



## 2019 Look Ahead Report

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On the 6<sup>th</sup> Year of the Kyle Field Transportation Plan, the 12<sup>th</sup> Man will welcome another Thursday Football game, the Crimson Tide, Corps of Cadets West Campus March, and a more pedestrian-friendly University Drive.

- Another University-wide communications subgroup and lessons learned from last year will improve the second Football Thursday game.
- Ongoing communication efforts will keep fans and the community informed about their options during the third Corps of Cadets West Campus March.
- We will welcome an expected sellout crowd when the Crimson Tide comes to Aggieland.
- The newly improved sidewalks and streets around the MSC and along University Drive will provide safer pedestrian environments and require new traffic signal timings.

The nimble Kyle Field Transportation Plan will not differ much from 2018. Addressing the transportation challenges accompanying the 4<sup>th</sup> largest Texas downtown on gamedays - and every day – means providing fans numerous mobility services and options for getting to, around and away from campus. The team that leads the Kyle Field Transportation Plan continues to successfully meet these expectations by incorporating a variety of fan interests and gameday operations requirements. The team consists of the following local on- and off-campus entities:

- Texas A&M Transportation Services
- City of College Station
- City of Bryan
- Brazos County
- Bryan-College Station Chamber of Commerce
- Downtown Bryan Association
- Experience BCS
- Tailgate Guys
- Texas A&M University Athletics
- Local and state safety and law enforcement agencies
- Texas A&M University Marketing and Communications
- Texas A&M University Student Affairs
- Texas A&M Transportation Institute
- Texas A&M Ventures
- 12<sup>th</sup> Man Foundation
- Texas Department of Transportation (TxDOT)

The integrated partnerships and a combination of transportation, communications, policy, and customer service elements continue to make the Kyle Field Transportation Plan successful. This report provides an overview of the first five seasons of the enlarged Kyle Field and a look into changes for the 2019 season.

## Overview

The 2019 Look Ahead Report reviews seasons 2013 through 2018 (other annual reports are published at: [tti.tamu.edu/kyle](http://tti.tamu.edu/kyle)). The 2018 Season highlights include successful operation of “two-days-in-one” with the opening game on the first Thursday of fall semester classes, smoother operation of the pedestrian safety road closures and the large parking lots on west campus, and achievement of the two-hour traffic control removal goal for all seven games – including the seven-overtime victory against LSU. The transportation plan has been flexible enough to meet challenges as the Cities of College Station and Bryan, and the University continue to meet their infrastructure needs through new projects which inevitably extend into football season. Through continued support from the variety of agencies in the Bryan-College Station community and an informed fan base, the gameday experience will lay claim to both football wins and traffic wins.

### **The Revised Kyle Field Transportation Plan**

The 2014 plan relied on a combination of fewer route choices and better communication about fan travel options. This was manifest in a few significant changes that have remained relatively constant through the subsequent seasons. Big picture elements guide the plan design:

- Overall philosophy – “let the leavers, leave” – Fans, residents and both on-and off-campus leadership indicated a desire to have traffic conditions return to something close to normal as soon after the game as possible. This is accomplished by making the outbound routes as efficient as possible for those wishing to leave.
- “Know Before You Go” – Fans and residents are encouraged to study their travel options before arriving at the game, and while choosing their parking locations. The award-winning Destination Aggieland smartphone app and the gameday website present the same consolidated information. The app has evolved into a year-round information source and communication device for sports, cultural and community events.
- Use of the significant City of College Station investment – The City’s \$5 million upgrade in signals, controllers and monitoring cameras connected to the Traffic Control Center in 2014 provided gameday transportation operators with the ability to monitor the traffic conditions and adjust traffic signal timing and officer instructions during entry and exit traffic flow to optimize the plan.
- Improved bus travel – Bus routes serve many apartment complexes, two park-and-ride locations and all on-campus parking areas. Routes were designed to avoid most of the usual congestion spots, and the traffic routes were designed to facilitate bus travel with minimal staffing and resources.

Many specific routing and access designs help implement these broad philosophies:

- Jointly funded traffic operations plan: Together the City of College Station and Texas A&M Transportation Services fund the postgame traffic plan for placing barricades and positioning officers.
- Wellborn Road contraflow: Four of the five lanes on Wellborn north of Southwest Parkway are used in the southbound direction. Turns from Wellborn Rd are prohibited in that section and about 85% of the green time is for southbound traffic. A tow truck is positioned near the north end of the corridor to respond to problems.
- Discovery Drive contraflow: All four lanes operate outbound from west campus. The non-signalized intersection of Research Parkway at Stotzer is closed to outbound traffic, and the almost 4,000 parking spaces on west campus are directed out Discovery.
- FM 2818 at Holleman: Much more than half of the traffic from west campus uses this intersection to leave the area, so most of the green time at the 2818/Holleman intersection is given to FM 2818. Holleman travelers can use other routes to enter either the Wellborn contraflow lane or go south to Rock Prairie Road.
- University Drive green time: Approximately 3/4s of the green time at intersections east of Texas Avenue is dedicated to Kyle Field exiting traffic.
- Park-and-ride lots: There are more than 1,500 parking spaces at two locations. American Momentum Bank offered their parking lot for Kyle shuttle service when the previous location cancelled the service. Additionally, there is a shuttle from downtown Bryan supported by the merchants and the city.
- Ample parking and on-campus shuttle service: At least 27,000 parking spaces are available for gameday parking and all the distant lots and many of the premium donor spaces are served by a bus route.
- Using simple directions to improve pedestrian safety, reduce traffic conflicts and creating better bus service. Vehicles are routed away from pedestrians and buses, and car traffic is separated in ways that reduce the amount of inefficient 'turn-taking.' On west campus, parking lots north of Kimbrough Blvd/Research Parkway are routed north to Stotzer Parkway and lots to the south are routed to George Bush Drive. The road (the only east-west road on west campus) is not used as a through road but for, four different traffic flows with empty pieces of road between. Most of Kimbrough Blvd/Research Parkway is used to provide congestion-free bus service.
- Better communication with fans. The Destination Aggieland app and gameday website, along with Facebook and Twitter accounts provide predictable routing maps and update information as needed. The fan site TexAgs is used to distribute information and to update fans on operating procedures before gameday. The TexAgs channel was particularly useful when problems were being addressed, as it offers a chance for better dialogue and explanation than twitter or a web posting.
- Game evaluation reports are posted at [tti.tamu.edu/kyle](http://tti.tamu.edu/kyle) to provide fans and stakeholders with an overview of the performance for the plan. This site also contains all evaluation reports from past seasons.

## **2018 Football Thursday in Aggieland**

### ***How the Community Delivered “Two Days in One”***

Texas A&M experienced their first Thursday football game on a “live” campus since 2005 when Texas A&M played Texas State at home two days early to avoid the catastrophic Hurricane Rita. The success of the 2018 Thursday football game is attributed to the hundreds of people in dozens of meetings planning for the tens of thousands of students, faculty, staff, and fans that would come to campus during the first week of classes. Over 30 external community stakeholder meetings and more than a dozen large internal meetings occurred throughout the spring and the summer weeks leading up to the game. The Transportation Services and Texas A&M Marketing Teams coordinated nearly 20 media opportunities including print, television, and radio affiliates; spanning from ESPN Live, university broadcasts and publications to local media affiliates. Additionally, more than 70,000 printed cards and flyers were distributed directly to the community and nearly 46,000 customers were reached through inserts to the parking permit delivery prior to the start of the semester.

The unified message shaping the day was simple, “We want professors to teach class, we want students to go to class, and we want fans to come to the game.” Our only ask was for fans, students, and faculty/staff to (1) Plan ahead (2) Know your options and (3) Allow extra time. The next section details the engagement and outreach for each of the three tips.

#### **Tip #1 – Plan Ahead**

Numerous communication outlets helped successfully spread the message to numerous groups about planning ahead.

- Student outreach:
  - Student Leaders Group.
  - Student Government.
  - Interfraternity Council.
  - Corps of Cadets.
  - Student Body President.
  - Message specific to individual permit holders.
  - Social media.
  - Texas A&M University Sports & Recreation.
- Faculty and Staff:
  - Council of Deans.
  - University Staff Council.
  - Council of Principal Investigators.
  - Transportation Services Advisory Committee.
  - Message to Vice Presidents and Department Heads.
  - Message specific to individual permit holders.
  - Appelt Aggieland Visitor Center.

- Community Outreach:
  - College Station City Council Mobility Committee.
  - Bryan City Council.
  - Bryan-College Station MPO Policy Committee.
  - Chamber of Council Transportation Committee.
  - Association of Former Students.
  - 12<sup>th</sup> Man Foundation.
  - Coaches Night.
  - Aggie Mom’s Club.
- 13 media appearances, including an interview with The Eagle, Houston’s ESPN Radio affiliate, and a one-hour, five station “carwash” at Bryan Broadcasting<sup>1</sup>.
- Joint production of student-focused video (using key student representatives) regarding class and gameday events. [Watch video here.](#)
- Digital signage on television screens in buildings on campus that displayed the Football Thursday “playbook”.
- Football Thursday pushcards distributed to hotels around the community, Appelt Aggeland Visitor Center, Memorial Student Center, Aggie Mom’s Club, and Coaches Night.
- Daily updated Football Thursday website.
- Uber and Lyft discount codes.
- Free ofo bikeshare rides throughout the day.



