May 4, 2026

Mr. Tim Crockett. P.E.
Crockett Engineering
1000 West Nifong Boulevard, Building 1
Columbia, MO 65203

RE: Proposed Student Housing Development – Sterling Mizzou
College Avenue and University Drive
Columbia, Missouri
CBB Job No. 043-26

Dear Mr. Crockett:

As requested, CBB has completed a traffic impact study pertaining to a proposed student housing development, known as Sterling Mizzou, in Columbia, Missouri. The development site encompasses the entire block in the northwest quadrant of the College Avenue and University Drive intersection and is bound by Paquin Street to the north and Matthews Street to the west. The site location is depicted in **Figure 1**.

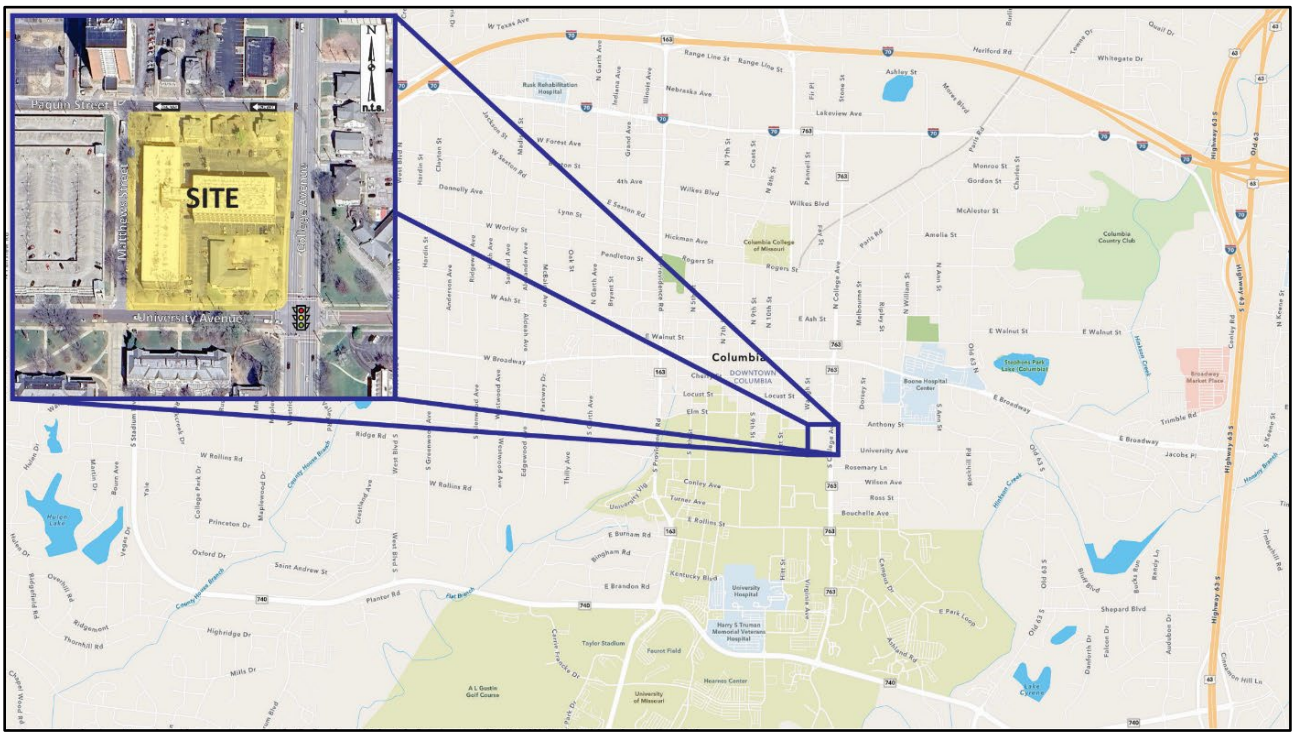

Figure 1: Project Location Map

The site is approximately 2.92 acres and includes properties addressed 1205 University Avenue, 1211 University Avenue, 1208 Paquin Street, 1212 Paquin Street, 400 Matthews Street, and 401 South College Avenue. The existing properties are primarily residential for student housing and include the University Place apartments, Graduate & Professional apartments, and several homes along Paquin Street used for student housing. In addition to residential uses, the Campus Barber Shop is located on the first floor of the University Place apartment building.

