CASE STUDY

WASHINGTON, D.C., USA

District Department of Transportation (DDOT) | DISTRICT-WIDE
STUDY AND PILOT PROJECTS
OVERVIEW

Beginning in 2014, the District of Columbia embarked on a series of curbside management pilot projects that address challenges in the immediate term and help refine a long-term approach to curbside management. The impetus for these pilots emerged from DDOT’s 2013 study of the District’s Residential Permit Parking (RPP) Program, during which staff members felt that the study should be expanded to all curb users. Recognizing the need for data and a data-driven approach, DDOT completed a districtwide Curbside Management Study that inventoried curbside uses, defined the range of curbside uses, and started to document the framework for further discussion and analysis of the curbside. The subsequent pilots address challenges for a variety of curb stakeholders including, but not limited to, residents, business districts, freight vendors, nightlife patrons, and for-hire vehicles. Tools deployed to-date include real-time parking sensors, demand-based pricing, commercial loading zone fees, and time-of-day-based parking restrictions.

The District’s approach to curbside management began with an in-depth examination of its curb space and an inventory of the policies and organizations governing the curb. The start of these efforts was DDOT’s Curbside Management Study released in 2014, which researched national best practices, and defined a range of possible curbside management approaches. The Study did not establish or even suggest any new programs or parking restrictions, but did provide an opportunity for the District to codify its vision and goals for curb space. The Study process served to expedite the start of the District’s Residential Permit Parking (RPP) Program, which included real-time parking sensors, demand-based pricing, commercial loading zone fees, and time-of-day-based parking restrictions.

Management Study

Using the Study as a guiding framework, the District explored new curbside management concepts in the form of pilot programs. The District realized that unlike a huge infrastructure project, the curb is malleable and well-suited for pilot programs. D.C.’s pilots took the form of data collection efforts, new parking pricing schemes, commercial loading zone charges, and time-of-day-based parking restrictions, to create drop-off/pick-up zones, each of which is described in more detail below. Each of these efforts required coordination between multiple city departments as well as adjustment to street signs, outreach to affected patrons, businesses, and residents, and in a few cases, installation of new technology. Thus, the pilots were no small endeavors, just endeavors that could be refined or reversed if needed. In fact, the District plans to move its curb management programs and policies forward by monitoring, evaluating, and revising them. Each pilot will be assessed at defined checkpoints and adjusted based on how the performance aligns with the goals established in the Curbside Management Study.

Building upon other successful efforts to brand and market multimodal programs in the District, DDOT developed an overall marketing brand to encompass its curbside work, called “ParkDC.” The emphasis of the ParkDC brand is to give a clear identity to what has historically been disparate rules, regulations, operations, and programs related to the curbside. Furthermore, the ParkDC brand interweaves all curbside management efforts with the District’s curbside mission (with the tagline “Access Matters”) of providing equitable, efficient, safe curbside access for all users moving people and goods.

APPROACH

The District’s approach to curbside management began with an in-depth examination of its curb space and an inventory of the policies and organizations governing the curb. The start of these efforts was DDOT’s Curbside Management Study released in 2014, which researched national best practices, and defined a range of possible curbside management approaches. The Study did not establish or even suggest any new programs or parking restrictions, but did provide an opportunity for the District to codify its vision and goals for curb space. The Study process served to expedite the start of the District’s Residential Permit Parking (RPP) Program, which included real-time parking sensors, demand-based pricing, commercial loading zone fees, and time-of-day-based parking restrictions.

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Implementation: Pilot Programs

A series of pilot programs was developed to explore the most promising concepts outlined in the Curbside Management Study. Some of these pilots, listed in the table below, are now established programs and some are in their first rounds of testing and evaluation. The Stadium Event Zone (formerly the Capitol Hill/Ballpark District) was established as a pilot zone in 2008. The program initially used zone-based pricing for event and non-event times whereby event pricing was applied starting 3 hours prior to an event and concluding 3 hours after the event. Since 2017, however, the program has used progressive duration pricing on event days that lasts a full day and zone-based pricing on non-event days ($2.30 per hour, 2-hour time limit). DDOT does this using adjusted days and hours of curb supply, adjusted parking fines, and stringent curbside management in Residential Permit Parking zones.