**Figure 1. Football Thursday "Playbook" Distributed Through Digital Signage**

### Tip #2 – Know Your Options

Multiple travel options provided people with the ability to choose what worked best for them. The options were designed to ensure students were able to get to class, faculty were able to teach class and staff were able to conduct the many first-week tasks. With most of the parking for both students and gameday fans located on West Campus, special accommodations were set in place. Parking lots on the east side of main campus (Lots 47, 50, 51, 54, 55) that typically serve as popular gameday lots were reserved for regular class day and protected from public gameday parking. The large Fan Field lot was heavily advertised to students and staff with parking permits as they could park all day with any valid A&M parking permit (AVP). As a result, Fan Field handled about 26 percent of the total AVPs for the day, much more than the usual 10 percent of valid permits used on gamedays.

<sup>1</sup> The radio carwash consisted of brief live recordings on various radio stations of the Bryan Broadcasting Company.

Fans were not allowed to park in 12<sup>th</sup> Man Parking Lots until 3:30 PM which allowed normal work and class day operations. All the maps and messaging framed for the various audiences throughout the day appeared to have a positive effect on the community; the nine vehicles relocated from numbered spaces in the 12<sup>th</sup> Man Lots was lower than any regular gameday. While the data paints the picture that parking totals were the lowest recorded since the start of the Kyle Field Transportation Plan in 2014, many of the usual lots did not allow gameday parking and students were encouraged to “park once” for classes and the game. Since the announced attendance was still over 95,000 people, it was clear that people utilized different options than a typical game, and many entered campus early in the day before gameday parking counts began (Exhibit 1).

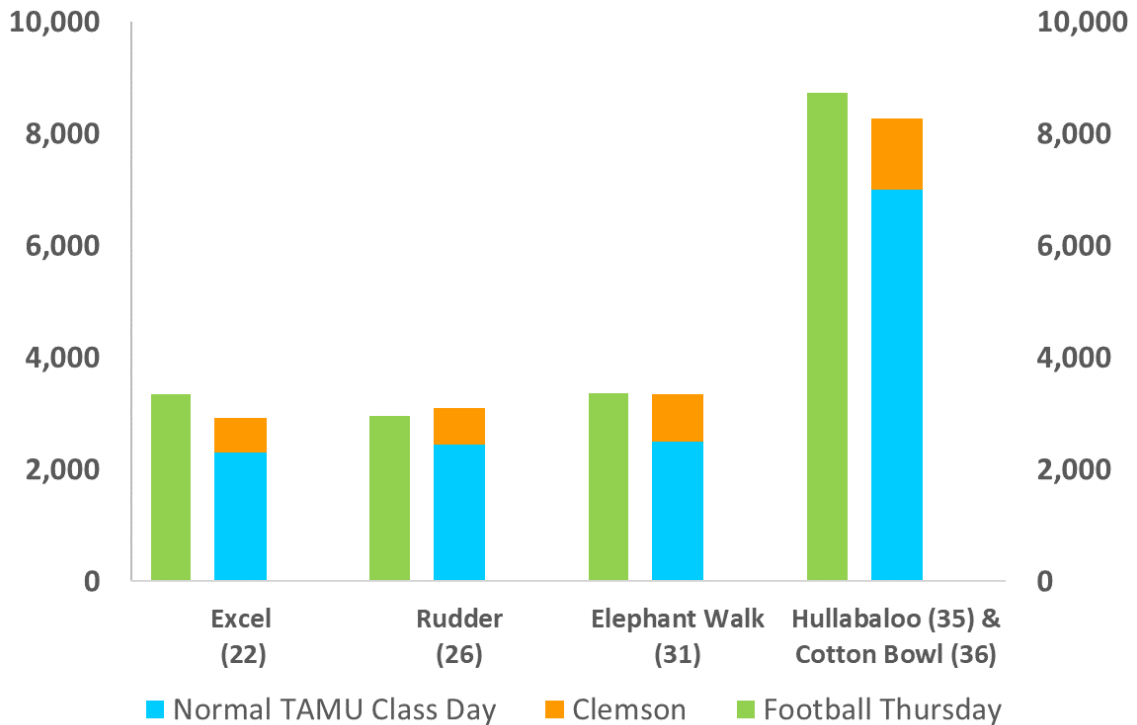
**Exhibit 1. Football Thursday Vehicle Parking Comparison**

<b>2018 Parking Area</b>	<b>Aug 30 NW State</b>	<b>2018 Typical</b>
<b>Main</b>	3,960	<b>5,180</b>
<b>East Main</b>	-	<b>2,230</b>
<b>Reed/Agriculture</b>	9,540	<b>9,680</b>
<b>Research Park</b>	2,190	<b>2,650</b>
<b>Vet/Agronomy</b>	1,560	<b>2,300</b>
<b>Total</b>	17,250	<b>22,040</b>

Transit operations likely posed the biggest challenge on Football Thursday as they operated a full service gameday **and** most of the service for a typical class day – plus a full-class day on Friday (which began at 7:00 AM). Normal 7:30 p.m. gameday operations run until well after midnight. Federal safety regulations limit the amount of time drivers can work, so schedulers had to plan around breaks and class time. An additional 25 charter buses served the park-and-ride lots (American Momentum Bank and Downtown Bryan) and the worker shuttle (the former Kyle Field laydown area). While gameday ridership was the lowest since the 2013 football season, not unusual for a smaller attended game, the routes that serve apartments for class day and gameday had impressive total daily ridership, successfully carrying “two typical days in one”:

- The apartment shuttles carried an additional 4,000 riders on Football Thursday than a typical class day (Exhibit 2).
- Over 50 percent of the gameday bus ridership were on-campus routes with an almost perfect split between pregame and postgame ridership.
- The “Bonfire” shuttle route did not operate as Lots 47, 50, and 51 were not used for gameday parking, making the Football Thursday gameday ridership even more impressive.

**Exhibit 2. Two Typical Days in One "Transit Style"**



**Bike Share**

The “rollout” of the new bike share program added an additional transportation component to gameday. Ridership into and out of Kyle Field areas were considered gameday rides. Since this is the first year of the bike share program, data from a typical weekday and non-gameday Saturday were used for comparison purposes. Over 700 more rides occurred on gameday than a typical weekday and over 1,700 additional rides than a typical Saturday (Exhibit 3). Since Football Thursday was not a “normal” gameday there were likely additional rides taking place not associated with gameday.

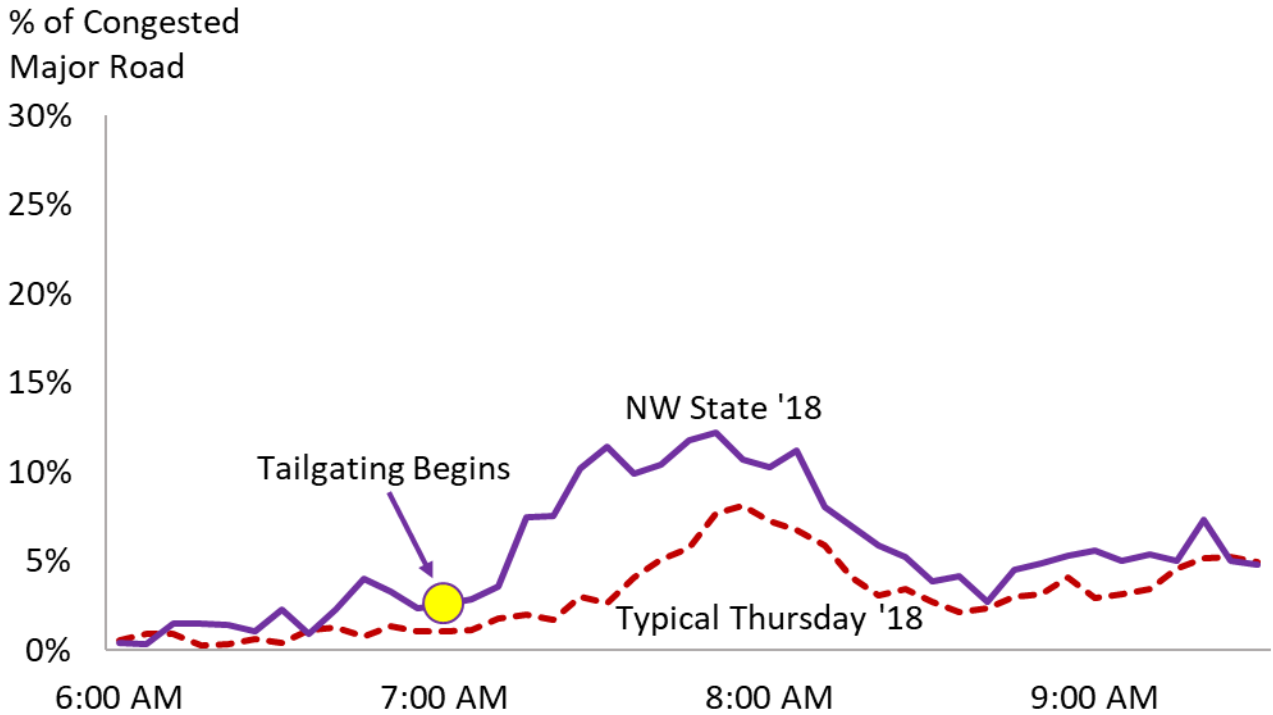
**Exhibit 3. 2018 Football Thursday and Average Gameday Bike Share**

2018 Game Totals	Aug 30 NW State	2018 Average
Gameday Bikeshare	2,270	1,900

**Tip #3 – Allow Extra Time**

“Two Typical Days in One” meant Thursday was not going to be normal, so residents and fans needed to account for extra travel time. This message was reiterated through all the communication outlets weeks and hours leading up to Thursday. Exhibit 4 illustrates morning traffic congestion for Northwestern State and a Typical Thursday in October. Traffic congestion on Football Thursday peaked earlier in the day and lasted longer than a typical Thursday. This indicates campus and community workers went to work sooner than normal, but there was also more traffic throughout the morning peak.

