



# 2013 Emerging Trends in Parking

Report on a survey conducted by  
the International Parking Institute



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A Supplement to *The Parking Professional Magazine*

# Technology Is Transforming the Parking Industry

According to the results of IPI's 2013 *Emerging Trends in Parking* survey the United States is undergoing a parking revolution as the industry embraces a variety of new technologies that make it easier for people to find and pay for parking, and for parking authorities to better manage it. Cities cited as leading in parking innovation include San Francisco; Seattle; New York; Los Angeles; Washington, D.C.; Portland, Ore.; Miami; Houston; Boston; Denver; Pittsburgh; and Tampa. Dozens of other cities were identified. Clearly, from coast-to-coast, parking technology is going mainstream.

The 2013 *Emerging Trends in Parking* survey was conducted among members of the International Parking Institute (IPI) and others in the parking community and released at the 2013 IPI Conference & Expo, May 19-22. Survey highlights include:

*"Today, parking is about so much more than storing cars. It's central to the creation of livable, walkable communities. It's about cars, bikes, mass transit, mobility, and connecting people to places."*

Shawn Conrad, CAE  
Executive Director  
International Parking Institute

## Smartphones: Solution to the "Space Race?"

Topping the list of trends in the \$30 billion parking industry is the "move toward innovative technologies to improve parking access control and payment automation," cited by 59 percent of respondents. Another top trend is "real-time communication of pricing and availability to mobile/smart phones" (52 percent). Both trends are evident in San Francisco's federally-funded *SFpark* pilot project, which supplies real-time information on the availability and cost of on- and off-street parking, drastically reducing driver circling while hunting for open spaces, congestion, and double-parking. According to San Francisco County Transportation Authority Park Manager Jay Primus, the city also may be the first in the U.S. to quantify the number of available parking spaces in all public lots, garages, and city blocks. Seattle's new electronic parking guidance system uses dynamic real-time message signs and web information to direct people to available off-street parking at six downtown garages.

## Payment Options Continue to Expand

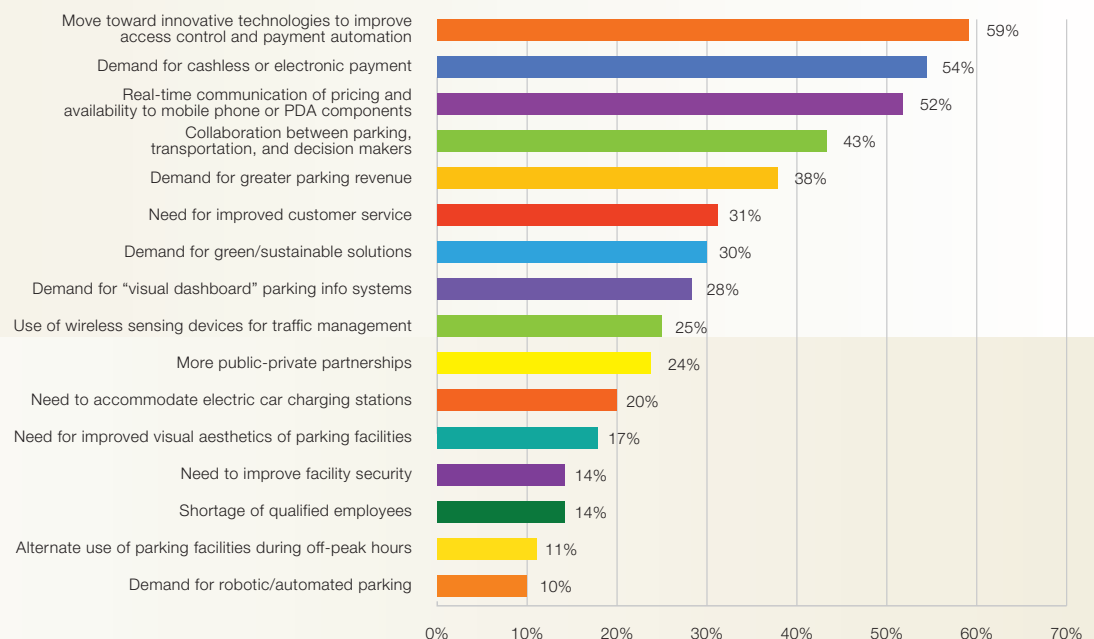
The second leading trend is the "demand for electronic (cashless) payment" (54 percent), with cities such as Washington, D.C., Pittsburgh, Houston, and Miami among others, incorporating pay-by-phone programs. Acclaimed as the world's most successful of its type, the D.C. program has earned 550,000 customers and accounts for 40 percent of the city's parking revenues. About 80 percent of the seven million transactions to date employ smart phones, with payment options that include credit cards, an online and mobile money management solution, and PayPal. Miami and Pittsburgh are among the pioneering cities in incorporating license-plate recognition technology as another means of quick and efficient payment.