The existing homes along Paquin Street are served by four drives on Paquin Street and one drive on College Avenue. The existing University Place and Graduate & Professional apartments are served by three drives on College Avenue, two drives on University Drive, and one drive on Matthews Street. All existing drives along College Avenue, University Drive, Paquin Street, and Matthews Street would be removed.

The existing properties would all be removed and replaced by the proposed Sterling Mizzou student housing development. The trips associated with the existing uses were removed from the existing traffic counts on the adjacent roadways to develop a 2026 Base traffic volume scenario before the impact of the proposed Sterling Mizzou site was evaluated.

The purpose of this study was to determine the number of trips that would be generated by the proposed development; evaluate the impact of those trips on operating conditions along the adjacent roadways; and determine the ability of motorists to safely enter and exit the site. If necessary, roadway improvements and/or traffic control modifications were recommended to mitigate the impact of the development. The focus of the analysis was the weekday Midday and PM peak hours.

Based on information provided by Crockett Engineering, it is our understanding that the proposed development will consist of approximately 308 apartment units totaling 970 beds. Access for the proposed student housing development would be provided via one drive on Matthews Street and one drive on College Avenue. A schematic of the concept plan is shown in **Exhibit 1**.

The scope of work for this traffic impact study is based on email correspondence with the City of Columbia the week of March 10, 2026. CBB also provided MoDOT and the City a Technical Memo summarizing the existing traffic volumes, base assumptions, the proposed site trip generation and directional distribution estimates, and the analysis scenarios and gained their consensus on the assumptions prior to completing the traffic analyses.

As requested, the traffic impact study evaluated the following analysis scenarios for the weekday Midday and PM peak hours:

- 2026 Conditions
  - ✓ 2026 Base Conditions (Existing minus current land uses' trips removed); and
  - ✓ 2026 Build Conditions (2026 Base plus student housing trips).

As requested, the study evaluated the following study intersections:

- College Avenue and University Avenue;
- College Avenue and Paquin Street;
- University Avenue and Matthews Street;
- Paquin Street and Matthews Street;
- College Avenue and proposed Site Drive; and
- Matthews Street and proposed Site Drive.

The following report presents the methodology and findings relative to the 2026 Base and Build conditions.