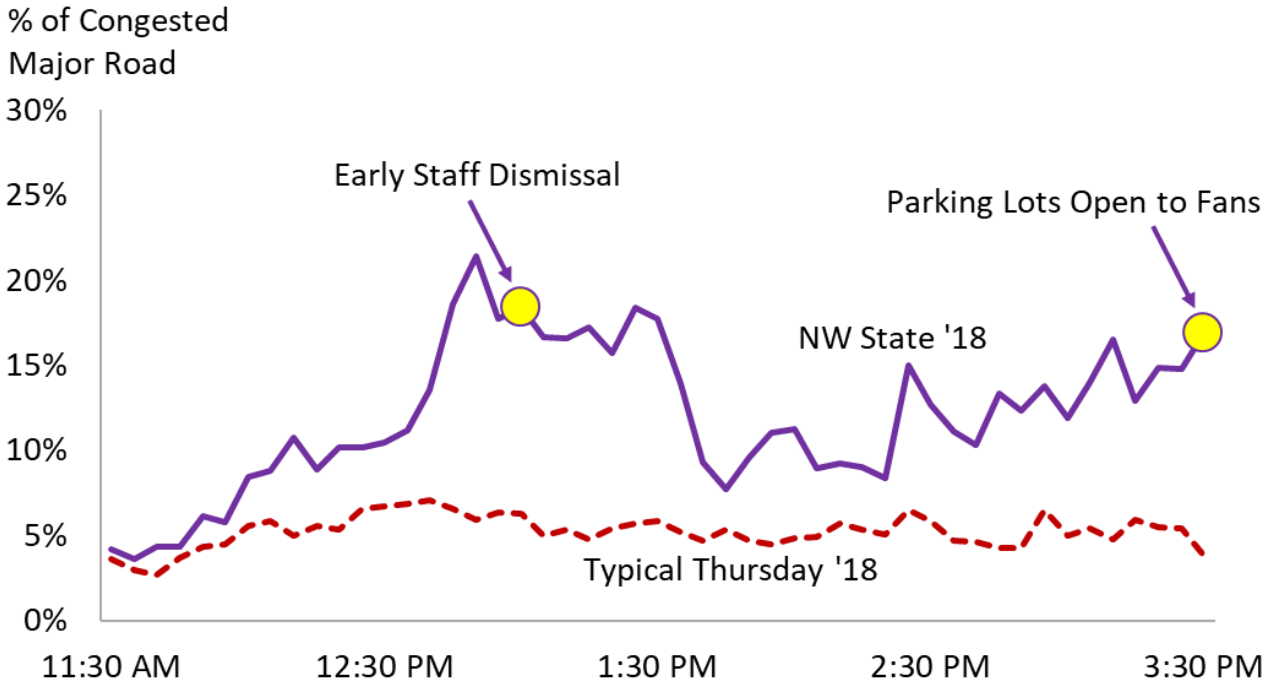
**Exhibit 4. Early Morning Traffic Congestion**





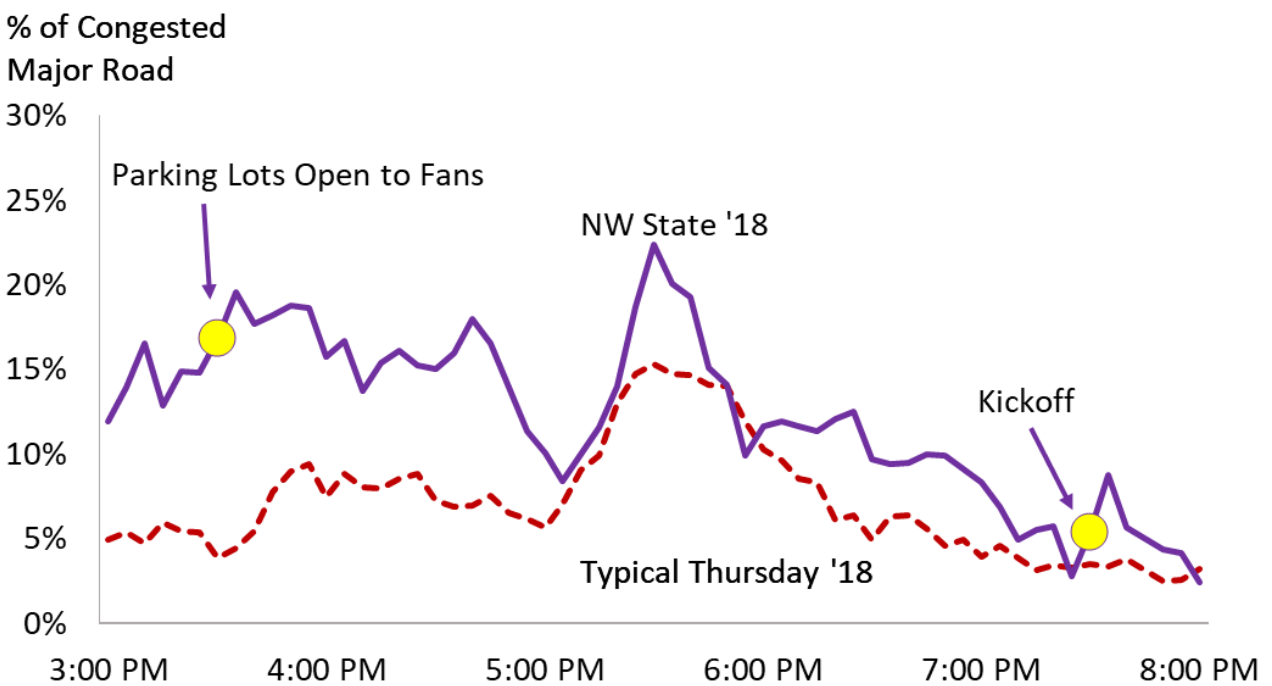
The potential for major late-afternoon traffic congestion was another concern with Football Thursday. Exhibit 5 shows traffic peaked for about an hour from 12:30 to 1:30 PM at much higher levels than a typical Thursday. Signal timing was set for midday patterns as staff expected no “peak” direction with the early release of non-essential staff, students coming and going to class and residents traveling to/from lunch.

**Exhibit 5. Midday Traffic Congestion**



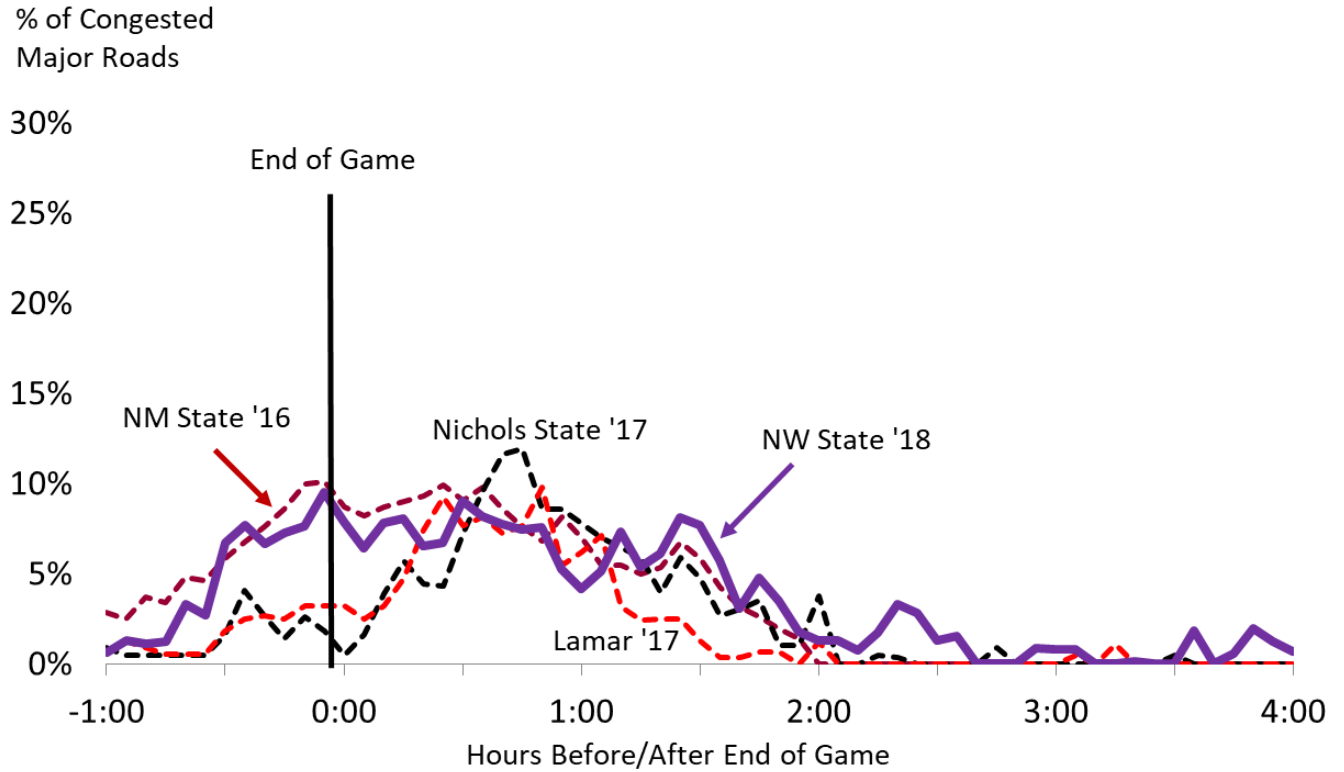
The 7:30 p.m. kickoff allowed fans arriving from Dallas-Fort Worth, Houston, San Antonio, Austin, and elsewhere time to arrive on campus after working portions of the day. The combination of a regular workday for many out-of-town fans and an evening kickoff suggested the arrival time might mirror an 11:00 a.m. game, with many people entering 60 to 90 minutes prior to kickoff. The pregame congestion graph saw a couple traffic peaks beginning around 3 hours prior to kick and 2 hours prior to kick (Exhibit 6). The peak around 3 hours prior coincides with over 10,000 students in class and 12<sup>th</sup> Man lots opening to fans. Coordination between Texas A&M University and the City of College Station developed a signal timing plan to accommodate the various peak traffic patterns that were unusual for a typical Thursday in September.

