



PARKING DESIGN for the Real World

Keeping the User in Mind Will Insure Success

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When planning for parking design, it is often easy to get caught up in the technical details. These details, such as space count, cost per space, profitability, feasibility and management, are vitally important to the success of the structure, as well as the investment of the owner. Each of these are important issues, and should be given an appropriate amount of consideration.

However, too often the technical details begin to overshadow the most important factor in the parking planning process – the people. The bottom line is, if the structure does not attract people, none of the technical elements matter. Parking is not about cars, but people; well-considered parking can enhance the overall experience of a place, while ultimately determining the success and profitability of the structure.

Planning for Success

When planning for parking, there are a number of ways that one can look at the process. First, and most importantly, consider the end user. Parking structures located at university campuses, hospital campuses or downtown and urban areas will all differ significantly. The users at each of these places will be completely different, as will their needs, expectations and wants. In addition, the varying activities of the patron once they arrive at their parking destination will also be critical in determining what is most important to consider for the structure.

Another way that parking planning can be approached is to look at the trends that are important to people today, and the features that will be attractive to them. Aesthetics, safety, mixed-use features, integration with the surrounding environment, LEED and sustainable design, and others are essential. These will positively impact the success and profitability of the structure, the investment of the owner, and even the atmosphere of the surrounding area.

The most critical element to consider in parking planning is that the garage should be reflective of the user. It is important to keep in mind where the structure will be located and who will be using it most. For example, parking structures located on or near university campuses will need to take into primary consideration the needs of the students.

Designing for Education

Today, nearly 80 percent of students living on and commuting to campuses in the U.S. have a vehicle, creating a substantial demand for parking. Driven by the need to not only provide convenient and adequate parking, but also a high level of safety, parking planning on these campuses involves a number of challenges that must be met.

Safety is first and foremost the biggest concern on university campuses. In particular, as the demographics of student populations continue to shift to include higher percentages of female students, the need for increased security is vital. Active security measures such as CCTV technology, gates, and even guards are all great ways to enhance security within parking structures.

However, there are also a number of passive security approaches that can be used in the planning and design of parking structures, and which make the parking experience much more safe and convenient. Designing glass-backed elevators and stair towers on parking structures are key features which help to increase patrons' feelings of safety and feelings of security. In addition, minimizing the placement of interior walls in parking structures, creating fewer opportunities for places to hide, and providing increased visibility throughout, is another design feature that will aid in providing students with the safety and security they need.

Safety and security can also be achieved simply through incorporating the parking structure into an active environment. When parking is located in a more secluded area of campus, where there are fewer people gathering or walking nearby, it creates

an increased feeling of vulnerability. Building parking structures in the more active and populated sections of campus, or integrating them with uses such as retail or student housing, increases the level of activity surrounding the site, creating a more secure feeling for those using the structure, as well as reducing the opportunities for crime.

Integration of the parking structure with the existing campus is an important factor not only for issues of safety, but also so that they attractively blend with the desired atmosphere and environment of the university. Whether the campus has an urban, historic, or modern atmosphere, the parking structure should reflect those characteristics so that the desired look and feel of the campus remains.

Designing for Healthcare

Another example of specific parking considerations is the case of structures located on hospital campuses. In this case, users are hospital patients who may have health issues which can hinder their ability to maneuver throughout the facility to get to where they need to be, or visitors and staff who have a lot on their mind and who don't want to deal with difficulties finding parking. Realistically, parking is probably the last thing that people who are visiting a hospital are thinking about. Therefore, the facility has



Education – Morris Street
The Morris Street Parking Garage in New Brunswick, N.J., serves the adjacent student housing in Rockoff Hall at Rutgers University.



Healthcare – duPont
The Alfred I. duPont Hospital for Children parking structure was designed to resemble a castle, and features a courtyard to provide an inviting space for patients, visitors and employees.



Planning – Rahway
The Rahway Town Center master plan creates a “public square” atmosphere for downtown Rahway, N.J., incorporating a variety of uses including a shopping district, residential units and parking facilities.

a responsibility to not only create a warm and inviting first impression, and make what is likely an already stressful situation, a little easier.

Critical elements to parking structure design for hospitals include the location of elevators, distance from the hospital, vehicle flow within and around the garage, and signage. Each of these elements are important to the design of any parking structure. However, to minimize additional stress, it is important that hospital patients, visitors, and staff be met with parking that is as simple and easy to understand as possible.