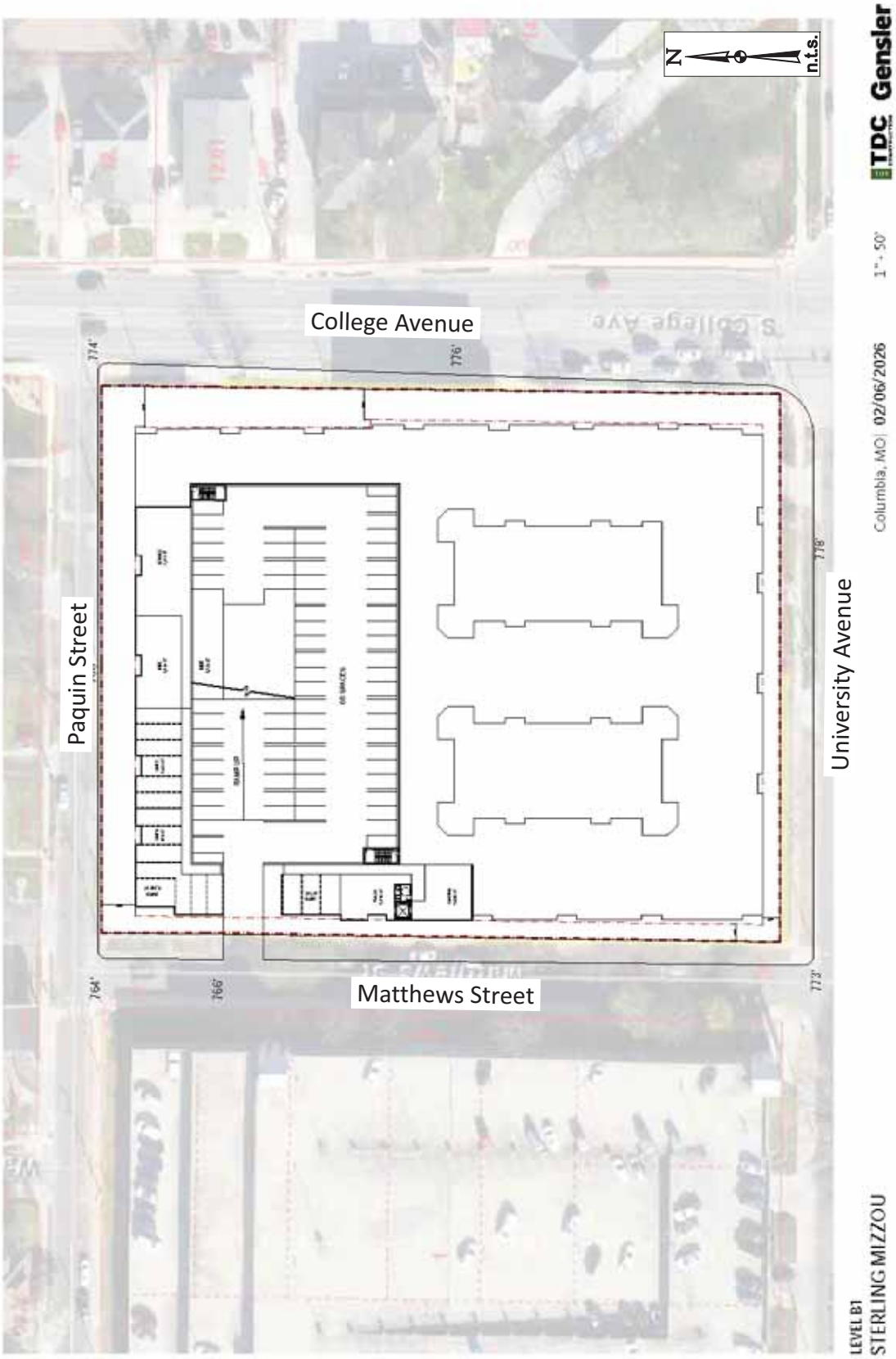

Exhibit 1: Preliminary Site Plan (provided by others)

EXISTING CONDITIONS

Area Roadway System: College Avenue is a north-south minor arterial owned and maintained by MoDOT. Generally, College Avenue consists of two lanes in each direction with additional turn lanes at signalized intersections. North of University Avenue, a two-way left-turn lane is provided on College Avenue to Business Loop 70. South of University Avenue, College Avenue is median-divided to Rollins Street. The posted speed limit is 35 miles per hour (mph), and sidewalks are provided on both sides of the roadway.

University Avenue is an east-west local roadway owned and maintained by the City of Columbia. University Avenue provides two lanes, one in each direction. West of College Avenue, University Avenue has a posted speed limit of 20 mph. East of College Avenue, University Avenue has a posted speed limit of 25 mph. Sidewalks are provided on both sides of the roadway. On-street parking is permitted on the south side of the roadway.

Paquin Street is an east-west local roadway owned and maintained by the City of Columbia. The roadway provides one lane that is westbound only. West of Matthews Street, Paquin Street provides on-street parking on the south side of the roadway. East of Matthews Street, Paquin Street provides on-street parking on the north side of the roadway. Sidewalks are generally provided on both sides of the roadway with a gap on the south side west of College Avenue. There is no posted speed limit that CBB could identify.

Matthews Street is a north-south local roadway owned and maintained by the City of Columbia. The roadway provides one lane in each direction. On-street parking is provided on the east side of the roadway, and sidewalks are provided on both sides of the roadway. There is no posted speed limit that CBB could identify.

The intersection of College Avenue and Paquin Street operates under side-street stop control. The northbound approach provides one left-turn lane and two through lanes. The southbound approach provides one through lane and one shared through/right-turn lane. Note that Paquin Street is one-way westbound. There are no marked crosswalks provided at the intersection. **Figure 2** provides an aerial view of the College Avenue and Paquin Street intersection.

The intersection of College Avenue and University Avenue operates under signal control. The northbound and southbound approaches provide one left-turn lane, one through lane, and one shared through/right-turn lane. The eastbound and westbound approaches provide one left-turn lane and one shared through/right-turn lane. The eastbound University Avenue, westbound University Avenue, and southbound College Avenue left-turn lanes operate under permissive flashing yellow phasing. The northbound College Avenue left-turn lane operates under protected plus permissive flashing yellow phasing. There are marked crosswalks and pedestrian heads provided across all legs of the intersection. **Figure 3** provides an aerial view of the College Avenue and University Avenue intersection.