**Exhibit 6. Evening Traffic Congestion**



The Thursday Football game also tested the newly configured diverging diamond interchange (DDI) at Stotzer Parkway/Harvey Mitchell Parkway. The DDI performed well in the normal evening peak configuration with extra time for westbound traffic after the game. Postgame congestion was very light even compared to lower attended games (Exhibit 7). Congestion peaked at about 10 percent of the total roadway system, allowing the City of College Station to begin traffic control removal by an hour after the game ended.

**Exhibit 7. Northwestern State Postgame Congestion Analysis**



## 2018 Trends

Previous reports ([2017 Season Review and 2018 Look Ahead](#)) highlight changes from the 2013 season to the 2017 season. This section highlights the 2018 season including evaluations for parking and transit operations.

### **Game Times**

Many of the transportation elements and the traffic, parking, and bus performance results change to accommodate the different demands of kickoff times (Exhibit 8).

**Exhibit 8. 2018 Game Times**

<b>2018 Opponent</b>	<b>Kickoff Time</b>
<b>Northwestern State</b>	7:36 p.m.
<b>Clemson</b>	6:06 p.m.
<b>Louisiana-Monroe</b>	6:39 p.m.
<b>Kentucky</b>	6:05 p.m.
<b>Mississippi</b>	11:06 a.m.
<b>Alabama-Birmingham</b>	6:11 p.m.
<b>Louisiana State</b>	6:39 p.m.

### **Operational Improvements**

- City and campus work together in gameday transportation planning and in real-time operations – traffic signals, law enforcement and traffic officers, and in pre-positioning resources such as Public Works and tow vehicles to rapidly respond to incidents.
  - The Aggies went into overtime during the Kentucky game, and congestion peaked to the highest level since Tennessee 2016, but also declined quickly. Real-time reaction to traffic conditions was very important to this success - signal timing issues at FM 2818/George Bush Drive meant traffic was not able to empty out as efficiently as in other games. On-campus traffic was routed to Stotzer Parkway and University Drive using Kimbrough Boulevard and Discovery Drive, providing relief to George Bush Drive traffic.
  - The University of Mississippi game also brought an unexpected University of Mississippi Rebel volleyball team during postgame operations on George Bush Drive. With City of College Station camera access and constant communication, the College Station Police Department (CSPD) contacted the charter bus traveling incorrectly in the George Bush Drive VIP lane. CSPD escorted the Rebel volleyball team to northbound Penberthy Boulevard before postgame traffic was seriously affected.
  - The record setting seven-time overtime victory against LSU did not come without traffic challenges. The final whistle blew at 11:32 p.m., which put postgame traffic in direct conflict with the City of College Station day-end systemwide signal reset at 11:59 PM. The Public Works staff and CSPD ensured the rapid

changes in signal timing (from postgame pattern, to overnight pattern for one minute and back to postgame pattern) did not adversely affect traffic. The plan helped clear all garages by one hour postgame and ended the Discovery contraflow at 12:45 AM along with the remainder of the west campus traffic control and the City of College Station beginning to remove street closures. Additionally, continuous conversations between Texas A&M University Environment, Health & Safety and Union Pacific Railroad ensured their concurrence in operating according to the regular agreement to hold trains after game end although that was well beyond normal; UPRR held trains from midway in the 4<sup>th</sup> quarter until 2:00 AM.

- **Football Thursday** saw Transportation Services meet the challenge of “Two Typical Days in One.” The success of Football Thursday is the result of campus and community groups crafting a unified plan, setting expectations, engaging a broad range of stakeholders, and communicating ways to allow everyone to make informed choices about getting to class, work, and the game.
  - Transit fleet operations ran much more service than any class day or game day, and successfully operated “Two Days in One” (Exhibit 2). To provide enough service on this day, an additional 25 charter buses served the park-and-ride locations. On a regular game day, every bus is used without any spares or reserves. The ability to achieve this is attributed to the Transit Fleet Operations team that keeps many older buses working to serve fans.
  - The parking times for campus had to be communicated as early and often as possible; most of both commuter student and 12<sup>th</sup> Man parking is located on West Campus. A set of placards allowed essential students, faculty, and staff to remain in their parking areas and fans were kept out of the lots until after 3:30 PM; the “two days in one” message was so successfully communicated that only 9 vehicles were relocated for the whole day.
  - The new dockless bikeshare program was inaugurated with a true test on Football Thursday. Bikes were redistributed throughout the day ensuring availability to all users; the program handled 19 percent more rides than a typical weekday (Exhibit 3).
- **Pregame Operations**
  - Pregame street closures enacted in 2017 and refined in 2018 improved pedestrian experiences and vehicle traffic routing.
  - Better signage showing fans what permits can access each lot has relieved some campus street traffic congestion. Additionally, the ‘buy ahead’ electronic purchasing service offered by Transportation Services (through their partner ParkMobile) provides a quicker entry method and rewards fans that plan ahead.
  - Pregame operations witness city street congestion but relief to this challenge would require an active presence by city and campus staff (e.g., like postgame practices). This activity presence would result to traffic getting pushed to campus parking areas faster, and with many constrained designs on campus streets, sidewalks, pedestrian crossings and parking areas, staff would be challenged.

With this situation, the transportation plan does not view “moving the congestion problem to campus locations” as a good use of resources.

- We continue to work with state agencies to develop improvement and funding ideas to address the “Hempstead Hiccup”, (i.e. to relieve traffic congestion at the US 290/SH 6 interchange in Hempstead) during pregame and postgame operations. This intersection is on a hurricane evacuation route from the Houston area, and experiences traffic congestion on more than just Aggie football gamedays.
- **Postgame**
  - Significant involvement of Transportation Services has improved traffic congestion despite a 25 to 30 percent increase in gameday fan population.
  - Congestion will continue to be a feature of the postgame period, but a combination of experienced and dedicated staff, resources, technology and communication to fans helps create a plan that provides safety and good travel time reliability for exiting traffic.
  - The City of College Station’s cameras, the ability to change traffic signal timings, and staff actions are important elements of the postgame operation.
  - The City of Bryan provides traffic signal timing that supports postgame operations and are deploying more technology to improve their ability to respond to growing traffic demands.
- **Multimodal traffic designs**
  - Pedestrian safety and experience continue to be a priority for Transportation Services and others. No Wheel Zone signs and constant reminders ensure safe pedestrian areas in the Fan Zone, Aggie Park, and around Houston Street. We continue to solicit support from other gameday operation groups to support the Transportation Services staff. Delivering a ‘wheel-less area’ around Kyle Field not only improves transportation, but fan experience as well.
  - The Wellborn and Discovery contraflow lanes push vehicle traffic in different directions allowing us to provide pedestrians with safe and reliable paths to their destinations.
  - We continue to advertise preferred routes to pedicabs as they make themselves part of the gameday experience (not always positively). With our inability to completely enforce good behavior we rely on partnerships from fans and other gameday operations to ensure compliance.
- **Rideshare operations** are part of the fan experience and as a result, we have expanded the pregame and postgame drop-off and pick-up locations to several areas that are close to popular destinations. Getting information to drivers about road closures and gameday procedures continues to be a challenge; the partnerships we have created with the local government and University groups are producing small successes.

- **Infrastructure Construction** emerges every year as we work to meet the needs of the University and the cities. Key planning efforts and communication between various agencies have been successful in reducing gameday construction effects. The transportation plan will evolve as new construction projects come online.
  - The completed first phase of the MSC Streets project significantly improved the pregame multimodal flow, as the widened sidewalks provided fans ample space to stay out of the street. This allowed an efficient flow of transit operations and vehicle entry into Cain Garage, even when two lanes of Stallings were used by the Corps during their campus march-in.
  - The construction laydown area for the Student Services Building required the gameday bus stops to move from West Lamar to Old Main Drive except for the Para, WHR, and Reed/Olsen shuttles. Temporary lighting was deployed on Simpson Drill Field to assist fans during nighttime games. Despite the muddy path to the transit stops due to a wet fall season, bus ridership on these routes did not significantly decline through the season; although this season saw the lowest overall ridership since the plan was implemented in 2013.
  - A season of firsts included the Texas A&M Doug Pitcock '49 Hotel and Conference Center opening its doors in August 2018. The valet operations experienced several trials, including introducing a new vendor midway through the season. A workable solution provided accessibility for hotel guests while ensuring pedestrian safety in an area that is only 96 yards from Kyle Field.
  - The University Drive pedestrian improvement project resulted in a westbound lane closure for the entire football season. With the help of the City of College Station we were able to maintain all three eastbound lanes, greatly benefiting postgame operations. The project will provide pedestrians with their own phase in the signal timing which will improve safety but may also increase motorist delays.
  - The new diverging diamond interchange at Stotzer/FM 2818 operated smoothly and did not affect pregame or postgame operations in large thanks to signal timing and on-site staff support from TxDOT and the City of College Station.

