

## EXECUTIVE SUMMARY

Kimley-Horn and Associates, Inc. was retained to perform a Parking and Traffic Study for existing and proposed campuses of the Collin County Community College District (Collin College). Collin College is interested in improving the arrival experience throughout the District and parking supply and traffic operations is integral to that experience. Adequate parking supply should be provided and entering and exiting traffic should be seamless and safe. Additionally, Collin College desired a survey to benchmark current thoughts on parking and traffic and recommendations for an operational framework on how to address parking in the future.

### PARKING OUTREACH SURVEY

Key themes emerge among the various respondents. First, respondents notice a strong police presence at campus parking lots and garages. Secondly, additional parking, signage and lighting is a continual request for respondents at all locations except for the Public Safety Training Center. Finally, egress is a top concern at Spring Creek, Central Park and Preston Ridge.

### PARKING SYSTEMS ASSESSMENT, BEST PRACTICES AND RECOMMENDATIONS

The following is an outline of ideas for consideration as the district decides to pursue parking enforcement. Details and analysis of these ideas follow, along with other recommendations of less importance.

- Collin College should develop a strategic parking plan that will guide the district's parking efforts over the next five to ten years.
- Without a parking enforcement/permit program, the district is unable to control those who are parking on the campuses. While the district does not yet have a lack of parking space problem, the lack of a permitting scheme decreases the level of security on campus as the Collin College Police Department (CCPD) does not have a tool to know who is legally parked.

#### Roll-Out Plan

- During the course of researching this report, we have learned of several institutions who attempted to install and use their procured License Plate Recognition (LPR) system as a

stand-alone solution. While many campuses were under pressure from their administrations to roll-out the new system quickly, all were left working through adoption questions and issues in the system once in a “live” environment. This expedited adoption created large amounts of extra work for staff, a negative perception from the parking public and, more importantly, the institution’s administration.

- Similar to the Privacy Policy, we recommend a “Roll-Out Plan” also be considered before entering into the RFP procurement stage of obtaining an LPR system. A timeline of at least one to two calendar years should be used to work out the various adoption issues, community marketing, and customizations that must occur with projects this size. This allows staff to find problems in the system, and sufficient time to determine the best enforcement pattern to use when driving the parking facilities.
- Before, during, and after the roll-out, marketing strategies should be proactively used to inform the faculty, staff, and students about the advantages of the new system. Whether utilizing dedicated marketing personnel within the parking department, marketing personnel from the district level, or marketing school students, the communication of the upcoming change is of critical importance to successful implementation and reinforces adoption by the district.

### **Strategic Planning**

- While most colleges have campus-wide technology plans, such a plan on the department level would develop a cohesive strategic direction for its parking program that is well understood, vetted and supported by the campus community. A planning process will establish direction for the department, address major challenges, and leverage opportunities. A technology strategic plan for parking provides for a big-picture plan for the parking system and dovetails with existing district strategic planning efforts to provide parking and access resources, services and programs, and technologies that facilitate planned campus growth.

### **Privacy Policy**

- It is imperative organizations using LPR technology have a privacy policy in place before they begin LPR enforcement. This policy should outline who has access to the data, whose written authorization allows its release to information requests, and specifically, how long will the individual license plate “reads” (those not associated with a citation) be stored before deletion. Aggregate data, including the number of reads, occupancy counts etc., should be maintained for historical trend analyses. Implementation without a defined privacy policy can easily lead to a negative public perception due to privacy concerns and create significant pushback from the community the parking operator is meant to serve.

## **PARKING DEMAND ANALYSIS – CENTRAL PARK CAMPUS**

- Existing observed peak parking demand occurs at 10am with 72% of the campus parking supply occupied
- The Central Park campus provides 0.31 spaces per person and operates at a peak demand of 0.22 per person
- Based on enrollment projects included in the 2016 Collin College Long-Range Master Plan, existing parking supplies are anticipated to be insufficient to meet campus parking needs by 2021
- The loss of Lots C & D will exacerbate parking constraints until the completion of the proposed Phase 3B parking structure.
- A total of approximately 2,527 parking spaces are needed to meet the anticipated growth in campus population by 2027.

## **PARKING DEMAND ANALYSIS – SPRING CREEK CAMPUS**

- Existing observed peak parking demand occurs at 11am with 85% of the campus parking supply occupied
- The Spring Creek campus provides 0.26 spaces per person and operates at a peak demand of 0.22 per person
- Based on enrollment projections included in the 2016 Collin College Long-Range Master Plan, existing parking supplies are anticipated to be insufficient to meet campus parking needs by 2022
- The loss of Lots D & E will exacerbate parking constraints until the completion of the proposed Phase 1A parking structure.
- A total of approximately 3,900 parking spaces are needed to meet the anticipated growth in campus population by 2025.

