Los Angeles, California, driving congestion (and ozone pollution) capital of the US, is trying to encourage greater use of public transportation. But what if you can't find a place to park your car at the bus or train station? It's time for a better parking solution.

Business Impact

Revenue

Cost Optimization

Operational Efficiency

Sustainability

Business Description

The Los Angeles area is a large basin with the Pacific Ocean to the west, and several mountain ranges with 11,000-foot peaks to the east and south. A car-centric city, residents drive nearly everywhere. This fact, in combination with the area's unique geography, results in car emissions being "trapped" over the county, giving Los Angeles the worst ozone pollution in the United States. As a result, attracting riders to the city's bus and rail system is critical to the city's efforts to achieve its business objectives:

1. Improve the customer experience and expand access to transportation options.
2. Increase transit use and ridership.
3. Implement an industry-leading, state-of-good-repair program.

The Los Angeles County Metropolitan Transportation Authority (Metro) operates the vast public transportation system that serves the densely populated area that is LA County. Metro plans, coordinates, designs and builds its systems.

Parking for Metro patrons is among the institution's responsibilities. Metro currently operates 87 parking facilities at 54 stations. With a total of 26,000 parking spaces, this makes it one of the largest managers of parking spaces in the nation.

To better understand riders' needs and determine overall customer satisfaction, Metro surveyed its patrons. The results were eye- opening. Eighty percent of Metro's park-and-ride

patrons regularly spent way too much time looking for a parking space, often circling multiple lots in the process. The survey also uncovered that, on average, 30% of the spaces in Metro lots were occupied by non-transit customers (with the number being as high as 45% in some high-density locations), depriving Metro customers of a place to park.

While not explicitly stated in the survey results, it is logical for LA Metro to conclude that a metro system that can't be used because potential customers can't find a place to park does not have a good image. Furthermore, a high volume of cars circling the parking lots in search of parking spaces gives the appearance of a less safe environment than one where parking is readily available.

The parking problem was so severe that some patrons had gotten into the habit of arriving hours before they needed to board, eating breakfast and going back to sleep in their cars – *just to ensure they had parking*! And many respondents ended up driving to their destination simply because there were no spots available.

In other words, Metro had a huge problem on its hands. If drivers were circling lots, sleeping in their cars and driving rather than taking the Metro, it undermined the system, reduced revenue, added to the city's significant air pollution problem and meant Metro was failing to achieve its mission.

Things had to change.

Metro considered its options, further guided by objectives it had committed to in its mission statement:

- fiscal responsibility - managing every taxpayer and customer-generated dollar as if it were coming from its own pocket

- innovation and technology - identifying best practices for continuous improvement

- sustainability - reducing greenhouse gas emissions

Metro needed a solution that would be cost-effective and scalable across all facilities and one that would ensure parking was used exclusively by Metro patrons.

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Traditional parking facility solutions that control access are burdened by several costs; gates, cameras, and personnel are most common. Not only are these solutions costly to install, but they require constant maintenance and upkeep. Metro wanted a solution that leveraged technology that can be upgraded to keep initial and ongoing costs in check.

The cost of *adding* parking was prohibitive – starting at $20,000/spot for a surface lot. Since there was no land to buy, that meant the only option was to "go up", a solution that was considerably more expensive per spot than a surface lot. Plus, the idea of overbuilding parking structures was unacceptable to the residents of Los Angeles county.

In addition, as one might imagine, the huge cost of adding to existing parking structures would attract the attention of not only the public, but politicians as well. Elected officials view spending money on additional parking facilities as politically undesirable. Metro needed a way to lessen the blow. A solution that would solve Metro's parking problem without the challenges of getting the votes necessary to approve an expenditure of tens of millions of dollars for a parking facility expansion was critical.

The system also needed to make it easier, faster and more convenient for drivers to locate spots – preferably informing them ahead of time of the availability of parking. And it needed to be "future-proof," meaning it would keep up with, or stay ahead of, continuously evolving parking technology. Finally, the solution had to be sustainable.

Metro presented their board with a solution: A technically advanced solution designed to inform patrons of parking availability prior to reaching the parking lot that didn't require a long, complex installation and could actually generate revenue on an ongoing basis. In proposing to charge a nominal fee ($3/day for parking), Metro's solution would eliminate the use of Metro parking facilities by non-patrons, generate revenue and increase parking access without adding physical spots.

Project Manager

"With paid parking we thought a good customer first initiative would be to inform our patrons, prior to ever entering the facility or even entering the road to get to their facility, what the occupancy of that facility was at any given time, in real time. That was kind of our "guiding light.""

Critical Business Issues

- Avoid cost of building more parking structures while at the same time making more parking spaces available.

- Ensure parking lots are used exclusively by transit patrons.

- Use technology to manage access to parking structures, eliminating need for personnel and associated costs.

- Avoid initial and ongoing costs of parking gates which are expensive to install and maintain.

- Implement a system that will keep up with, or stay ahead of, continuously evolving parking technology.

- Generate revenue to offset the cost of parking facility maintenance.

- Enhance Metro's image as a safe, fast, easy alternative for commuters.

