Striking a balance where on-street parking benefits TDM.

ON-STREET PARKING might seem to work against the principles of Transportation Demand Management (TDM). To most observers, it promotes single vehicle trips and undermines mass transit. So how does on-street parking fit into TDM? How do we use it to reduce increasing congestion in urban centers and enhance local business and city livability? How do we make it into a program that supports area businesses and discourages long-term use by daily commuters?

Valking

On-street parking serves many masters. Local businesses need attractive, easy curbside access that turns over regularly. Commercial businesses need loading zones for deliveries, and mass transit needs adequate drop off/pick up zones to use without impeding traffic flow.

A study of U.S. parking policies by the Institute for Transportation and Development Policy said that "curbside parking policy is fundamentally about managing the demand for an unchanging supply." That might be the case, but on-street parking inventory is often reduced. New construction adds driveways and curb cuts. New businesses want new loading zones. Bus routes change and larger buses need more space. Changes in traffic patterns may cause reductions in turn lanes and sight distance.

By Hal King, CAPP

When on-street parking is mismanaged, the result is an effective subsidy for automobile use. To put it simply, people don't use mass transit because they prefer to drive their cars. Municipalities face a larger need to incorporate principles of TDM into on-street parking. Poorly managed parking systems increase the overall burden on infrastructure with more vehicles on the road and other consequences. Street maintenance costs (paving, painting, and plowing) are on the rise, but salaries for personnel to perform these duties may be eliminated in the annual budget.

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The old response was "build a garage and move them off the street." A bare-bones garage, however, has a median cost of more than \$16,000 per space; that's before things such as landscaping, street furniture, or maintenance costs are taken into consideration. The problem is that drivers won't use off-street facilities if they see no advantage to parking away from the curb. Thus, congestion increases because there is little turnover with nowhere for arriving vehicles to park, and revenues will not offset the cost of the construction bonds.

Line

Poor on-street pricing policies are the bane of many cities. Political pressure can cause them to become third-rail issues that never change to meet the municipality's needs. The result is a continual deterioration in equipment and services when inadequate revenue is created to improve or even maintain current equipment. The artificially low price creates high demand, increasing the public's desire for a commodity the area can't provide. It becomes the Catch-22 of parking. Some cities try to cure this issue through enforcement, but even the best have trouble with this:

- Berkeley (2004): 32 percent of vehicles in 1-hour metered parking areas overstayed the time limit.
- San Francisco (2007): One-third of parkers overstayed the time limit or didn't pay at all.
- Manhattan (2008): The average stay at a 1-hour meter was 93 minutes.

Additionally, many cities feel a stronger enforcement presence can do more economic harm than the parking problems. And parking issues can quickly become safety issues when vehicles park illegally in turning lanes or near crosswalks. A recent study commissioned by the Chicago Department of Transportation shows the reality of safety issues for pedestrians in intersections. It showed that from 2005 to 2009, 74 percent of pedestrian crashes were in crosswalks at intersections. Compliance will linger after the visible or direct enforcement is removed, but not for long. When drivers no longer feel threatened, they will resume illegal behavior. Only when enforcement is frequent and regular will drivers adjust their performance based on expectation.

Seeming Opposites Attract

So how do we move on-street parking closer to something that can work with TDM?

First, assess your operations:

- **Review your parking stock.** Where are your existing spaces and how many are there per block? Do you have abandoned driveways or no-parking zones? Do you need to consider parking outside of commercial areas due to commuter overspill?
- **Review your parking regulations.** What are they, where are they, and why are they? Many places installed regulations years ago for somebody nobody remembers anymore. Is it time to change that regulation? Has the business use of the area changed so that regulations should change as well? Can you consider reducing or extending time limits to better serve the community?
- What's your capture rate? How many violations are you writing, and how does it compare with the number of actual violators?