## **PARKING DEMAND ANALYSIS – PRESTON RIDGE CAMPUS**

- Existing observed peak parking demand occurs at 10am with 91% of the campus parking supply occupied
- The Preston Ridge campus provides 0.26 spaces per person and operates at a peak demand of 0.24 per person
- Based on enrollment projections provided, existing parking supplies are anticipated to be insufficient to meet campus parking needs by 2019
- With the anticipated near-term parking shortage and planned loss of Lot I, inclusion of a parking structure should be considered in the long-term development plans for the Preston Ridge campus

- A total of approximately 1,063 additional parking spaces are needed to meet the anticipated growth in campus population by 2025

#### PARKING DEMAND ANALYSIS – COURTYARD CAMPUS

- Existing observed peak parking demand occurs at 11am on Tuesday with 51% of the campus parking supply occupied
- The Courtyard Center campus provides 0.18 spaces per person and operates at a peak demand of 0.10 per person
- Based on enrollment projects included in the 2016 Collin College Long-Range Master Plan, existing parking supplies are anticipated to be sufficient to meet campus parking needs through 2025 as they are configured today
- The loss of Lot A in 2023 is anticipated create parking constraints until the completion of the proposed Phase 3B parking structure
- A total of approximately 325 parking spaces are needed to meet the anticipated growth in campus population by 2027.

#### PARKING DEMAND ANALYSIS – COLLIN HIGHER EDUCATION CENTER

- Existing observed peak parking demand occurs at 10am with 46% of the campus parking supply occupied
- The CHEC campus provides 0.28 spaces per person and operates at a peak demand of 0.13 per person
- Current parking supplies are anticipated to absorb parking demands serving a campus population twice its current size

#### PARKING DEMAND ANALYSIS – FUTURE CAMPUSES

Based on the assumed student enrollments provided in the 2016 Collin College Long-Range Master Plan and in recent updates reported by the media and in the Capital Improvement Plans, **Table P27** summarizes the recommended parking supplies of the new campus locations based on their estimated 2025 student enrollments and land use characteristics.

**Table P27: Recommended Parking Supply Summary**

		Estimated 2025 Student Enrollments	Projected Demand	Demand/ Student	Recommended Supply	Supply/ Student
New Campuses	PSTC*	500	123	0.25	100-150	0.27
	Tech Campus	7,100	1,133	0.16	1,200-1,300	0.18
	Wylie	6,300	1,502	0.24	1,600-1,700	0.26
	Farmersville	800	203	0.25	200-250	0.28
	Celina	3,000	760	0.25	800-900	0.28
Existing Campuses	Spring Creek	16,952	4,040	0.24	4,489	0.26
	Preston Ridge	14,661	3,712	0.25	4,125	0.28
	Central Park	9,090	2,227	0.24	2,475	0.27
	Courtyard Center	3,197	312	0.10	347	0.11
	CHEC	1,592	254	0.16	283	0.18

\* PSTC future enrollments unavailable, 500 used for example projections

## TRAFFIC IMPACT ANALYSIS – CENTRAL PARK CAMPUS

Based on the analysis presented in this report, the Central Park Campus, located at 2200 University Drive in McKinney, Texas, can be successfully incorporated into the surrounding roadway network after the school population grows according to the projections included in this report. The proposed site driveways provide the appropriate level of access for the development. The site-generated traffic does not have a disproportionate effect on the existing vehicle traffic operations.

The following recommendations are proposed for the campus:

1. At the “Multi-Merge” intersection identified in this report, either:
  - a. Paint stop lines and install STOP signs on all indicated approaches; or
  - b. Reconstruct the parking medians and aisles around the “Multi-Merge” point to eliminate the geometrical difficulties altogether.
2. At the dead-end parking aisle identified in this report, either:
  - a. Remove the parking stall pavement markings from the 3 northeastern spaces of the parking aisle and from the adjacent spaces on the aisle behind to form a second access point for the parking aisle; or
  - b. Reconstruct the curb and median at the end of the aisle to be a parking aisle access point.
3. At the western approach to the South Driveway, either:

- a. Construct a right-turn channelizer to force the outbound traffic to only make a right turn; or
  - b. Construct a median that would permit left turns in to the fire station but would disallow left turns out from the South Driveway.
4. At the Central Driveway, extend the stop line across the full width of the outbound approach pavement.
5. At Crosswalks #1, #2, and #3:
  - a. Repaint the stop line four feet behind the edge of the crosswalks.
  - b. Install STOP signs.
  - c. Paint crosswalks at the identified crosswalks and at any crosswalks where there are reported pedestrian access conflicts.
6. At Crosswalk #5:
  - a. Paint crosswalks.
7. At Crosswalks #4 and #6:
  - a. Paint crosswalks.
  - b. Build pedestrian ramps on the outside of the traffic circle to complete the crosswalks.