Figure 2: Aerial View of the College Avenue and Paquin Street Intersection

Figure 3: Aerial View of the College Avenue and University Avenue Intersection

The intersection of Matthews Street and University Avenue operates under side-street stop control with Matthews Street required to stop. All approaches provide a single shared lane. There is a marked crosswalk on the west leg of the intersection. **Figure 4** provides an aerial view of the Matthews Street and University Avenue intersection.

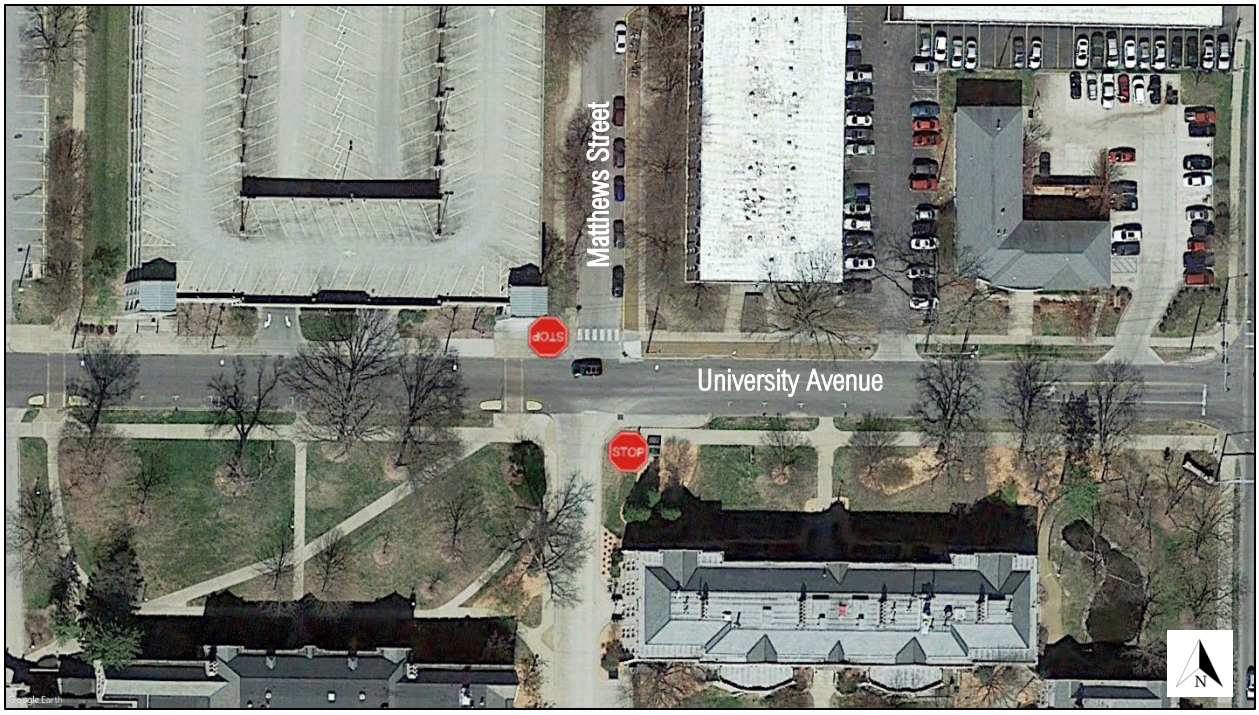

Figure 4: Aerial View of the Matthews Street and University Avenue Intersection

The intersection of Matthews Street and Paquin Street operates under side-street stop control with Matthews Street required to stop. All approaches provide a single shared lane. There is a marked crosswalk on the west leg of the intersection. **Figure 5** provides an aerial view of the Matthews Street and Paquin Street intersection.

Figure 5: Aerial View of the Matthews Street and Paquin Street Intersection

2026 Existing Traffic Volumes: Video, turning movement traffic counts were conducted during the weekday midday (11:00 a.m. - 2:00 p.m.) and weekday afternoon (3:00 - 6:00 p.m.) peak periods on Thursday, March 12, 2026, at the following study intersections and existing site drives:

- College Avenue and University Avenue;
- College Avenue and Paquin Street;
- University Avenue and Matthews Street; and
- Paquin Street and Matthews Street.