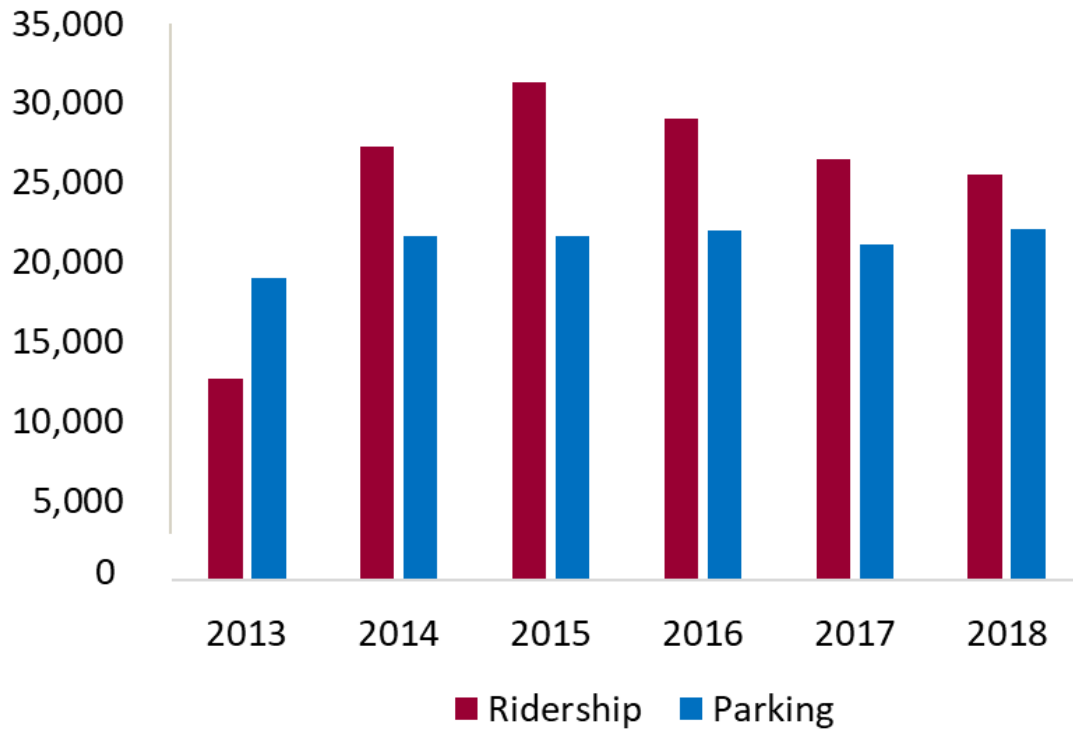
### **Parking and Bus Ridership Trends**

The biggest difference between 2013 and the seasons with the larger Kyle Field design has been bus ridership (Exhibit 9). A combination of expanded route structure, close-to-Kyle bus stop locations and faster and more reliable bus routes have played a role in doubling the transit ridership. This general trend has been experienced in both on- and off-campus ridership. About 2,000 more cars are parked on campus for the average gameday (an increase of 13 percent), with parking volumes around 24,000 for the larger games. The remainder of the larger football crowds have been accommodated by a combination of bus ridership, bike and walk trips from off-campus areas, and parking in areas that are nearby campus.

The game-by-game data further illustrates the increasing trends. The 2018 season had an average of 1,400 more parked vehicles per game than 2017, and three games above 22,500 vehicles. Only the 2016 season had two games above that mark and the 2013, 2014, 2015 and

2017 seasons only had one (usually the Alabama game). If we eliminate the Thursday night game from the average; then the 2018 'typical' game was more than 500 cars above the next closest season. More information about the parking patterns is presented below.

**Exhibit 9. Parking and Ridership Per Game Averages**



Transit operations were more challenging in 2018; construction on the Student Services Building and consequent narrowing of streets around the MSC meant fans had to walk farther (and across muddy ground for several games) to access several of the highest ridership bus routes along Old Main Drive. Overall typical gameday ridership was down by about 1,000 riders from 2017 and was the lowest average since the new plan was implemented. But every game except the Thursday night game had higher ridership than the highest 2013 game – showing the attractiveness of the new routes and the success of coordinating the bus and car traffic plans.



**Exhibit 10. Campus Parking and Bus Ridership During Football Gamedays**

<b>2013</b>	<b>Ridership</b>	<b>Parking</b>	<b>2014</b>	<b>Ridership</b>	<b>Parking</b>	<b>2015</b>	<b>Ridership</b>	<b>Parking</b>
Rice	14,040	17,820	Lamar	25,720	21,400	Ball State	34,050	22,160
Sam Houston	16,820	19,410	Rice	24,800	20,970	Nevada	28,610	19,320
Alabama	22,990	23,700	Univ Miss	31,010	23,630	Miss State	32,840	22,440
SMU	11,360	18,910	LA Monroe	23,370	18,740	Alabama	33,900	23,595
Auburn	12,810	20,110	Missouri	31,070	21,070	So Carolina	23,030	18,450
Vanderbilt	10,490	17,700	LSU	27,670	21,130	Auburn	29,590	21,990
UT-El Paso	10,440	19,560				W Carolina	28,750	20,530
Miss State	12,820	19,460						
<b>Total</b>	<b>111,770</b>	<b>156,670</b>		<b>163,640</b>	<b>126,940</b>		<b>210,770</b>	<b>148,485</b>
<i>Typical</i>	<i>12,680</i>	<i>19,000</i>		<i>27,270</i>	<i>21,640</i>		<i>31,290</i>	<i>21,670</i>

<b>2016</b>	<b>Ridership</b>	<b>Parking</b>	<b>2017</b>	<b>Ridership</b>	<b>Parking</b>	<b>2018</b>	<b>Ridership</b>	<b>Parking</b>
UCLA	30,340	21,970	Nich St	26,680	20,280	NW State	18,080	17,250
PVAMU	23,330	18,090	LA-Lafyt	23,590	17,560	Clemson	27,730	23,520
UTenn	32,320	24,520	So Carolina	25,340	21,630	LA-Monroe	23,100	21,140
NMSU	27,290	21,520	Alabama	29,060	22,690	Kentucky	27,010	22,970
Univ Miss	30,490	23,950	Miss St	25,460	21,430	Univ Miss	25,710	20,480
UTSA	27,010	19,380	Auburn	25,620	19,810	AL-B'ham	25,030	21,600
LSU	26,150	20,850	NMexico	26,600	21,040	LSU	24,420	22,540
<b>Total</b>	<b>196,930</b>	<b>150,280</b>		<b>182,350</b>	<b>144,440</b>		<b>171,080</b>	<b>149,500</b>
<i>Typical</i>	<i>28,930</i>	<i>22,030</i>		<i>26,460</i>	<i>21,150</i>		<i>25,500</i>	<i>22,040</i>