## TRAFFIC IMPACT ANALYSIS – SPRING CREEK CAMPUS

Based on the analysis presented in this report, the Spring Creek Campus additions, located at 2800 Spring Creek Drive in Plano, TX, can be successfully incorporated into the surrounding roadway network. As the campus continues to grow, there will be a need to improve access to the external intersections accessing Jupiter Road and Spring Creek Parkway.

The following recommendations are proposed for the campus and surrounding area:

1. Signalize one of the two intersections accessing Jupiter Road from the Spring Creek Campus. Both intersection volumes meet Signal Warrant 2, the Four-Hour Warrant, so they both are eligible for signalization. By signalizing only one of the intersections, traffic from the unsignalized intersection will redirect thru the signalized intersection and reduce congestion at both of the intersections. Left-turning traffic exiting a site is often observed re-routing thru a newly signalized intersection, as it is a more difficult movement at an unsignalized intersection. The southwest intersection of William Crawford Circle and Jupiter Road currently has more total traffic and left-turning demand than the northwest intersection. **It is recommended to signalize the southwest intersection of William Crawford Circle and Jupiter Road and to leave the northwest intersection unsignalized.**
2. Signalize one of the two intersections accessing Spring Creek Parkway from the Spring Creek Campus. Both intersection volumes meet Signal Warrant 1, the Eight-Hour Warrant, and Warrant 2, the Four-Hour Warrant, so they both are eligible for signalization. As mentioned at the Jupiter Road intersections, by signalizing only one of the intersections, traffic from the unsignalized intersection will redirect thru the signalized intersection and reduce congestion at both of the intersections. The northeast intersection of William Crawford Circle and Spring



Creek Parkway currently has more total traffic and outbound left-turning demand than the southeast intersection. **It is recommended to signalize the northeast intersection of William Crawford Circle and Spring Creek Parkway and to leave the northwest intersection unsignalized.**

3. At the intersection of the southwestern parking lot's westernmost driveway with William Crawford Circle (southwest), add either R6-1 or R6-2 ONE WAY signs.
4. As construction on campus occurs adjacent to pedestrian ramps, replace the pedestrian ramps that do not have detectable warning surfaces with ramps that do have detectable warning surfaces.

## TRAFFIC IMPACT ANALYSIS – FARMERSVILLE CAMPUS

Based on the analysis presented in this report, the Farmersville Campus, located on the north side of Audie Murphy Parkway (US 380), between Old McKinney Road and Texas State Highway 78 in Farmersville, Texas, can be successfully incorporated into the surrounding roadway network. The proposed site driveways provide the appropriate level of access for the development. The site-generated traffic does not have a disproportionate effect on the existing vehicle traffic operations.

The traffic study identified on-site improvements to better serve the site and reduce impact to the surrounding roadways for the 2025 Study Year and Ultimate conditions. The following improvements are recommended for the site and are incorporated into the proposal:

### 2025 Study Year Improvements

1. Southwest Driveway was analyzed with one outbound and one inbound lane. However, because of the anticipated growth of the campus in the future and high speeds on Audie Murphy Parkway, it is recommended to have two outbound lanes to improve driveway operations. The two lanes should be marked and signed as a left-turn only and right-turn only lane.
2. Southeast Driveway was analyzed with one outbound and one inbound lane. However, because of the anticipated growth of the campus in the future and high speeds on Audie Murphy Parkway, it is recommended have two outbound lanes to improve driveway operations. The two lanes should be marked and signed as a left-turn only and right-turn only lane.
3. The westbound approaches of Audie Murphy Parkway at the Southeast Driveway and at the Southwest Driveway of the site should be constructed with right-turn deceleration lanes. The peak hour right-turning volumes does not exceed the TxDOT volume threshold in the right-turn analysis for the study year 2025; however, constructing the decelerations lanes now will provide for future growth and safer access from Audie Murphy Parkway.

4. The Southwest Driveway located 330 feet east of Old McKinney Road should be relocated approximately 100 feet to the east to meet TxDOT's access spacing criteria. The driveway needs to be located at least 425 feet from the intersection of Audie Murphy Parkway and Old McKinney Road.

### **Ultimate Improvements**

The southbound approach at the intersection of Audie Murphy Parkway and Old McKinney Road currently is a one lane approach. With the anticipation of Background and Site traffic growth, this approach will need to be widened to accommodate two lanes. The capacity will be needed as traffic increases on Audie Murphy Parkway and it becomes widened to its planned six-lane roadway configuration.