The area school academic calendars were reviewed to ensure the data was collected during normal school operations and not impacted by weather. Based on the traffic data collected, the weekday Midday peak hour occurred between 11:45 a.m. and 12:45 p.m. and weekday PM peak hour occurred between 4:30 and 5:30 p.m. The Existing Traffic Volumes are summarized in **Exhibit 2**. Note that pedestrian count data was also collected at the study intersections and is summarized in Exhibit 2.

Given the traffic characteristics in the area and the anticipated trip generation for the proposed development, the weekday Midday and PM peak periods would represent a "worst-case scenario" with regards to the traffic impact. If traffic operations are acceptable during these peak periods, it can be reasoned that conditions would be acceptable throughout the remainder of the day.

2026 Base Traffic Volumes: As shown in Exhibit 2, the existing turning movements at the drives serving the development area are very low. The existing trips to and from the development site were removed from the study intersections and the volumes were then adjusted slightly to balance to develop the 2026 Base traffic volumes. The 2026 Base traffic volumes are summarized in **Exhibit 3**. Note that the base traffic volumes were rounded to the nearest 5 vehicles per hour (vph). As previously mentioned, pedestrian count data was collected during the peak hours at the study intersection. CBB is unable to determine the origins or destinations of pedestrians; as such, the pedestrian count data was not adjusted from existing conditions to 2026 Base conditions.