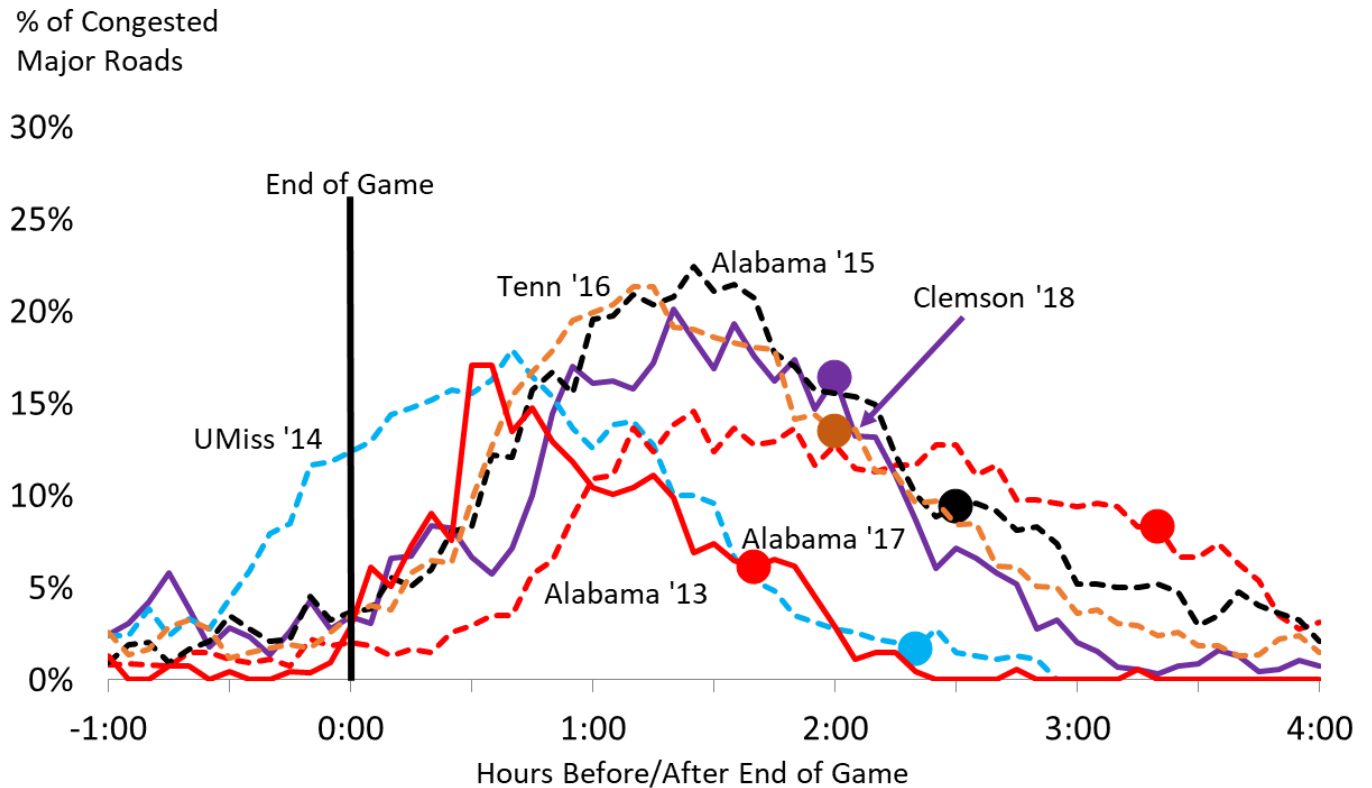
**Traffic Congestion**

The biggest difference in traffic congestion patterns with the new plan is that more capacity is focused on fans trying to leave the immediate Kyle Field area; this allows them to get back to their hotel, game weekend condo, apartment, house or restaurant quickly. The plan also provides more routes for those leaving town to get back to their homes. The near-campus bottlenecks have been removed and traffic can use more of the street network, meaning that the congestion measure peaks at higher levels, but traffic is a problem for less time.

With more experience, the traffic control is being picked up earlier and the traffic congestion goals are being met. In some cases, leaving traffic control in place results in more congestion; the Alabama game in 2015 saw traffic congestion spike after the postgame traffic controls clogged the incoming traffic that was looking for restaurants and entertainment venues.

The games in Exhibit 11 had similar large-sized crowds – in excess of 120,000 fans in the Kyle Field area. Mississippi in 2014 had more fans leaving early, but the game also saw crashes on the two western departure routes (Stotzer and Bush). All the post-2013 games show the same general congestion graph shape – the much higher peak because traffic flow gets past the near campus bottlenecks more easily, the desired relatively steep decline in congestion level and the end of traffic controls well before the 2013 game.

**Exhibit 11. Challenging Games - Postgame Congestion**



## Parking

Exhibit 12 summarizes the parking volume from 2013 to 2018. Parking facility, plan and policy changes each year have resulted in alterations in campus parking patterns. The 2016 Cain Garage opening and the 2017 RV parking changes are perhaps the most significant changes since 2014. Parking for several hundred Kyle Field workers has also played a role in changing parking numbers. In 2014, they were accommodated on Fan Field, in 2015 in the Agronomy Road area, and for the 2016 and 2017 seasons they parked in the Vet School area. Worker parking moved to Lot 88 adjacent the General Services Complex on Agronomy Road in 2018. This lot had been used by RVs through 2016 season and was mostly empty in 2017.

**Exhibit 12. Typical Game Parked Vehicles by Campus Area - 2013 to 2018**

<b>Parking Areas</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Main Campus	4,290	4,660	4,570	5,430	5,050	5,180
East Main	2,030	2,320	2,370	2,240	2,670	2,230
Reed/Agriculture	9,400	8,900	8,430	8,930	8,910	9,680
Research Park	1,510	3,040	3,320	3,240	2,640	2,650
Vet/Agronomy	1,770	2,720	2,980	2,190	1,880	2,300
<b>Total</b>	<b>19,000</b>	<b>21,640</b>	<b>21,670</b>	<b>22,030</b>	<b>21,150</b>	<b>22,040</b>

**Less Efficient Parking Due to Use of A&M Parking Permit**

The combination of prepaid, 12<sup>th</sup> Man Foundation donor parking and cash at arrival provides a good mix of parking assets. The other gameday parking method – faculty, staff and students using their permit (referred to as “any valid permit” (AVP)) is a less efficient operation, as demonstrated in vehicle occupancy studies conducted in 2015 and 2018. A&M students, faculty and staff with a valid permit can park on gamedays for no additional charge in some parking areas. This policy requires the traffic plan to handle more vehicles, pushes some gameday paying parkers farther from Kyle and reduces the ability of A&M Transportation Services to pay for staff and resources to accommodate gameday operations, and essentially adds to the regular permit costs for those who do not attend football games.

Studies in 2015 and 2018 found that the AVP parkers had about half a person less in each vehicle than the cash payers. No surprise for economic students (free goods are always overconsumed), but in this case the typical 5,000+ any valid permits seen on gamedays could accommodate more than 2,000 additional gameday fans if they had the same persons-per-vehicle ratio as the paying customers. As crowds grow, and parking resources change, this policy should be re-examined to see if the efficiency and fairness decisions might change in coming years (Exhibit 13).

The 2017 season was the first time that AVP were not honored in the campus garages; nonetheless, this meant parkers went to other campus parking areas. Out of the seven 2018 home games, five of those saw over 5,100 AVPs. Each of the three big SEC games (South Carolina, Alabama, and Mississippi State), had over 5,600 cars use their regular permit to park, with the South Carolina game parking close to 6,000 AVPs. Since these parkers have an average of about ½ person less per car, we accommodated 8,000 additional cars than if they had the occupancy rate of gameday paid parking. These lots were also on the edges of campus, meaning more of them use the shuttle system, requiring more buses for the Bush and Bonfire routes.

The pregame and postgame traffic plans were also forced to handle these additional vehicles. It is unlikely additional buses will be available in the near-term and new road space is still a few years away. As existing parking spaces are converted into classroom, office, and lab buildings,

the inefficient parking pattern will be a greater strain on the systems. Preliminary solutions to these constraints include, requiring any valid permits to carry at least two people in their vehicle (the same concept as using the High Occupancy Vehicle lanes on freeways), reducing the number of lots accepting any valid permits, or requiring a reduced parking fee for these permits to park in campus lots.

**Exhibit 13. Paid Parkers Compared to Any Valid Permit Parkers**

Season	Total AVP	Total Paid	Percent AVP
2013	29,450	46,630	39%
2014	28,280	34,980	45%
2015	32,070	36,780	47%
2016	31,840	35,300	47%
2017	34,540	28,550	55%
2018	30,910	30,190	51%

## Shuttle Ridership

Texas A&M University Transit has provided fans an alternative method to get to campus for 15 years and operated gameday bus service for more years than that. The ‘teenage’ Get to the Grid shuttle has provided a free parking and shuttle option, and on-campus routes served many parking areas. The post-2013 gameday route structure includes service to the Bonfire Memorial, along Agronomy Road and the Stotzer Parkway parking areas, as well as three routes around west campus. Four routes of modified regular day operations provide service to off-campus student apartment areas.

The unprecedented demand at the 2013 Alabama game showed the importance of tightly coordinated bus and traffic plans. In 2013, both before and after the game, the buses on west campus were moving slower than pedestrians were walking due to competition from auto traffic. The Kyle Field Transportation Plan concentrated on reducing conflicts in regular vehicle, bus and pedestrian traffic streams. The plan ultimately meant that fewer sections of road were used for cars, leaving more sections for buses to travel unimpeded to parking lots, particularly those farther from Kyle Field.

On the upside, the well-trained drivers and alert operations staff allow the TAMU transit fleet to have exceptional flexibility, allowing buses to shift between routes so they can serve the largest waiting groups, contributing to lines clearing rapidly after games. While this type of operation is normally accomplished in other cities with full-time professional drivers, TAMU transit operates with a mix of full-time professionals, part- and full-time student drivers.

Exhibit 14 shows the increase in both on- and off-campus bus ridership from 2013. The drop in off-campus ridership brought by the elimination of the large Get-to-the-Grid parking location has been somewhat offset by the increase in on-campus shuttles. Many of these riders are coming from distant parking lots made more desirable by the shuttle service. Another pattern seen since the new route structure in 2014 is the use of shuttles to move tailgaters from their parking area to their party. Additional stops were provided to allow this to happen more easily and particularly for afternoon and evening games these stops provide improved gameday experiences.

**Exhibit 14. On- and Off- Campus Football Bus Ridership - 2013 to 2018**

<b>Route</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>On-Campus</b>	<b>6,180</b>	<b>14,650</b>	<b>20,190</b>	<b>19,450</b>	<b>17,550</b>	<b>16,300</b>
12th Man	1,360	2,960	4,030	5,530	4,620	4,770
Other On-Campus	4,820	11,690	16,160	13,920	12,930	11,530
<b>Off-Campus</b>	<b>6,500</b>	<b>12,620</b>	<b>11,110</b>	<b>9,480</b>	<b>8,910</b>	<b>9,200</b>
Park-and-Ride	4,350	9,380	6,460	5,880	5,410	5,760
Apartments	2,150	3,240	4,650	3,600	3,500	3,440

It is notable that every gameday in 2014, 2015, 2016, 2017 and 2018 has had higher ridership than all previous gamedays (including the 2013 Alabama game). The typical – and even the low ridership games – are now double the typical pre-2014 games.