Objectives

The Curbside Management Study includes a guiding vision and series of goals that support the vision. The vision and goals are consistent with Move DC, the District of Columbia’s Multimodal Long-Range Transportation Plan in their emphasis of people and goods movement and de-emphasis of auto-oriented design.

Vision – balance use of public curb space to provide residential, commercial, and recreational access so that the following may be achieved:

- Goods can be sent and received
- Residents can park near their homes
- Multi-modal transportation system is highly mobile

Goals

- Preserve neighborhood character
- Support commercial districts
- Ensure access to work, school, and services
- Encourage growth, preserve quality of life
- Keep policies fair and transparent

At the conclusion of the study, DDOT identifies next steps as the following:

- Quick Fixes: adjust existing policies and programs
- Mid-term: gather feedback and refine approaches
- Long-term: apply curbside management approaches

Table: ParkDC Curbside Management Pilots

<table>
<thead>
<tr>
<th>ParkDC Curbside Management Pilots</th>
<th>Performance-Based Parking Pilots</th>
<th>Stadium Event Zone</th>
<th>Penn Quarter/Chinatown MVPP</th>
<th>Red Top Meter Program</th>
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Performance-based Parking Pilots provide an opportunity to experiment with dynamic curbside management to further the following goals:

1. Preserving resident curb access in residential zones
2. Facilitating regular parking turnover in busy commercial areas
3. Promoting the use of non-auto transportation
4. Decreasing vehicular congestion within each zone

The District has multiple parking management pilots which aim to manage parking demand using a variety of tools. These Performance-based Parking Pilots provide an opportunity to experiment with dynamic curbside management to further the following goals:

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A second pilot for metered curbside parking, the Multimodal Variable Pricing Pilot (MVPP) in Penn Quarter/Chinatown, uses sensors and analytics to provide real-time parking availability information as well as price parking according to demand. The pilot used an incremental and conservative approach to price adjustment; the maps below show how prices varied by time of day following the most recent of five price adjustments in November 2017 (the sixth price adjustment is planned for October 2018). Varying time limits, real-time traveler information, and adjustable parking fines were used as additional levers to influence demand. Initial results indicate that the program improved vehicle turnover and parking utilization, improved placard compliance, reduced the incidence of double parking, increased meter revenues, resulted in mode shifts, and received positive feedback from local business owners, customers, and delivery drivers.

Red Top Meter Program Pilot
The Red Top Meter (RTM) Program was established to provide access to metered parking for people with disabilities and encourage turnover of metered parking in high demand areas, particularly the Central Business District (CBD). RTM parking spaces are reserved for disability placard and license plate holders in the CBD. Outside of the CBD, all meter parking for disability placard and license plate holders is free. RTMs must be paid in the CBD and have a uniform meter time limit of 4 hours.

When the program launched in spring 2017, 5% of all CBD metered spaces were marked with RTMs and 67% of these were van accessible. Leading up to Program launch, DDOT installed and tested 370 RTMs, mitigated spaces for accessibility where necessary, updated the Park DC mobile map application, and launched a public education campaign. The public education campaign included meetings with disability organizations and stakeholders, convening public information meetings, and rollout of mailers, paid social media, radio ads, and a program website.

Loading Zone Pricing
Similar to performance-based pricing pilots, but implemented in January 2015, the District now charges commercial delivery vehicles for the time they spend on the curb. The DC Truck and Bus Map allows freight carriers to identify loading zones before arriving at their destination. Although the proposal to charge commercial vehicles was initially met with pushback, the District has found that delivery companies are willing to pay for the reliability that the program provides given the time savings and reduction in parking violations. Since implementation of the freight zone pricing program, the number of double parking violations and non-trucks parking in loading zones has been cut by more than 50% in the District. In general, the introduction of the interactive truck map indicating loading zone availability has streamlined access to and use of curbside loading space.

