

PLANNING FOR THE SHORT TERM

Industry experts talk about their strategies for sustainability and efficiency.

Teamwork

strategy

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NEARLY EVERY ASPECT of garage planning, design, construction, and operation has sustainability effects. The choices we make affect the triple bottom line of people, planet, and profit—but those choices can seem overwhelming.

We invited IPI members and experts in the field to share one key strategy parking and mobility professionals can take in the very near term to make a positive impact. Here's what they said. To weigh in, let us know what you're planning to tackle in 2018 by submitting a blog post at parking.org/blog.

Compiled by
Rachel Yoka,
CAPP, LEED AP
BD+C

Glenn Kurtz
Director, Parking
Georgia Institute of Technology

I have been thinking about how technology is changing our industry. What excites me is that technology is not only allowing our industry to be more efficient and subsequently more profitable, but it is allowing our industry to be more effective and responsive to the people and the planet we serve—the triple bottom line.



These days, every parking company is a technology company. This generation of technologically savvy parking professionals are not thinking about the future in terms of their legacy—they are thinking about the future in terms of now and how they can make an impact today.

I am proud that parking professionals are no longer exclusively boasting about how many cars they can park but how they are able to improve mobility and efficiency of parking, making the cities and towns they serve more sustainable and livable. If we put the future of parking and mobility into the hands of these parking professionals, it's anyone's guess what the future will hold.

There are up to 100 billion devices in the world today. With those devices and other technological advances, we will provide customers with the information they need to move around cities effortlessly and find the parking they need seamlessly. The existing barriers (figuratively and literally) will disappear, and the end result will be happier customers and a cleaner environment. When this occurs, the profits will take care of themselves.

Melissa Doughty, PE, LEED AP BD+C,
Manager of Civil-Structural Engineering Jacobs

As I watch the completion of the parking lot reconstruction from my office window, I think about all of the decisions that could have been different. Our cars baking in the sun on the black, gleaming, hot asphalt; the freshly mowed islands framed in new concrete curbs; and the newly repaired catch basins that caused a multi-week delay due to deficiencies in the stormwater system—most people would consider this a successful parking lot restoration project. Progress, even. I'm convinced otherwise.



Parking lots are used daily by countless people and cover a substantial portion of urban land. The nature of surface parking has a real effect on us, our stormwater system, and the surrounding building's utility bills, and yet we treat parking lots as an afterthought. Why not treat them as assets? I think it is a problem of information. Most decision-makers are unaware of the tweaks to traditional parking lot design that can be made to improve sustainability in the big three: economics, environment, and the users.

Short term: Educate yourself on the essentials of sustainable surface parking. Do some research and expand your knowledge base. Use that information to educate your parking peers and fellow owners and become an advocate. Then, review the

ideas

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parking code requirements in your area for conflicts with the principals of sustainable parking lot design. These steps can be accomplished on an individual basis in an afternoon, and the results en masse can be transformative to the parking industry.

Blake Laufer, CAPP

**President
Mistall Insight Inc.**

Reporting and showing reductions in greenhouse gas (GHG) emissions from vehicles is an area where parking operations may be able to find government grants and tax credits. Parking operations often have all the data they need to report on GHG based on knowledge of credential/contract parkers. Here's one way to make the calculation:

Use the parker's home address to determine distance to the parking facility. While not perfect, this offers a rough estimate of how far the parker drives. Google Maps lets you do this for an individual's trip calculation, but tools exist for computing distance between hundreds or thousands of addresses.

Use the vehicle's make and model to determine gas mileage. Websites such as fueleconomy.gov can help find the combined (city and highway) fuel economy for each model of car. Multiply the parker's distance traveled times the fuel economy to get gallons (or litres) of fuel used.

Determine which parkers are using your facility based on credential transactions. Add up the parker's transactions per month, and multiply by the parker's fuel usage. Sum all transactions to get a good idea of GHG emissions for an entire facility.

Of course, these are just estimates. Each parker's situation is different—a parker may make several stops before arriving, or possibly carpool, and fuel mileage may be some arbitrary mixture of city and highway driving. Nevertheless, this approach is relatively simple to compute and more accurate for determining GHG emissions than just guesswork.

**Wen Sang
Founder & CEO
Smarking**

Calendar year 2018 is meant to be an inflection for parking: ride-sharing has become a habit of tens of millions of people, autonomous cars may enter production, a lot more on-street parking is coming with variable and possibly higher pricing, and industry-wide mergers and acquisition consolidations are happening all around. The world we have been used to for decades is no more. How do parking professionals stay clear-minded and even ahead of the market?

The answer may sound straightforward but definitely takes real resolutions to execute. Start working with your own data. The business logic prevails in all professions: You can only do better with what you measure. Before, we survived by getting a monthly financial

report whenever it was ready. Now, a thriving business requires instant access to real-time insights for internal management and external representation and differentiation. To maximize asset return, inventory allocation and price have to be calculated based on a quantitative breakdown of parker behaviors instead of just intuition and experience. To ensure the happiness of parkers, transparency regarding parking availability and pricing is a must. All of these start with adopting a cutting-edge business intelligence and data analytics solution.

A similar transformation has happened in many other industries such as airline, hotel, real estate, and retail. Some businesses went away while some not only stayed but even grew significantly. The key to winning was taking actions early on for organizational transformation by leveraging the most cutting-edge business intelligence, yield management, and data analytics solutions. The difference about 2018 is that if you look around, a good amount of parking professionals are pulling their phones out for real-time business intelligence instead of just using emails and texts. Those will be the winners of the future. The time is now.