- Avoid littering the LA County landscape with additional parking structures.

- Reduce carbon emissions by cutting time needed to find a parking space.

- Improve the customer experience.

- Increase transit ridership by removing parking as an impediment to system usage.

Results

Metro estimated that if they were to increase the number of spots to meet existing demand, they would need 30% more parking (or some 7,800 additional spots). Because available land is scarce in LA, this would have meant creating parking structures where surface lots existed. Parking facilities are an expensive investment. Surface lots cost at least $20,000 per spot. The cost per spot goes up for above-ground facilities (double the price of surface spots). Underground parking is even more expensive, running as much as $100K per spot!

For Metro, with only the ability to add above-ground parking spots, the cost for the additional 7,800 spots would have exceeded $310M! In addition, the LA community contests adding more parking structures to the landscape.

The Parking Sense solution enabled Metro to make more parking available without adding more physical spots. And, to help ensure parking would be available to Metro patrons, Metro made it a paid parking system.

Metro won approval for the project by demonstrating to the Board that the new solution would not only save money by eliminating the need to build additional parking facilities but would actually produce ongoing revenue.

The revenue generated from the nominal parking fee of $3/day adds up to a significant amount of money. When all 26,000 parking spots are under management, the total revenue, net of all costs, will be $10.2m per year. Additional revenue will also be generated because Metro now has the ability to ticket unauthorized users.

In choosing the Parking Sense system, Metro ensured a "future-proof" system because it is scalable and expandable and uses the latest technological advancements. The system was easy to install in the first facilities where it was implemented and will continue to be across Metro's various other 87 facilities. In addition, it offers low-cost maintenance and provides true advantages to Metro's patrons - all for a reasonable cost. Parking Sense was THE ONLY SOLUTION that could implement the exact same system across all 87, distinctly different parking facilities.

With no need for cameras, gates, ticket machines or attendants, maintenance costs are low, and personnel costs are non-existent.

Unlike other systems which required months of lead time, installation was completed almost immediately, solving the problem sooner and speeding revenue generation.

And, even with its advanced capabilities, the Parking Sense solution was less expensive than other systems.

While Metro expected some backlash for implementing paid parking, the response, in fact, has been positive. Metro has

increased ridership and revenue. Patrons at the managed lots now know in advance the occupancy of their facility and can arrive, park and board the bus or train with ease.

Patrons are sharing their positive experiences on social media. One patron tweeted, "I can finally find a parking space, hurrah, hurrah, hurrah!" As patrons get the word out about their improved Metro experience, the Metro brand is again being viewed as a safe, fast, easy alternative for commuters. In addition, patrons are now asking for monthly parking passes. Metro is working to implement such an option.

Today, Metro patrons can quickly and easily find a parking space with a 50% reduction in the time it takes to find a parking space. This reduction in drive time saves, on average, .35 pounds of CO_2 per vehicle/per day. Once all parking spaces are managed, the total CO_2 saved annually will be nearly 900 tons! With the importance for everyone in LA County to find ways to reduce the carbon footprint, Metro is stepping up as a leader.

The Parking Sense parking solution under installation in the Metro parking facilities is helping Metro meet their three key business objectives. By installing a smart parking system that allows patrons to know in advance the availability of parking, Metro is helping to improve their customers' experience as well as expand access to transportation options. By creating parking spots by better managing their parking facilities, Metro has seen an increase in ridership. Finally, the revenue generated from the $3/day parking fee is allowing Metro to provide an industry-leading, state-of-good-repair program.

Project Manager

"The goal is to reduce overbuilding parking and save our land for future land use vs, putting structures that are going to sit up there for 50 years and be half empty."

Metrics

- Cost-avoidance of $310M because new spaces didn't have to be constructed.

- When the project is completed the $3/day parking fee will generate $10.2 million in revenue per year, net of all costs (based on 85% occupancy of 26,000 spots for 260 days/year – the number of average commuter

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workdays per year). [Mission objective met: fiscal responsibility - managing every taxpayer and customer-generated dollar as if it were coming from its own pocket].

- By leveraging an advanced technical solution, Metro avoided the ongoing costs of parking lot attendants and high-maintenance items like cameras and mechanical gates, saving millions.

- Implementation of a technically advanced innovative system allows all 87 lots to be implemented with the exact same parking technology solution. [Mission objective met: innovation and technology - identifying best practices for continuous improvement.]

- Parking facility efficiency is maximized, improving the customer experience by enabling all patrons who want to park in a Metro parking facility to do so.

- Metro ridership at managed lots is up, increasing revenue.

- Cutting driving time in half at lots has decreased CO_2 emissions. Once all 26,000 parking spaces are under management, the CO_2 savings will approach 900 tons/annually. [Mission objective met: sustainability - reducing greenhouse gas emissions]

- Metro image is improved as easily accessible parking makes it safe, simple and easy to use the transit system rather than drive.

- Years of political wrangling avoided (Metro Board saw wisdom of a system that was cost-effective to install, didn't require new construction, could be implemented quickly and would generate revenue indefinitely).