## Taking a Smarter Business Approach

The trends toward "demand for greater parking revenue" (38 percent) and "more public-private partnerships (24 percent)," are demonstrated by Miami's

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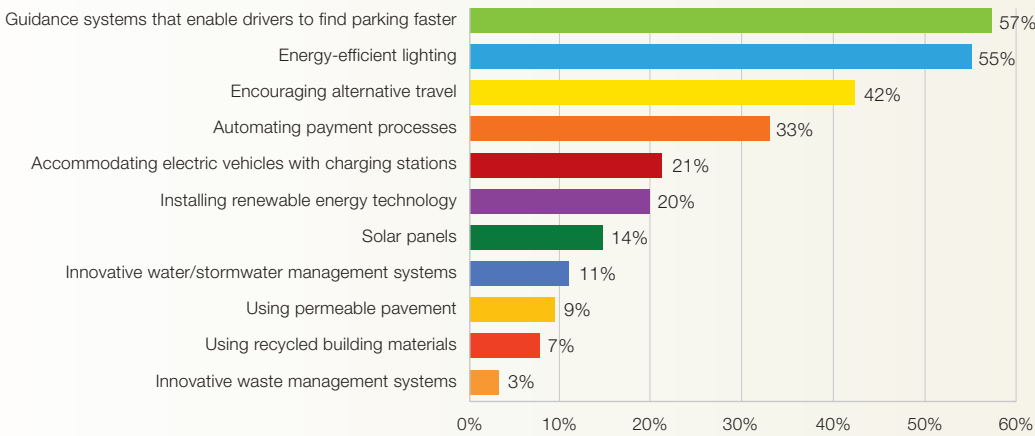
*What trends are having the greatest effect on the parking industry or profession?*



innovative public-private partnerships. Similar programs have been launched in cities such as Houston, where consultants posed the question, “What would a parking program look like if it was managed by Nordstrom?” prompting a focus on parking as an engine for municipal economic development.

## Sustainability, and Parking

*Which of the following do you believe has the greatest potential to improve sustainability in parking?*



## Green Solutions Sprouting Up All Over

Other notable trends include “collaboration between parking, transportation, and decision makers” (43 percent), “need for improved customer service,” (31 percent), and “demand for green/sustainable solutions,” (30 percent). Among the technology considered to have the greatest potential in improving sustainability are “guidance systems to enable drivers to find parking faster and reduce carbon emissions” (57 percent);

“energy-efficient lighting” (55 percent), “encouraging alternative travel” by providing bike storage, car/bike share, access to transit, etc. (42 percent); “accommodating electric-vehicle charging stations” (21 percent), “renewable-energy installations such as solar panels and wind power”; and “innovative water and stormwater management systems” (11 percent). For example, the City of Tampa cut its energy costs in half by upgrading lighting in its parking facilities, and joining Miami, Denver, and other cities in offering citywide electric-vehicle charging stations. Miami was among the first U.S. city to partner with a European car-share program, which has since taken root in a number of other cities across the country.