Next, look at occupancy studies. This can be done in a number of ways:

- Do a physical study. Map out all locations to be studied. Make multiple map copies and have study staff note the number or address of spaces and license plates every hour. Survey staff should note all un-ticketed violations to assist you in your enforcement strategies.
 - **Use a license plate pecognition (LPR) system if you can.** LPR makes your occupancy studies easier and faster, and covers more area by using GPS locations and plate numbers. You can review each block for each pass and note if the same vehicle remains in the same block or area.

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Next, consider your pricing. If change is needed, be sure you have the data to back up your requests. Rate studies should be available when promoting these changes. Studies should consider proximity, population, rates, and hours of operation. Include your operations as well. If on-street parking is being used as long-term parking, your data will support you. Your occupancy studies can be very useful in moving past perceived problems and achieving real results.

Once you've done your studies and collected your data, it's time to make decisions.

Taking Action

Consider congestion pricing by the hour. Business districts have different needs for different businesses. Daytime businesses such as office buildings draw large numbers of users at one time. Restaurants or bars draw smaller, more transient crowds that don't require as much turnover. You can increase or decrease parking rates by date or time of day in order to promote turnover as needed.

Consider congestion pricing by area. Creating a price advantage can stimulate an underused area and relieve congestion in other districts. Prices can go up or down, depending on the response and needs of the local businesses.

Think about investing in newer parking equipment that includes multiple payment options and the ability to connect to outside data sources through cellular service or WiFi. If you are looking to implement congestion pricing



HAL KING, CAPP, is associate director of the Albany Parking Authority. He can be reached at hking@ parkalbany.com or 518.434.8886.

options, you will be unable to do so with older, mechanical equipment. Even first and second generation electronic equipment may not be able to handle integrating multiple rates in one day and may not easily change rates.

Pay-by-cell providers usually sell their products on the ease of adding time to an already parked vehicle. Another benefit is that most pay-by-cell services can send a text message when the vehicle's time is about to expire. This helps get the motorist moving and the space open, and you get points for turning over space through customer service. There are even smartphone applications that can direct customers to blocks that have a higher probability of open spaces.

Consider payment interaction with offstreet facilities or mass transit: Use the ability to interact with other transit options to make off-street facilities and mass transit more attractive.

- Review your enforcement practices:
- Who enforces parking for your agency: police, your department of public works, or a private company?
- How are the routes set up?

- Have parking regulations changed since routes were created?
- Are different areas now in need of enforcement?
- Have hours changed?
- Is there an overlap of officers?
- Is a GIS system available for use in updating routes?
- Does your parking enforcement staff have other duties?

Finally, consider new regulations. Examine different parking hours. Consider banning parking before 9 a.m. to help keep bus lanes clear and traffic moving, and reduce the probability of spaces being taken by early-arriving employees or students.

Consider a 'block face" ordinance that allows a parker to use a specific parking area for the length of time allowed by your regulations. After that time, the vehicle must leave that parking area entirely and not return that day. It puts a stop to playing musical cars every few hours to beat the rules.

Explore heavier fines or tow regulations for bus stops or clearways. Sometimes the threat of a few dollars in fines simply isn't enough. Your ability to interact with other transit agencies can help you make the case for heavier fines. Last year, the Massachusetts Bay Transportation Authority got the legislature to agree to raise the bus stop fine to \$100 statewide. That has had an amazing effect on clearing bus stops. Towing is usually the nuclear option but is only required a few times to get the point across.

Work with your transit agency to consolidate transit stops. Multiple stops in a short span frustrate traffic flow and reduce valuable parking stock. Working together with transit authorities can help both of you reduce service complaints by providing optimal locations with enough size to reduce traffic impact.

When it comes to regulations, be above board and clear on the correct reasoning behind creation of new ones. Be sure to list recent regulations you reviewed and removed. Have occupancy surveys ready, highlighting the number of long-term parkers in your short-term curbside parking areas. Many times, people know this problem exists, but few understand its scope.

