

CASE STUDY

# Meeting Traffic Goals for CPKC Stadium

The math doesn't quite add up when a stadium that houses 11,500 roaring fans only has parking lots to accommodate 2,000 passenger vehicles. As a first-of-its-kind challenge for the Kansas City soccer sporting sector, CPKC Stadium approached Burns & McDonnell to create a plan to safely and efficiently manage the influx and outflow of passenger and transit vehicles at its new riverfront stadium.



## Challenge

The primary challenge was the limited space available for parking and transportation. The parking lot adjacent to the stadium had only 2,000 spots available, and the team quickly realized that nearly half of the fans would need alternative arrangements. The site's geographic location also posed a problem, as one side had a river and another had four railroad tracks, leaving only the east and the west as access points.

Furthermore, the nearest safe path for pedestrians entailed a 1.5-mile walk to reach the stadium. This posed a challenge for many fans, especially considering Kansas City's extreme heat during the summer.

A previous traffic study predicted that 57% of attendees would drive, 28% would use buses or shuttles, 10% would use Rideshare and 5% would walk or bike.

## Solution

Burns & McDonnell devised a comprehensive transportation management plan to handle the stadium's traffic efficiently.

To start, the team utilized Vissim modeling software to predict traffic patterns and effectively communicate the magnitude of the challenge to CPKC Stadium.

The data fed into the software was a mixture of information from the previous traffic study and

**60**

MINUTES FOR  
TRAFFIC TO CLEAR

**200**

FANS RODE BIKES

**15%**

OF FANS WALKED

**28%**

OF FANS RODE  
SHUTTLES

extensive knowledge from the team's experience observing and managing traffic operations for other local professional sports organizations, including the Kansas City Chiefs, Kansas City Royals, Sporting KC and the Kansas Speedway. Based on that experience and knowledge of local driving styles and patterns, the team predicted how long it would take the stadium and parking lot to empty out.

Key strategies near the stadium included traffic flow management by directing passenger vehicles to exit via two local interstates, I-35 and I-29. The team also planned to shut down nearby Berkley Parkway so that it could be reserved for swift access by transit vehicles.

From these plans, the team suggested several infrastructure modifications, which resulted in three relatively minor but operationally significant projects seamlessly executed by Burns & McDonnell using the progressive design-build project delivery method. The modifications included extending the westbound left-turn lane on Berkley Parkway at Lydia Avenue to improve access to parking lots, restriping the northbound I-35 offramp to enhance traffic flow into the main parking areas, and modifying Berkley Parkway to streamline exiting traffic.

To help reduce potential traffic conflicts between fans awaiting Rideshare services and other fans who were leaving by foot or via bicycle, the team geofenced the stadium to restrict vehicle pickups in the immediate facility to reduce congestion at the end of the game. Because pedestrian safety was a key issue, the team also barricaded railroad tracks to discourage hazardous crossings, implemented physical management for pedestrian crossing areas, and incorporated a trail dedicated to cyclists. Continuous collaboration and tweaks to the plans to maintain safety and efficiency after the first game were invaluable for CPKC Stadium's ongoing needs.



## Results

The traffic management plan yielded significant success immediately following CPKC Stadium's first home match, a boisterous 5-4 victory at the sold-out stadium. The traffic management solutions, coupled with the infrastructure modifications, allowed traffic to clear within 60 minutes of the game ending, and roads dedicated for transit vehicles allowed for swift and unimpeded access. The pedestrian and cyclist accommodations encouraged fans to walk, cycle and use the shuttles.

The project was completed eight calendar days ahead of schedule and on budget thanks to the seamless transition from traffic management to progressive design-build. The overall strategic plan of Burns & McDonnell and collaboration with CPKC Stadium allowed for a smooth and safe experience for fans, which set a successful precedent for future events.

## About Burns & McDonnell



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