NACFE
NORTH AMERICAN COUNCIL FOR FREIGHT EFFICIENCY

PERSPECTIVE ON AUTONOMOUS TRUCKING

TAILGATES TO TOUCHDOWNS: THE AV GAME DAY PLAYBOOK

Treat this like your preseason. Because next up isn't just any game – it's the FIFA World Cup.

Picture this: it's a crisp Saturday football morning. Parking lots are humming, food is sizzling on grills, and a small fleet of low-speed autonomous shuttles glides fans from overflow lots to Gate B. Sidewalk delivery bots weave between cornhole boards, dropping ice and nachos. After the final whistle, autonomous vehicle (AV) platoons meter traffic — goodbye 45-minute tailgate crawl, even when the home team wins.

The pieces are on the field; now draw up the play.

Why Stadiums Are Perfect AV Labs

Big events are controlled chaos: tight geofences, repeatable traffic patterns, predictable peaks. That's catnip for autonomy. We've already seen Level-4 minibuses ferrying spectators on fixed loops, day after day proving that short-haul, high-visibility routes are a sweet spot for AVs.

The same pattern is creeping up to American stadium gates, where event-day shuttles link remote parking and entertainment districts with venue entrances, functioning as last-mile connectors that fans use. And in college towns, AV micro transit is already being marketed as the way to get to the game, demonstrating how simple it is to bind autonomy to sports traffic without reinventing the route map.

In college towns, AV micro transit is already being marketed as the way to get to the game.

Ready-to-Run Plays for Game Day

Whether you're hosting 7,000 or 70,000 fans, these AV use cases are deployable now — no moonshot required. Think of them as your special teams' package: tight routes, fast wins, and operational ROI.

- **Last-mile AV shuttles:** These are fixed, low-speed loops from far lots and transit nodes to primary gates, with live ETAs in the team app and ADA-first queuing. (Beep and May Mobility are the usual suspects.)
- **Tailgate delivery bots:** Serve's sidewalk robots are already rolling in major metropolitan areas, and campus fleets have logged millions of autonomous deliveries across dozens of U.S. universities. If they can survive freshman move-in, they can handle Lot D on a Saturday. Geofenced lots with numbered stalls are a dream for on-demand tailgate drops.
- **Back-of-house autonomy:** Inside secure perimeters, autonomous shuttles/tugs run fixed routes — moving broadcast gear, pre-positioning merchandise, and restocking concessions — borrowing best practices from airports and yards.
- **Post-game "platooned" egress:** AV leaders meter lot releases onto arterials, smoothing stop-and-go shockwaves.

Fixed-route AV shuttles turn remote parking into front-door service. *(Left: photo courtesy of Beep. Right: photo courtesy of Starship)*

What Ops Leaders Should Measure (and Brag About)

Treat this like a box score. Track fan throughput from lot to gate (riders per hour) and how much you compress 95th-percentile wait times before and after the pilot.

Watch egress time — how long it takes to clear 80% of vehicles — along with incremental revenue from tailgate deliveries and average basket size. Monitor safety signals such as near-misses per 1,000 interactions and capture sustainability wins like eliminating idling minutes, increasing the share of EV/AV moves, and replacing golf carts and diesel shuttles.

Safety, Policy, And Perception: De-Risk It Up Front

Start visible and straightforward. Run AVs inside clearly coned corridors with fixed stops and use attendants or remote operators at crossings until the pattern becomes muscle memory for both fans and staff. Coordinate early with your city on sidewalk and lane permissions, and bake “share the path” messaging into pregame alerts — fans shouldn’t “help” or touch the bots when they pause.

Choreograph game-day operations with police, fire, and stadium security on shared radio, with designated pull-outs and manual-override paths. Finally, the insurance must be lined up cleanly. You need vendor certificates naming the venue and municipality, plus cyber endorsements for remote-ops links.

Who Should Go First?

NFL and Power-5 campuses have big overflow lots and predictable surges. MLS districts, where short-hop AVs can replace golf carts. Spring training and minor-league parks with smaller crowds means faster learning cycles.

New This Season: Bring in AV Logistics & Autonomous Trucking

Front-of-house is only half the story. The supply chain behind your nachos, jerseys, and ice is primed for automation before, during, and after the game.