A typical game sees more ridership pregame than postgame across all route types for all game times. Many fans use the bus routes to move from parking to pregame tailgates to Kyle Field; the postgame bus waiting lines, although they are cleared before an hour postgame, probably deter some fans from using bus service. Inclement weather and game time also affect ridership, with bad weather and later games increasing ridership on all route types.

On campus ridership in 2018 went down by 1,260 riders from 2017 and off campus ridership went up 300 rides. The Bonfire route went down by 750 riders (about half the number of parking spaces that were not used in that area during 2018 compared to 2017) and Bush Library went down by 550. These changes in ridership indicate parking patterns are becoming more compact and moving toward the interior of campus.

The 2019 season bus service will see improvements with the MSC bus stops returning to the West Lamar area. Other routes will be substantially the same, but with larger expected game attendance the system ridership should increase.

## Bike Share

The ofo bike share company operated service during the 2018 season. The Thursday game saw the highest bikeshare use of the three games for which data were available, but all three gamedays had ridership above the average weekday (Exhibit 15). For the 2019 season, VeoRide will provide bike share services.

**Exhibit 15. 2018 Gameday Bikeshare Ridership Levels**

2018 Game Totals	Aug 30	Sept 8	Sept 15	2018
	NW State	Clemson	LA-M'roe	Average
<b>Gameday Bikeshare</b>	2,270	1,820	1,600	1,900
<b>Typical Weekday</b>	1,500	1,500	1,500	1,500
<b>Typical Saturday</b>	550	550	550	550

## Congestion

The congestion goals for the Kyle Field Transportation Plan are designed around maintaining safe travel paths for pedestrians, bicyclists and vehicles; although these modes may see a reasonable amount of extra travel time. The plan explicitly recognizes the difficulties in loading and unloading the Kyle Field area which regularly has more than 120,000 spectators and extra tailgaters. This demand is equivalent to the 4<sup>th</sup> largest Texas downtown, in the 15<sup>th</sup> largest Texas metro area. The lack of freeways, and basically no new roadway capacity, meant that the plan relied on aggressively operating the network, as well as accepting that some traffic congestion will exist. Combined staff efforts from A&M Transportation Services, the City of College Station, and Texas A&M Transportation Institute work together to monitor, analyze and adapt to the changing gameday transportation situation from the College Station Traffic Control Center, Kyle Field Command Center and many campus intersections, parking lots and garages.

The policy approach from both on- and off-campus entities is to provide as much exiting capacity as practical to reduce the amount of time that traffic congestion affects postgame travel to homes, hotels, condos, restaurants, and entertainment venues. The on- and off-campus agencies have a goal of beginning to remove traffic controls within two hours postgame – a goal that has been accomplished for most games since 2014 and for all 21 games in 2016, 2017 and 2018.

The major road system serving the Kyle Field exit traffic plan is analyzed before and after the game using traffic speed data from INRIX. The percentage of about 43 miles of road (86 miles of directional road) that show slow-and-go or stop-and-go traffic congestion are estimated every 5 minutes to produce summary graphs.

- North-South Roads – Earl Rudder Frwy (SH 6), Texas Ave, Wellborn Rd
- East-West Roads – Villa Maria Rd, University Dr/Stotzer Blvd, George Bush Dr, Harvey Rd, Rock Prairie Rd, Wm D Fitch Pkwy (SH 40)
- Loop Road – Harvey Mitchell Pkwy (FM 2818)

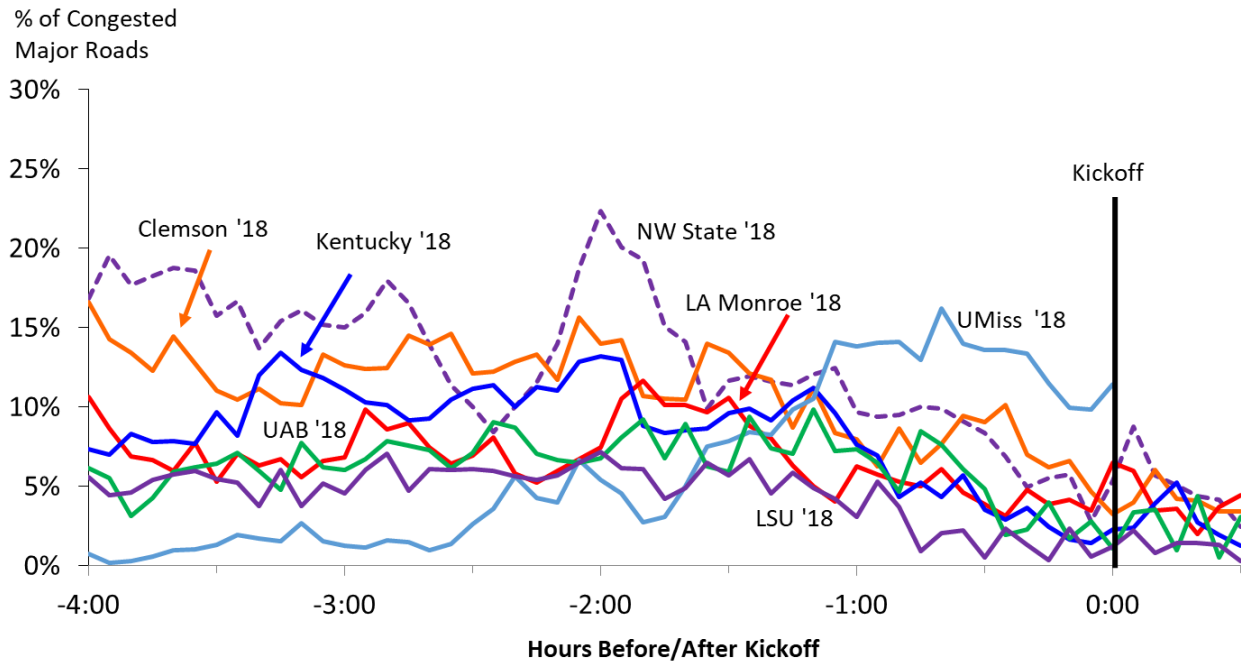
Congestion data for the 2013 Alabama game (nearest comparable crowd size to the renovated Kyle Field) are used as the comparison point for pre-transportation plan conditions. The “congestion goal line” of 8 percent of these roads is like the edges of the average weekday evening rush hour, which exceeds 15 percent on a regular basis. Congestion patterns change with attendance, start and end times, opponent, weather conditions, and game score. The key goal is to remove traffic control as soon as possible so that regular travel patterns can resume, although some congestion will exist. The plan is designed to return conditions to those like afternoon peak weekday traffic.

### **Pregame Traffic Congestion**

Several changes have been made to the pregame traffic plan. The parking entry process brings vehicles off the streets before credentials or permits are checked. Traffic on the streets around the parking lots flows better because the signage at the curb informs parkers before they turn into the lots and well-trained parking staff is more efficient at getting parkers into their lots and off the roads. This is particularly important on west campus where some large lots see very high demand.

Thursday football games are a special challenge with students, faculty and staff traffic conflicting with entering football fans. The special Football Thursday section describes those efforts. Pregame congestion peaked at levels near the Thursday game for only the big Clemson game and the morning kickoff Mississippi game (Exhibit 16). Other games followed a fairly predictable path of congestion peaking at between 10 and 15 percent of the major roadway system. The Thanksgiving weekend LSU game is a low congestion anomaly; the ‘background’ traffic from non-attendee residents is always less during this weekend, and congestion patterns show the benefits of the lower traffic volumes.