Golden Triangle Nightlife Curb Pilot
A pilot aimed at improving safety and reducing congestion during nightlife economy hours was spearheaded by the Golden Triangle Business Improvement District (BID). The Golden Triangle BID approached the District and the ridesharing companies to try and find a solution for the increasing gridlock and chaos occurring during nightlife hours around Dupont Circle. After multiple rounds of data collection and community engagement, the District – including DDOT, the Office of Planning, Public Works Parking Enforcement, Metro Police, and many others – and the Golden Triangle BID devised a pilot to prohibit on-street parking between the hours of 10PM and 7AM from Thursday night to Sunday morning. These restrictions were limited to a three-block area with the highest concentration of nightlife venues. These blocks were identified through collaboration with the TNCs, which agreed to share anonymized data...
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of pick-ups and drop-offs in the area. New parking signs were designed to communicate both the normal daytime restrictions and the new nighttime parking restrictions. This pilot freed the curb for pick-up and drop-off activity so that patrons no longer needed to walk into the street to meet their vehicle. This pilot began in October 2017 and is being evaluated in summer 2018, with modifications to operations occurring in September 2018 in order to enhance towing operations in the pilot.

Understanding Evolving Mobility Research Pilot
During 2017, DDOT completed a pilot study to understand how the rise of shared mobility is affecting trip generation, parking usage (on and off street), and curbside demands (passenger and freight) in high-demand, higher-density areas. The study team conducted surveys and observational data collection in five locations, including the Golden Triangle area, representing a mix of land uses. A research paper is forthcoming, along with guidelines for repeating this work. This effort was conducted as part of the Smart Cities Collaborative sponsored by Transportation for America. DDOT intends to repeat portions of this data collection as part of the after analysis of the Golden Triangle Nightlife Curb Pilot evaluation. Future data may also be collected to help inform whether DDOT’s TripsDC multimodal person trip generation model needs to be updated.

ParkRight DC
DDOT has also conducted extensive research on off-street parking needs. DDOT hypothesizes that off-street parking demand is similar to on-street demand in certain settings, and will continue working to corroborate variations in on-street demand. The ParkRight DC initiative collected extensive data on off-street parking demand within residential buildings in the District. This data was then utilized to develop an online tool that predicts parking demand in similar buildings throughout the District. This tool may be found online at http://parkrightdc.org.

RESULTS AND LESSONS LEARNED

DDOT is focused on bringing a data- and performance-based approach to its curbside management practices. Each of these pilots are being evaluated on a number of performance metrics. While the metrics are not the same between the different pilots, a few common threads exist.

First, whenever possible, DDOT works on gathering both before and after data. This is a best practice but is not always straightforward in the way that projects progress. In more in-depth analyses, comparisons are made to control sites or citywide trends. When possible, DDOT has leveraged resources such as interns to help make quick response data collection efforts efficient and economical.

Second, evaluation metrics are arranged into four tiers: direct curbside impacts of the pilot, impacts on the transportation ecosystem, broader economic and social factors (largely for contextual information), and impacts on agency operations. Examples of curbside metrics in these categories include:

Curbside impacts (to measure direct results of curbside changes):
• Loading dwell time (for passengers or freight)
• Parking citation frequency

Transportation ecosystem (to measure secondary effects on overall travel, congestion, and safety):
• Collision frequency (safety)
• Traffic flow (congestion)
• Transit and bikeshare ridership (multimodal impacts)
• Transit travel speed (congestion and multimodal impacts)

Broader economic activity (to address business stakeholders’ concerns about curbside changes):
• Sales tax data
• Number of businesses

Agency operations (to capture the ease of implementation and replicability of pilots):
• Interagency coordination needs
• Data collection costs (e.g., the ParkDC Penn Quarter/Chinatown pilot looked at different occupancy sensors; DDOT evaluated time lapse cameras vs. manual field data collection)
• Changes in parking revenue
• Enforcement costs

DDOT plans to replicate successful pilots in neighborhoods with similar land use and urban design characteristics to the original pilots. In areas with similar needs but different contexts, DDOT has the option to modify the pilot before expanding.
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