Brian Shaw, CAPP

**Executive Director of Parking & Transportation Services
Stanford University**

When designing a garage today, the forthcoming advent of autonomous vehicles needs to be factored into the facility. What does that mean? Providing barrier-free access using optical-based technology for recording entry and exit. Ideally, license plate recognition (LPR) could be used. Future autonomous vehicles may transmit a signal that garages will be able to read, but until then, all vehicles will need a state-issued license plate. LPR can be the bridge for garages to use to interface with autonomous vehicles. LPR can allow garages to avoid needing to install access control equipment, pay stations, etc., in lieu of cameras and signs to direct drivers to available parking. LPR can also integrate with innovative carpool matching applications to allow daily carpools to use carpool parking spaces.

Garages should also be looking to be set up to provide inductive vehicle charging for autonomous vehicles. While not in use much today, inductive charging has been gaining ground in transit and industrial applications. As an interim step, garages could be staffed to provide an electric vehicle attendant who plugs in and removes chargers for autonomous vehicles.

Finally, building garages with as many flat floors as possible will help with potential reuse. The helix design used today will make reuse options limited if not impossible. Moving the ramp to one end of the garage will allow the rest of the floors to be flat. Flat floors can allow for storage, hydroponic farms, vivarium, or perhaps laboratories.

Daniel Ciacia

**President
Two Willows Consulting**

I immediately thought of urban forests. One would be hard-pressed to identify an initiative as long-lasting or widely beneficial as



planting a tree. And, unlike most business investments, the tree's value keeps increasing every year as it grows.

Despite trees' inherent association with environmental sustainability, few operators fully consider the overarching benefits of a tree canopy over or around their parking facility. Plantings can be installed in parking lots, lining roadways, and even on top of garages.

We all know that trees absorb carbon dioxide to mitigate climate change and emit oxygen necessary for human life, but that is only a small component of their value. Trees absorb and filter stormwater runoff, with a single tree capable of purifying the stormwater that runs off of four parking spaces. A tree canopy also mitigates heat island effect, in which exposed asphalt surfaces can be up to 105 degrees higher than nearby green spaces. And, unlike lawns, established trees require minimal watering and maintenance.

A study in West Hartford, Conn., concluded that a single established maple tree can realize more than \$150 in savings annually due to decreased heating costs from trees providing winter wind breaks, cooling cost reductions from shading, stormwater absorption, and air purification. The New York City Million Trees Initiative realized similarly remarkable results by calculating \$5.60 in savings for every \$1 spent on tree plantings. Of course, these financial benefits don't take into account the beautification, bird and wildlife habitat, and community enhancement trees provide. Seize all of these benefits and plant a tree today.

Paul Wessel
Director, Market Development
U.S. Green Building Council

The next big thing in the triple bottom line world of parking is the growing awareness of the real estate community of the need to tap and grow the value of its parking assets.

To keep up with industry changes and address issues like sustainable mobility, the new parking frontier is about future-proofing new parking structures—with expected lives of 30 to 50 years—and adapting existing parking assets to the explosion of new transportation modes, desires, and opportunities.

Owners never had to worry before about parking structures becoming stranded assets. Now, avoiding consideration of adaptive reuse, shared parking, the internet of things, larger pick-up and drop-off areas, and electric vehicle charging put the investment at risk. As a society, how we move around is changing and parking structures need to continue to keep pace.

As Parksmart becomes fully embedded within the green building industry, owners and investors are increasingly looking at how their parking structures, lots, and



programs are contributing to their overall sustainable goals and how those assets serve the transportation choices of the asset users.

This growing awareness is playing out differently in different markets. In China, the world's largest car market, Parksmart is shaping the development of the parking structure asset class. In India, it's a quality assurance tool for the marketplace. In the U.S., it is bringing engineers, architects, sustainability professionals, and parking professionals together like never before.

Jimmy Carter once famously quoted Bob Dylan: "He not busy being born is busy dying." Parking is busy being born like never before. And it's a triple bottom line opportunity for all of us.

Rosa Maria Sanchez, LEED AP

Founder
Tiki

I am a sustainability professional who believes in the Parksmart Certification Standard as a transformative tool for Spanish construction and transportation markets. It contributes to climate change mitigation, shapes tomorrow's sustainable mobility network, and recognizes environments that regenerate life and understand nature and well-being. I challenge owners and managers of Spanish parking structures to improve and benchmark their performance. As a Parksmart advisor, I work toward agile project development, give guidance through the certification process, and help empower high-performance parking facilities following the triple bottom line: people, planet, profit.

Spanish parking structures need to reduce operational costs and energy use. Parksmart helps optimize energy efficiency, lighting, and ventilation quality. Implementing sustainable programs reduces the environmental impact, saving water and managing waste efficiently. Holistic assessments will able us make smarter decisions for our parking structures through the design, build, and operation phases.

Architectural firms, contractors, and quality and environmental departments should have all the resources to integrate sustainable practices. Educational programming creates a knowledge-sharing culture within organizations. Parksmart diversifies mobility options; with the proper system, parking structures can offer a singular driver experience and through placemaking, create stronger community relationships.

There are awesome Spanish parking structures, but we need multipurpose facilities to satisfy future needs. Public administrations have the opportunity to play a leading role to transcend from the digital era to an urban era for conscious citizens.



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