## Exhibit 16. 2018 Gameday Pregame Congestion



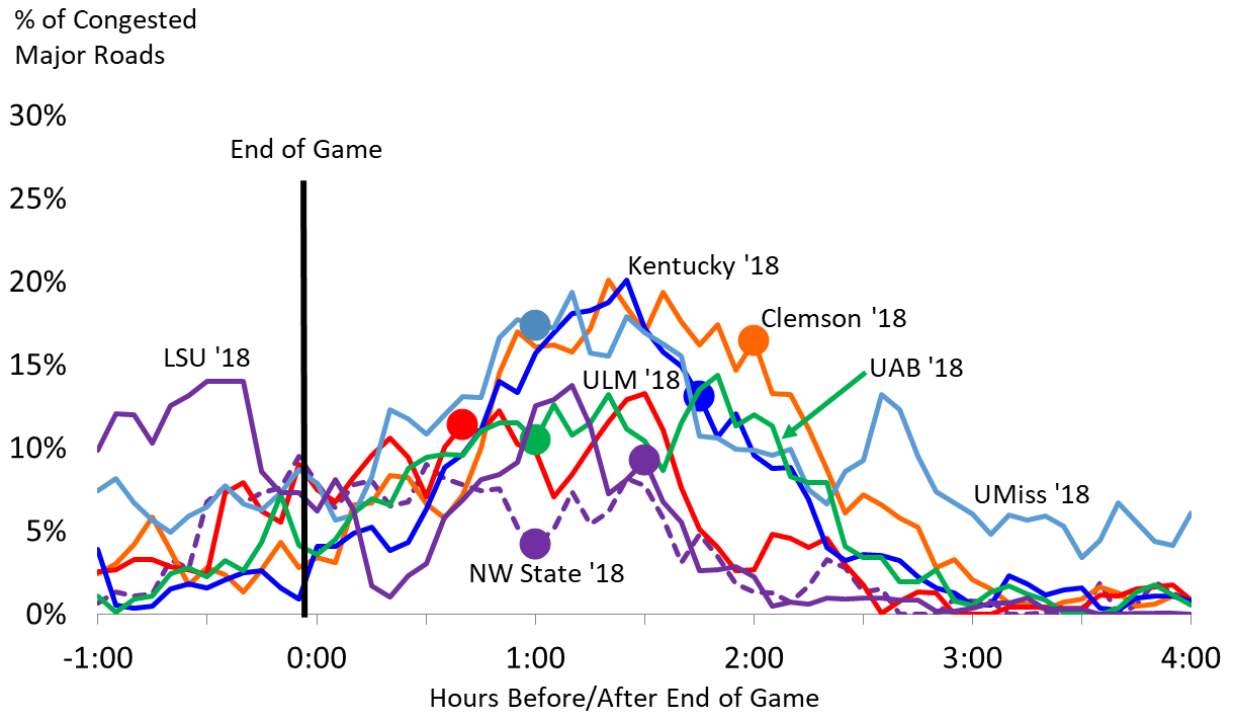
### Postgame Traffic Congestion

The big SEC game traffic patterns were similar – congestion peaking around 75 to 90 minutes postgame at between 20 percent and 25 percent (Exhibit 17). Congestion levels reached the ‘goal line’ of 8 percent of the major road system by 2½ hours postgame. The UAB and Louisiana-Monroe games peaked at lower levels with the Louisiana-Monroe game congestion ending before two hours postgame. The 7-overtime LSU game was an obvious aberration, but the double congestion peak was interesting – some fans left just before the Aggies tied the game, and then a rush of fans after the game was followed by a steady flow of fans leaving the postgame field invasion over a 30-minute time.

The diverging diamond interchange at 2818/Stotzer worked well with a fixed signal timing that had to be decided before gamedays. The 2019 season will see the signals connected to the City of College Station system so that the green timing can be changed during the peak periods to address postgame congestion – just as the rest of the system is operated.



### Exhibit 17. 2018 Gameday Postgame Congestion



Note: Dot indicates when traffic control removal began by City of College Station (goal is within 2 hours of game end).

## New Transportation Plan Elements

A significant change to the near-Kyle gameday environment began in 2018 with a focus on creating a No Wheel Zone during the hours of intense pedestrian activity. The Fan Zone, Corps March-In and tailgating brings thousands of guests to the north and east sides of Kyle Field. Streets have been closed to vehicle traffic for a few years, and the transportation, safety and event operations groups decided that the prohibition should extend to other wheeled vehicles.

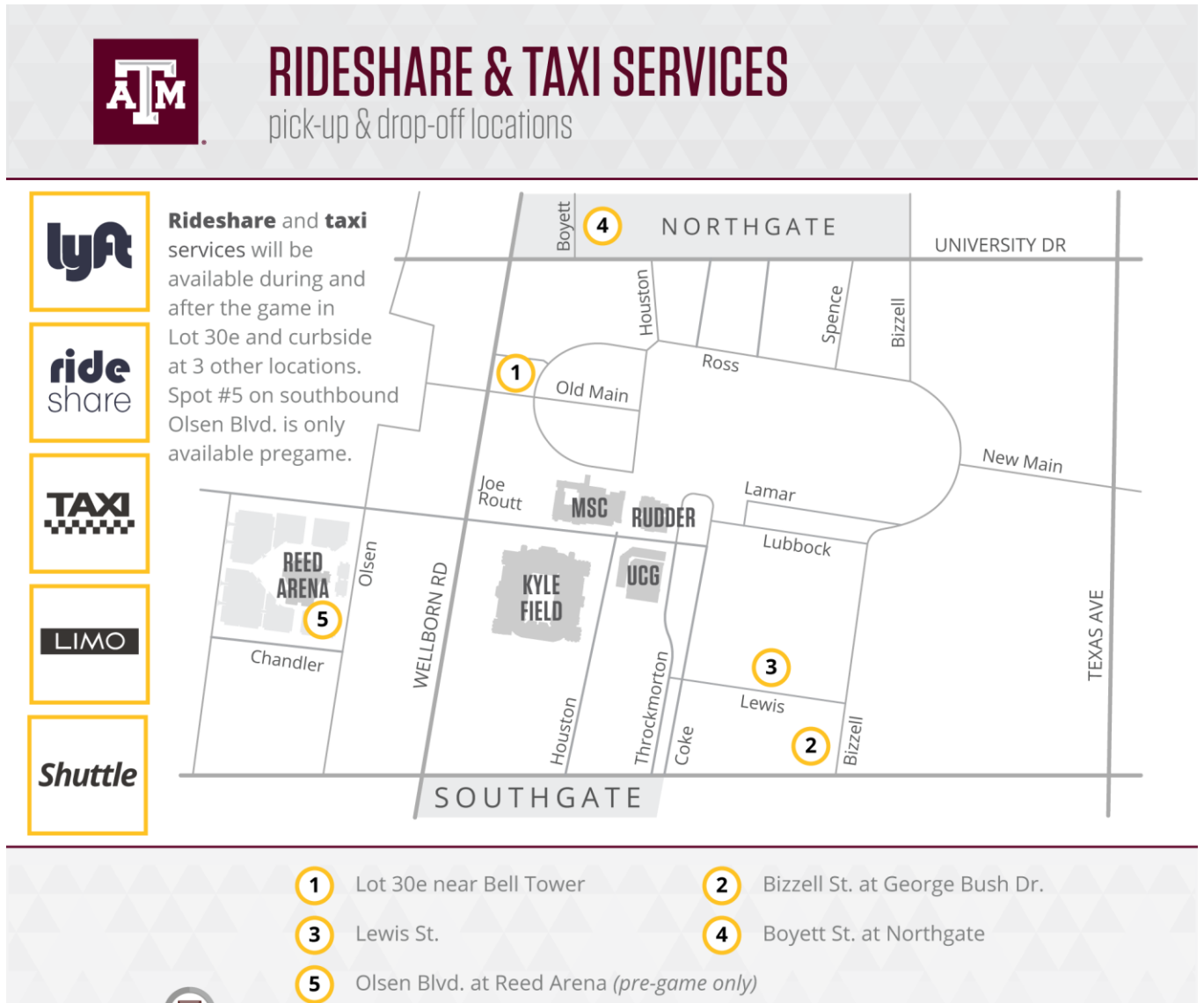
The plan for 2019 is to involve all the gameday operations groups and to develop alternative methods for all parties to accomplish their missions. So, for example, the SSC Grounds and Maintenance groups will provide extra trash cans and will move around on-foot during the last four pregame hours. The No Wheel Zone depicted in Exhibit 18 will be emphasized with signs and verbal reminders by all gameday staff, with a goal of eliminating the use of wheels when there is intense pedestrian activity; outside of those times, the wheel restriction will not be expected. This is not a “bright line” type of approach, but we hope this reliance on a “logical person” standard will be self-enforcing.

**Exhibit 18. 2019 No Wheel Zone Map**



Rideshare and pedicab operations have been part of the gameday plan for a few years. The rideshare operators have designated pickup locations (Exhibit 19) and receive gameday closure information that allows them to brief their drivers; most of the drivers use a traffic information app such as Google or Waze. Those app operators receive the same road closure information and have dependably scheduled the map updates. Pedicab operators are contacted on gameday to encourage compliance with the No Wheel Zone and provided with a map of routes that allow them to move in areas with fewer pedestrians.

**Exhibit 19. 2019 Gameday Rideshare Map**



Pregame traffic could benefit from more fans using FM 2818 to access the west campus parking area; social media accounts and Destination Aggieland encourage this route. These same channels have been used to alert fans of parking areas that are full on gameday and shuttle route status for several years. With several pre-paid and day-of-game parking areas, as well as two free off-site park-and-ride routes, it is important to alert arriving fans to their options before they arrive on campus. This helps assure fans that their choice is the most desirable and to help them avoid traffic problems unnecessarily. In 2018, team bus routes were altered to enter on the north side of Kyle Field. This change greatly improved the traffic situation on George Bush Drive and Houston Street.

The section of Joe Routt in front of the Pitcock Hotel will be managed to ensure hotel patrons can check in and the pedestrian safety zone around the MSC and the Fan Zone can be maintained. This area is also an attractive drop-off/pick-up zone during pregame and postgame periods and the number of competing uses makes this a challenging location.

The new bus stops along Lamar on the north side of the MSC will mean some small traffic changes to the Cain Garage exit flow. The bus patron experience will be improved with better signage, wider sidewalks, better lighting, and improved queueing space.

Traffic congestion has been a problem on the southbound Wellborn postgame route from University Drive to George Bush Drive. The 2019 plan is to give more priority to this route by not stopping the southbound flow for the crossing George Bush Drive bus traffic as frequently. While giving buses more green time at intersections is usually a good idea from a person-moving perspective, in this case the southbound traffic slowdowns impede the traffic exiting from the garages and parking lots near Kyle Field. The plan will also involve holding pedestrians from crossing Wellborn until there are larger groups, or until they have waited a few minutes (the typical operation in past years would move pedestrians sooner). The partnership between College Station Police and Public Works and A&M Transportation Services will monitor the operation to assure pedestrians and crossing vehicles are not unduly delayed.