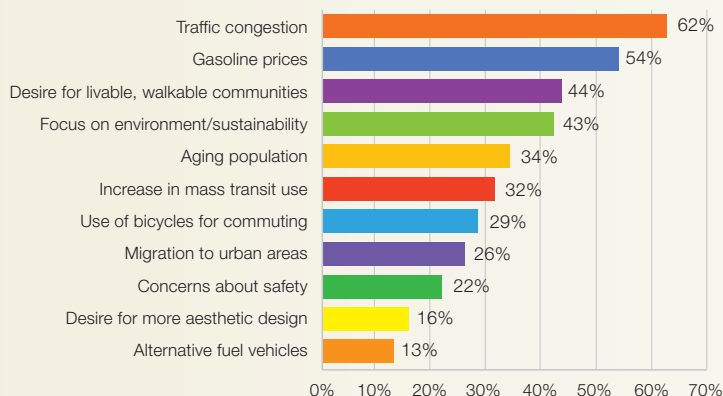
## Society’s Effect on Parking

When asked which societal changes have the most significant effect on parking, 62 percent of respondents mentioned increased “traffic congestion”, along with “higher gasoline prices” (54 percent), “the desire for more livable, walkable communities” (44 percent), and the “aging population” (34 percent).

“Everyone benefits when parking professionals, government officials, urban planners, architects, and other decision makers collaborate to solve problems,” says IPI Executive Director Shawn Conrad, CAE. “By embracing innovative technology and forging public-private partnerships, cities can convert long-existing parking issues into models of sustainability, efficiency, revenue-generation, and customer service.” ■

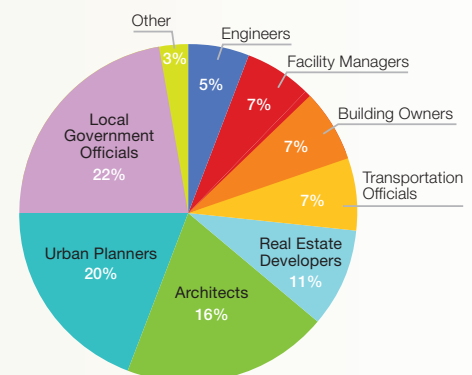
## Parking and Societal Changes

*What societal changes do you believe are having the most significant influences on parking?*



## In Need of Parking Expertise

*What professional groups should be the highest priority to educate about the value of parking expertise in the planning process of any project?*



# Innovative Parking Programs Across the U.S.

The International Parking Institute asked parking professionals to identify cities in the U.S. that are trend-setting and progressive in terms of their approach to parking. The list of cities was long, evidence that parking innovation is becoming mainstream in this country. Here are the top cities mentioned:

## 1 San Francisco

The *SFpark* pilot project provides real-time information on parking availability and cost; reduces double parking, circling, and congestion; and improves parking ease and convenience. A high-caliber data management tool allows the San Francisco County Transportation Authority to make rate-change recommendations, supply real-time data, maintain optimum operational and contractual control, and rigorously evaluate the pilot's various components. One of the project's bravest steps was requiring city and government employees to pay for parking. The move was designed to bolster the program's credibility before asking voters to consider sweeping changes in parking management.

## 2 New York

The country's biggest city has 86,000 networked parking spaces supported by a 100 percent pay-and-display meter plan that accepts credit cards, NYC Parking Cards, and cash. The New York City Department of Transportation has instituted ParkSmart to manage peak pricing, and a graduated-rate Commercial Metered Parking program to manage Midtown Manhattan's curb access during business hours and serve passenger parking needs in the evenings. A Bus Metered Parking program controls bus curb access to Lower Manhattan attractions. Curb regulation signs have been updated to make them easier to read. To encourage bike usage, the city is repurposing 12,000 former single-meter poles to become bike racks (Cityracks). Numerous technology programs also are underway, including dynamic parking occupancy forecasting; development of a regional parking management service (ITS' ATMS-R17); Smart Collection and Maintenance routing; a pay-by-cell program; license plate recognition (LPR) parking survey vehicles; and time lapse, video, and magnetometer occupancy data collection and mapping.