There are also a number of unique design elements which can be implemented in hospital parking structure design. Inviting public areas such as a courtyard or covered area near the structure can create a positive feeling upon entering and exiting the structure, as well as giving visitors a comfortable and peaceful place to sit or wait. Including provisions for public areas into the design of the structure can help to benefit the perception not only of the parking structure, but of the hospital as well, and will create a lasting impression.

Downtown Districts and More

Finally, a parking structure located in a downtown or urban environment will attract the widest variety of users, making it critical to serve a variety of needs in the best way possible. A parking structure in this environment needs to cater to the needs of people who work in the offices, stores and restaurants in the area, as well as the patrons who visit them. It will also need to

include parking for those who live in residential areas that may be located nearby.

In a downtown or urban setting, it is important to maximize land use. As space is often limited, creativity in the design process is essential. Parking density is vital to the success of a downtown or urban environment. When a large amount of parking is concentrated in one area, it frees space for more offices, restaurants, stores, and even parks and landscaped areas for people to gather. This also creates a sense of community and excitement, which will encourage people to keep coming back.

One of the most successful uses of parking structures in downtown and urban areas is the implementation of mixed-use. Mixed-use is one of the most popular trends in parking design today, and the towns and cities which implement successful mixed-use design have seen a positive impact on the businesses and communities in which they are located.

It is essential that these areas have adequate and convenient parking, and one of the most logical methods of incorporating parking into busy downtown areas is to include a variety of destinations within or close to the parking structure. When planning and designing a mixed-use parking structure, the inclusion of retail or offices at grade, or residential units above, has proven to be successful at attracting people to the area, and is often very profitable to the owner.

Mixed-use elements also help to downplay the appearance of the parking garage,

making the entire structure much more visually appealing. Another important consideration when designing parking today is to think about how a new structure will blend with the fabric of the existing community. Today the decision makers place a high level of importance on preserving the look and feel of their existing site, while making additions to keep up with increasing numbers of people, as well as the need to replace aging and outdated structures. In addition, mixed-use and shared parking structures spread out the financial burden and minimize the number of spaces needed.

Parking is often the “front door” to a place, as it is the first thing that people experience when they arrive. Therefore, it must serve not only as a pleasant and attractive place that people will want to enter, but it must also create a safe and inviting environment. Each of these elements will help to ensure a positive experience for the user, encouraging them to return.

Planning for the Future

Finally, when planning and designing for parking, the drive toward implementing green building practices is strong. Not only are owners looking to incorporate these practices into their designs, but the people who will be using them also place a great deal of importance on the sustainability.

Today it is not yet possible for a stand-alone parking structure to be LEED-certified. A garage alone will not meet all of the prerequisites required by the Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ because it is not seen as a large enough user of energy in itself. However, there are numerous strategies which can be implemented into the design of the structure, and which are very cost-effective, resulting in high cost savings over the full lifespan of the structure.

For example, computerized lighting systems within the structure can help to control the amount of light used by monitoring the level of sunlight in the area. When there is adequate sunlight shining into the structure, the lights automatically turn off, then gradually come on when the sunlight is reduced. This helps to drastically reduce the amount of electricity used within the parking structure, which will as a result cut down on the costs associated with energy use.

Another example of a sustainable design practice is the use of precast concrete to build the structure. Precast parking structures offer advantages over cast-in-place concrete. For example, precast concrete material quantities can be estimated more precisely, and excess material can be better used. In addition, the

conditions during the manufacture of precast concrete products can be more carefully controlled so that higher strengths can be achieved using fewer materials.

Every project and site is unique. However, there are numerous sustainable strategies that can be looked at when designing a parking structure. The design of parking structures themselves can be seen as sustainable elements because they are able to get much higher numbers of vehicles concentrated into a smaller area, rather than on large, sprawling parking lots. This creates more opportunities for incorporating more uses into smaller spaces, as well as opportunities for maintaining green space.

Design is Critical

Thinking about the people first, rather than the technical details, will have a very positive impact on the success of the facility in the long run. While balancing issues such as cost, revenues and management, catering to the needs of the user is also critically important throughout the design process.

Technical issues should never be overlooked in the design process. However, when the user is thought of first during the planning process, the design will help to draw people to the facility and the surrounding area, and it will also encourage them to return. The success of the parking facility extends even further – it contributes to the success and vitality of the associated university, hospital or downtown district. Most importantly, visitors, residents and owners of these places experience the benefits as well. ↵

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Downtown – Princeton
The Princeton Downtown Redevelopment Project includes a 500-space parking facility which features housing at the front and retail space at the ground level.