## **TRAFFIC IMPACT ANALYSIS – CELINA CAMPUS**

Based on the analysis presented in this report, the Celina Campus, located on the south side of Choate Parkway (CR 88), between Preston Road and County Road 86 in Celina, Texas, can be successfully incorporated into the surrounding roadway network after the school population grows according to the projections included in the 2016 Collin College Master Plan. The proposed site driveways provide the appropriate level of access for the development. The site-generated traffic does not have a disproportionate effect on the existing vehicle traffic operations.

The traffic study identified on-site improvements to better serve the site and reduce impact to the surrounding roadways. The following improvements are recommended for the site and are incorporated into the proposal:

1. The eastbound approaches of Choate Parkway at Northwest Driveway and at Northeast Driveway should be constructed with right-turn deceleration lanes. The peak hour right-turning volumes exceed the TxDOT volume threshold in the right-turn analysis at both intersections. Construction of the deceleration lane will minimize impacts to the free-flow speed along Choate Parkway.



## TRAFFIC IMPACT ANALYSIS – PRESTON RIDGE CAMPUS

Based on the analysis presented in this report, the Preston Ridge Campus and future expansion can be successfully incorporated into the surrounding roadway network. The proposed site driveways provide the appropriate level of access for the development. The site-generated traffic does not have a disproportionate effect on the existing vehicle traffic operations.

The following recommendations are proposed for the campus and surrounding area:

1. Wade Boulevard & West Drive – As the Preston Ridge Campus continues to grow, this intersection will continue to have significant delays and queuing. It is recommended that a traffic signal be installed over the next few years. Coordination will be required with the City of Frisco.
2. Ohio Drive & North Drive - As the Preston Ridge Campus continues to grow, this intersection will continue to have significant delays and queuing. It is recommended that a traffic signal be installed over the next few years. Coordination will be required with the City of Frisco.
3. Wade Boulevard & Ohio Drive – This intersection will continue have excessive delay as the surrounding area continues to grow. It is recommended that the college coordinate with the City of Frisco regarding future signalization of this intersection.
4. At the traffic circle located in the southwestern part of campus, extend the STOP Line across the full width of the northeastbound approach.
5. At the three-way intersection identified in this report, located along the southern portion of the campus ring road, install a STOP line and sign for the eastbound approach.
6. At the intersection of the former Superdrome driveway and the campus ring road, located in the northeastern portion of campus, remove the STOP line for the northbound approach.
7. As construction occurs in the future, reconstruct any crosswalks adjacent to the construction zone to the current Pedestrian Right-of-Way Accessibility Guideline standards.

## TRAFFIC IMPACT ANALYSIS – PUBLIC SAFETY TRAINING CENTER

Based on the analysis presented in this report, the Public Safety Training Center site driveways provide the appropriate level of access for the campus. The site-generated traffic does not have a disproportionate effect on the existing vehicle traffic operations.

The following recommendation is proposed for the campus:

- Install STOP signs and paint STOP lines for the outbound approaches of the site driveways.

## TRAFFIC IMPACT ANALYSIS – COLLIN HIGHER EDUCATION CENTER CAMPUS

Based on the analysis presented in this report, the CHEC Campus, located at 3452 TX-399 Spur, McKinney, Texas can be successfully incorporated into the surrounding roadway network after the school population grows according to the projections included in this report. The existing site driveways provide the appropriate level of access for the development. The site-generated traffic does not have a major effect on the existing vehicle traffic operations.

The following recommendations are proposed for the campus:

1. Striping
  - a. Paint stop bar and pavement markings at the northbound approach of NW Driveway.
  - b. Move stop bar four to eight feet away from the edge of travel at the southbound approach of SE Driveway.
2. Proposed Driveway
  - a. The New Parking Lot Driveway has several characteristics that make it undesirable at its current location, such as close proximity to the NW Driveway intersection, increased conflicts, and no major benefit from a traffic operations perspective.
  - b. Recommend having two outbound lanes if space permits for the proposed NE Driveway.

## TRAFFIC IMPACT ANALYSIS – COURTYARD CAMPUS

Based on the analysis presented in this report, the Courtyard Campus site driveways provide the appropriate level of access for the campus and the planned traffic growth from the campus expansion can be successfully incorporated onto the site driveways. The buildout of the campus to its planned capacity does not have a disproportionate effect on the existing vehicle traffic operations.

The following recommendations are proposed for the campus:

- Install STOP signs at the Southeast, Southwest, and Northwest driveways and paint STOP lines for the outbound approaches of the site driveways.
- Replace the sun damaged stop-sign at the Northeast driveway