## 2 Seattle

Seattle Department of Transportation's (SDOT) Performance-Based Parking Program uses a data-driven process to adjust on-street parking rates for 12,500 spaces so that visitors can reliably find parking in downtown and neighborhood business districts. SDOT calculates peak parking conditions to adjust hourly rates and/or time limits, ensuring balanced occupancy and space availability on each city block. Its "After 5" program extends the normal two-hour maximum by one hour from 5 to 8 p.m., giving people time to enjoy dinner and a show. The "Best Value" program encourages parking outside the congested core to areas with longer time limits and/or lower rates. e-Park, an innovative electronic parking guidance system, uses dynamic real-time message signs and web information to direct people to available off-street parking at numerous downtown garages.

## 3 Los Angeles

Despite the tough economy and limited funding, the City of Los Angeles Department of Transportation's (LADOT) parking operations have transformed a former eyesore into a model of improved efficiency, customer service, and revenue. Since 2008, the city has updated parking rates and hours, overhauled parking lots and garages, and deployed state-of-the-art technology, growing annual revenue from \$37 million to \$67 million. An award-winning public-private partnership has allowed LADOT to upgrade half of its meters at no cost to the city, with the revenue going toward new equipment. Wireless technology allows technicians to quickly respond to problems, increasing service reliability to nearly 100 percent. The city's 38,000 metered spaces accept debit and credit cards, resulting in more than one million monthly plastic transactions. Boasting the world's largest number of solar-powered parking meters, Los Angeles has eliminated the environmental issue of battery disposal. Approximately 7,000 wireless parking sensors direct customers to street spaces, help enforcement officers locate violations, and provide operations staff with information on parking-demand patterns. These are implemented throughout downtown for the federally funded LA Express Park™ program, which is using demand-based pricing to improve L.A.'s infamous congestion and pollution.

## 4 Washington, D.C.

The District Department of Transportation engaged the private sector to help launch a series of pilots (at no cost to D.C.) involving meter technology (single- and multi-space), on-street configurations (such as pay-by-space and pay-by-license plate), payment options (pay-by-cell and in-car meters), and occupancy sensors; most have since been incorporated into its programs. Acclaimed to be the most successful of its type, D.C.'s pay-by-cell program has served 550,000 customers in seven million transactions (80 percent coming from smart phones) and supplied more than 40 percent of D.C.'s parking

1. San Francisco
2. New York
2. Seattle
3. Los Angeles
4. Washington, D.C.
5. Portland, Ore.
6. Miami
7. Houston
8. Boston
8. Denver
9. Pittsburgh
10. Tampa



# Innovative Parking Programs Across the U.S.



revenues. DDOT will soon launch its Red Top meter program to improve enhance accessibility for people with disabilities, expand its Performance Parking using dynamic pricing, enhance its Visitor Parking Pass, and implement “Asset Lite” Solutions to curbside parking for vehicles, tour buses, and delivery trucks.

## 5 Portland, Ore.

The City of Portland has integrated innovative parking strategies, programs, and pricing to improve livability, economic development, and transportation demand management (TDM). On-street management strategies include varied-rate meters in the downtown area and expansion of the Area Parking Permit Program, which effectively discourages long-term parking in neighborhoods by those not visiting area residents or businesses. The city also increased stadium-area parking rates and extended time limits during Portland Timbers pro soccer matches. Portland’s strong focus on sustainability is reflected throughout its parking operations. Its SmartPark garages use energy-efficient lighting, electronic way-finding signs, and an automated pay-on-foot system, along with live customer-service representatives. To promote the visibility of car share, Portland created an auction for on-street car-share space rentals within meter districts, which also ensured fair pricing of the right-of-way. Together, these measures promote sustainability while improving customer service and enhancing revenue.