- **Overnight restock runs on driverless lanes:** Commercial driverless freight between major metros runs day and night making this perfect for pre-dawn pallet drops to venue distribution centers.
- **Private-route freight in the event country:** Customer-owned driverless semis on controlled routes show how “campus logistics” can scale safely. Stadiums and fairgrounds can borrow that blueprint.
- **Middle-mile resupply, on repeat:** Driverless middle-mile routes (dark store to commissary) keep ice, beverages, and hot food flowing during peak windows, then hand off to delivery bots for the final 300 feet.
- **Yard automation to kill the dock bottleneck:** Driverless yard tractors are finally rolling into production — where autonomy shows its clearest return and takes humans out of high-risk choke points.

Backstage KPIs include on-time restocking percentages by quarter, dock turn time, trailer-hunt minutes eliminated, backstage injury reduction, and late-order spoilage.

The Bigger Picture: Rehearsal for 2026 (and the World Cup)

The 2026 FIFA World Cup, June 11, 2026 to July 19, 2026, is the ultimate stress test with 16 host cities, 104 matches, with the final at MetLife Stadium (NY/NJ). Translation: rolling surges of fans, airport crush loads, and daily last-mile puzzles across three countries. This is the perfect stage for AVs.

The reason AVs fit the tournament rhythm is simple. Stadium districts, fan festivals, and park-and-ride hubs create

Fans walking near SoFi Stadium entrance with curbside pickup area. *Credit: sportstravelmagazine.com*

repeatable, short routes that AVs love. Match cadence does the rest: pre-game shuttles, in-game tailgate delivery, and post-game egress metering. Reset and rerun it night after night.

What We Can Do Now

Stadiums and cities need to act this fall to make AVs second nature by the time the 2026 World Cup kicks off. These pilot zones offer fast wins, real learning, and the chance to scale confidently:

- **Atlanta (Mercedes-Benz Stadium):** Set up a two-mile AV shuttle loop on the BeltLine and pair it with delivery bots in designated tailgate lots.
- **Los Angeles (SoFi footprint):** Combine rider-only robotaxis with fixed-route shuttles to stitch rail and rideshare zones to the venue perimeter.
- **Dallas/Arlington (AT&T Stadium):** Clone Arlington's micro transit pattern with its fixed loops from remote parking plus bots in tailgate zones.

Don't forget the supply chain. Run driverless linehaul overnight to off-site micro-fulfillment centers, then use autonomous yard tractors to dock before dawn. Feed commissaries and merchandise hubs with multi-temperature middle-mile runs and let bots handle the final 300 feet. Cap the night with AV "platoons" metering lot releases when 70,000 people try to leave at once.

The Bottom Line

The World Cup will spotlight every mobility flaw — and every fix. Teams and cities that pilot AV projects this fall will turn regular-season games into a live rehearsal so that when June 2026 hits, AV shuttles, robotaxis, delivery bots, and driverless freight are already muscle memory.

Don't wait for the whistle. Run the play now.

About the Author: *Dr. Dean Bushey is NACFE's Senior Consultant and will focus on alternative fuels, fleet efficiencies, and advanced technologies in the trucking industry. Dean has more 30 years of business, academic, and military leadership experience in multi-modal transportation, energy, infrastructure, and mobility as a senior executive, educator, pilot, and autonomous systems expert. His most recent position was as a senior vice president at TravelCenters of America, focusing on low-carbon mobility and alternative fuels for the trucking industry. He has extensive experience in long-range mobility and complex and multi-modal transportation systems.*

NACFE
NORTH AMERICAN COUNCIL FOR FREIGHT EFFICIENCY

The North American Council for Freight Efficiency (NACFE) *works to drive the development and adoption of efficiency enhancing, environmentally beneficial, and cost-effective technologies, services, and operational practices in the movement of goods across North America. NACFE provides independent, unbiased research, including Confidence Reports on available technologies and Guidance Reports on emerging ones, which highlight the benefits and consequences of each, and deliver decision-making tools for fleets, manufacturers, and others. NACFE partners with Rocky Mountain Institute (RMI) on a variety of projects including the Run on Less fuel efficiency demonstration series, electric trucks, emissions reductions, and low-carbon supply chains.* ***www.nacfe.org***