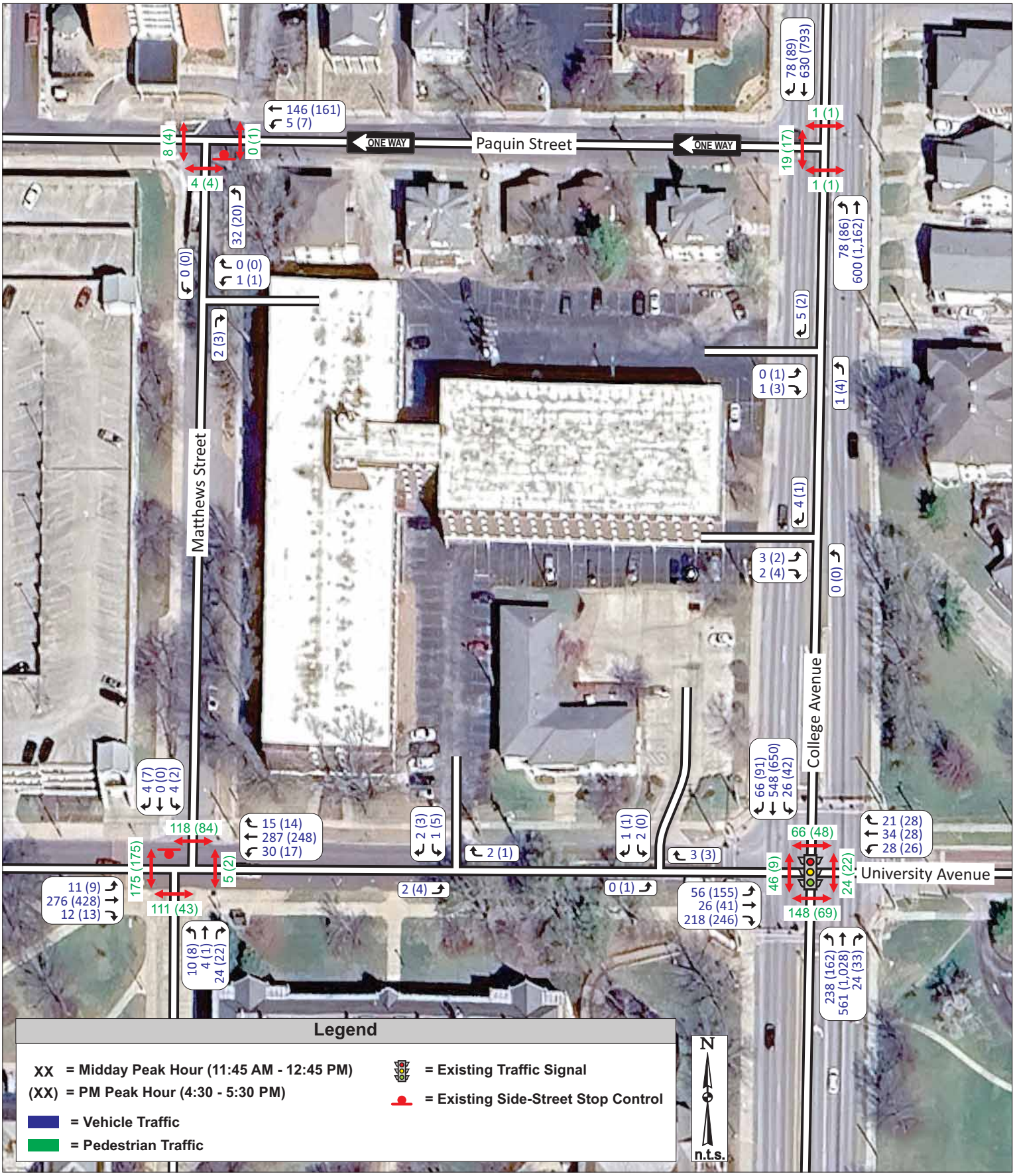

Exhibit 2: 2026 Existing Traffic Volumes

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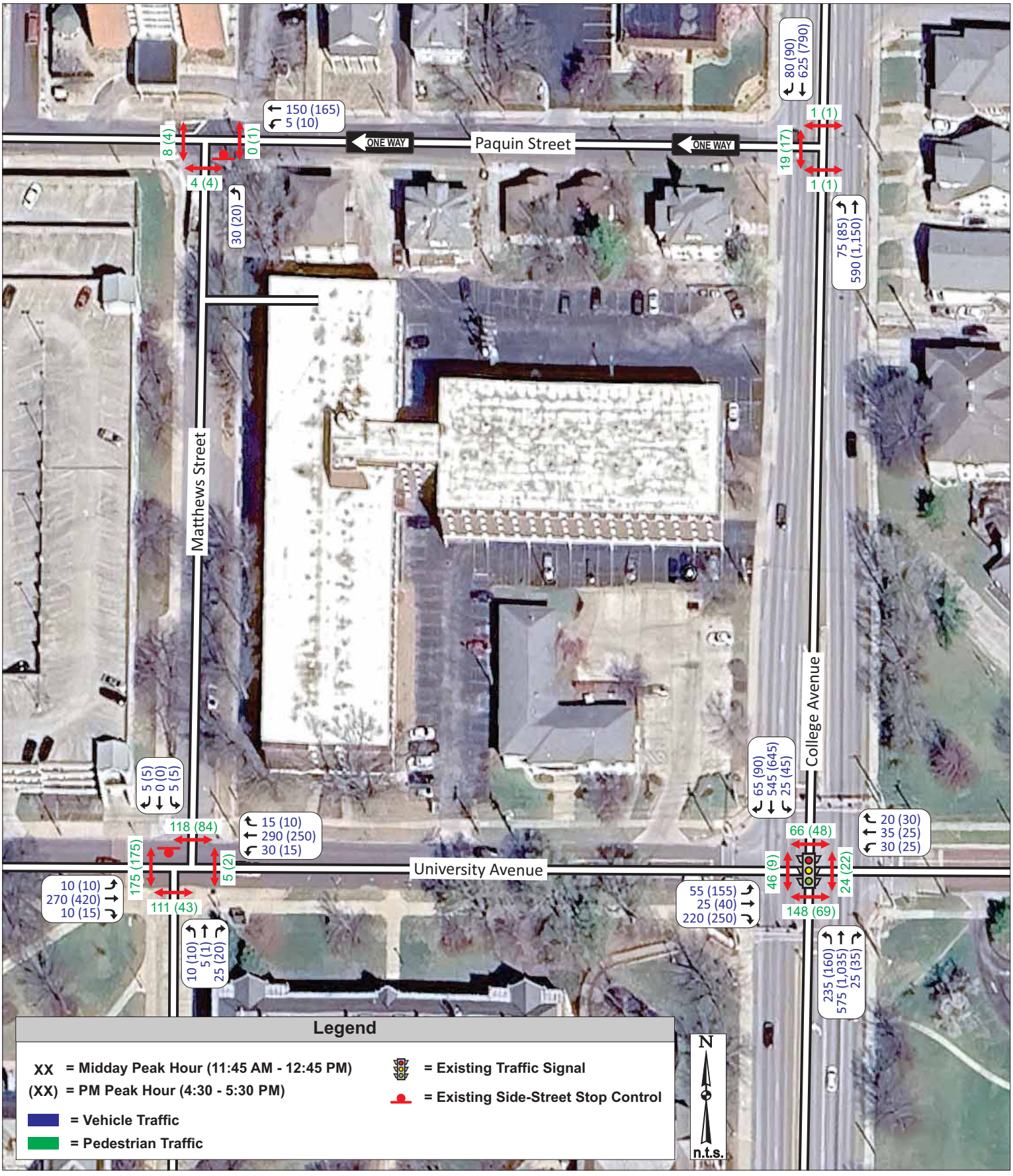