## 6 Miami

The Miami Parking Authority (MPA) was one of the early parking-management organizations to implement pay-by-phone technology; was the first in the U.S. to partner with a European car-share program, and led Florida in piloting pay-by-plate technology. MPA has been an innovator in forging public-private partnerships for parking and creating a Vehicular Protection Program during natural disasters. The city offers a wide range of special-discount programs for residents and downtown visitors, including daytime and evening park and shop and quick-visit parking, and is preparing to integrate a bike-share program.

## 7 Houston

Can parking be an engine for economic development? The City of Houston has proved that it can with numerous measures, including 1,000 pay-and-display meters that communicate on a real-time network; a pay-by-phone program; data-analyzing tools to improve performance, efficiency, and customer service; and a Parking Benefit District that uses a portion of meter revenues to pay for parking improvements. The city has increased its Central Business District ADA on-street space inventory from 45 to 245 spaces while tightening up on abuse by supporting state legislation to increase ADA parking-violation penalties, enforcing time limit restrictions for ADA vehicles, holding monthly police department stings to confiscate fraudulent ADA placards, and training 400 volunteers to enforce proper ADA-space usage. Other programs include annual customer-service training for enforcement officers, community outreach, and a Master Parking Plan to assess and develop unique parking management plans.

## 8 Boston

The City of Boston’s Department of Transportation has focused on increasing efficiency and customer service, making it easier for residents to obtain and renew parking permits online. Residents can simply attach scanned images and billing information to the online record and a staff member verifies the data and sends their sticker. Abandoned vehicles can be quickly reported in real time to the Mayor’s Call Center, which creates an email notification of the record. Its Officer Management System uses sophisticated, customized tools to track parking ticket issuance, relaying police-officer duty status information to supervisors.

## 8 Denver

Denver’s innovative Strategic Parking Plan uses customized strategies to address parking challenges, while maximizing supply and balancing diverse user needs. It includes bike/car share, valet-stand administration, ordinance and zoning code coordination, curb-lane management, paid overnight parking, on-line customer services, and citywide electric-vehicle charging stations. Key aspects of the plan: collaboration with city agencies, neighborhood organizations, and stakeholders; utilization of new technologies such as single- and multi-space smart meters, self-release boots, and license plate recognition systems; and integrated enforcement practices and training.

## 9 Pittsburgh

After Pittsburgh become one of the first cities on the East Coast to install pay-on-foot machines, the Pittsburgh Parking Authority continued its forward progression by upgrading its garages with state-of-the-art revenue control equipment and leading the country in the installation of a cutting-edge meter system for both on- and off-street parking. The completed first phase of this upgrade includes 555 pay-by-plate meters, with 330 additional meters planned. Future options also will allow for license plate recognition and pay-by-phone, making Pittsburgh’s approach to parking both innovative and successful.

## 10 Tampa

With efficiency and sustainability among its chief goals, the City of Tampa Department of Public Works Parking Division has made a number of positive changes in its parking operations. Among them are upgraded garage lighting system that has cut energy costs in half and the installation of 10 electric-vehicle charging stations in eight locations. The city’s fully-automated parking operation features a universal parking access card for employees and vendors, multi-space meters and a metered space-reservation program for on-street parking, and a mobile payment platform. Its Permit Management System uses license plates as credentials and permits online payment. Tampa also has enhanced safety and security by installing web-based camera systems at key parking-facility entry points.

## Survey Purpose and Methodology

The International Parking Institute (IPI), the world's largest association representing the parking industry, conducted a survey among parking professionals to determine emerging trends and solicit input on a range of topics.

The survey was conducted April 2013 among members of the International Parking Institute and its parking communities. A link to the survey was distributed via email to IPI members, subscribers to the IPI Insider e-newsletter and *Parking Matters*® Blog, and to members of IPI's LinkedIn Group. The vast majority of respondents were parking leaders, managers, consultants, department heads, and owners and operators in the United States. Results were tabulated and analyzed by the Washington, D.C.-based Market Research Bureau.



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