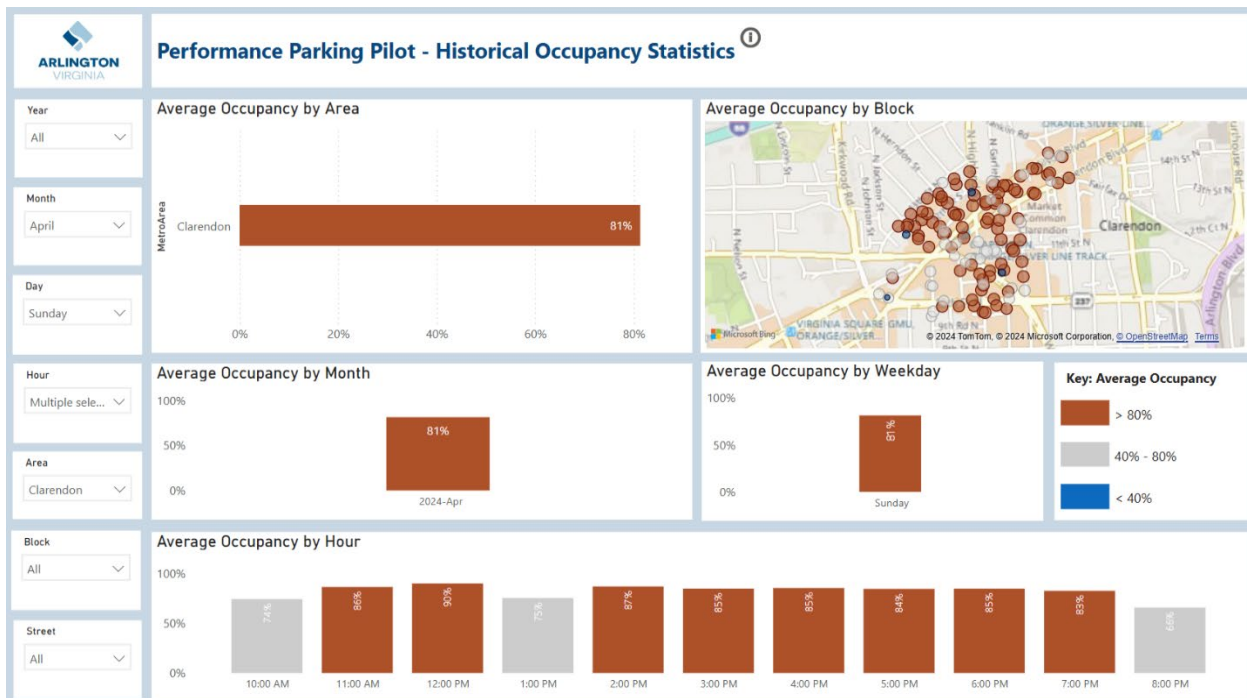


Figure 2: Arlington County's public dashboard showing high demand for their curb

One thing that is often overlooked when discussing curbside management is the role of enforcement. The true occupancy data collected by the monitoring system can be combined with payment transaction data to measure payment compliance. It can also be used to detect and measure overstays. Since the information is real-time, it can be used to intelligently direct enforcement activities.

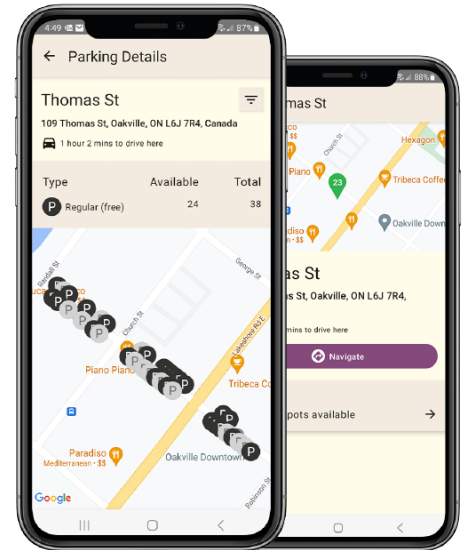
DRIVING CURBSIDE MANAGEMENT OUTCOMES BY UNDERSTANDING DEMAND

Managing the curb has never been more of a challenge. To create long-lasting strategies that benefit all members of a community, it is integral to use a curb management system that can support these strategies with accurate, consistent data and analytics.

Arlington County, Virginia was looking for a smart parking solution that could accurately monitor the curb and allow for the development of curbside strategies that would drive a happier, more productive community – and they found it in eXactpark by eleven-x.

eXactpark’s sensor-driven technology enables 24/7/365 collection of true occupancy data and access to a customized analytics dashboard that provides insights such as individual space use counts, turnover, demand over time, pattern analysis, and more.

eXactpark can also be integrated with the [eXactnav™](#) wayfinding and guidance app to help drivers find available parking quickly and easily. Click [here](#) to read how our customers have used [eXactpark™](#) to manage their curb, and [here](#) to contact us.



eleven-x's eXactnav parking app

About eleven-x® Inc.

eleven-x is an industry leading IoT and Smart City technology company specializing in accurate, real-time stall occupancy monitoring. Its award-winning, smart parking technology solution, eXactpark™, is comprised of the patented, wireless SPS-X space occupancy sensor and a comprehensive software platform that provides real-time stall data. eXactpark reduces traffic, improves safety and lowers GHG emissions by helping drivers quickly and easily find parking. The solution is being utilized by cities and institutions across North America to successfully address mobility challenges. eXactpark’s accurate and reliable 24/7 data enables numerous use cases including curbside management, demand-based pricing, and compliance, helping optimize parking resources. Customers rely on the company’s world-renowned expertise for an easy-to-use, fully scalable smart solution to deliver better services.

Visit eleven-x.com for more information.