Exhibit 3: 2026 Base Traffic Volumes (Existing minus current land uses' trips removed)

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PROPOSED SITE

Proposed Land Use: Based on the site plan provided, it is our understanding that the proposed development will consist of approximately 308 apartment units totaling 970 beds.

Site Access: Access for the proposed student housing development would be provided via one drive on Matthews Street and one drive on College Avenue.

Note that the sight distance was not measured in the field to evaluate the available sight distance at the proposed site drives. It is recommended that the site civil engineer illustrate the necessary intersection sight distance triangles on the respective site plans for the proposed driveways. These areas should be kept clear of all obstructions to provide adequate visibility for safe operations.

Careful consideration should be given to sight distance obstructions when planning future aesthetics enhancements, such as signs, berms, fencing and landscaping, to ensure that these improvements do not obstruct the view of entering and exiting traffic at the intersection of all drives with the public roadways. It is generally recommended that all improvements higher than 3 ½ feet above the elevation of the nearest pavement edge be held back at least 20 feet from the traveled roadway.

Trip Generation: Forecasts were prepared to estimate the amount of traffic the proposed development would generate during the weekday Midday and PM peak hours. Traffic forecasts for the developments were estimated based upon information provided in the *Trip Generation Manual*, 12th Edition. Trip estimates for the proposed student housing development were based on ITE Code 226, Off-Campus Student Apartment (Mid-Rise) (Adjacent to Campus). The AM and PM peak hour of generator results were compared to determine which estimate was higher for the Midday peak hour. Consequently, the PM peak hour of generator was utilized for the Midday peak hour and the peak hour of adjacent street traffic (one hour between 4 and 6 p.m.) was utilized for the PM peak hour.

The resulting trip generation estimate for the proposed student housing development is summarized in **Table 1.** As shown in the table, the proposed residential development is estimated to generate a total of 215 trips during the weekday Midday peak hour and 205 trips during the weekday PM peak hour.

Table 1: Trip Generation Estimate – Proposed Student Housing Residential Development

Land Use	Size	Weekday Midday Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Off-Campus Student Apartment (Mid-Rise) (ITE Land Use 226)	970 Beds	105	110	215	95	110	205

* Trips rounded to nearest 5

It should be noted that the existing University Place and Graduate & Professional apartments provide a total of 369 beds, which currently generate a low number of vehicular trips during peak hours (fewer than 25 total trips). Based on the existing number of vehicular trips into and out of the site and the total number of beds provided on the site, the current site generates 0.051 and 0.056 total trips per bed during the weekday Midday and PM peak hours, respectively. Applying the existing trip generation per bed to the proposed 970 beds results in an estimated 50 and 55 total trips during the weekday Midday and PM peak hours, respectively. As such, the estimated ITE trip generation of 215 and 205 total trips during the weekday Midday and PM peak hours, respectively, can be considered conservative, as can the traffic analysis discussed later.

Trip Distribution*:* The total trips for the proposed development were then assigned into and out of the site based upon an assumed directional distribution. Based upon the existing travel patterns in the area and counts at the existing student housing development, it is anticipated that the distribution of site-generated trips would be as summarized in **Table 2.**

Table 2: Trip Distribution Assumptions – Proposed Student Housing Development

Route	Assumed Directional Distribution
To/from the north on College Avenue	30%
To/from the south on College Avenue	45%
To the west on Paquin Street (one-way WB)	8%
To the west on University Drive	17%
From the west on University Drive	25%

The resulting assignment of site-generated trips for the proposed student housing development for the weekday Midday and PM peak hours is summarized in **Exhibit 4**.

2026 Build Traffic Volumes: The proposed site-generated trips (Exhibit 4) were added to the 2026 Base Traffic Volumes (Exhibit 3) to determine the total volume in the forecasted scenario. The forecasted, or 2026 Build, traffic volumes for the weekday Midday and PM peak hours are shown in **Exhibit 5.**

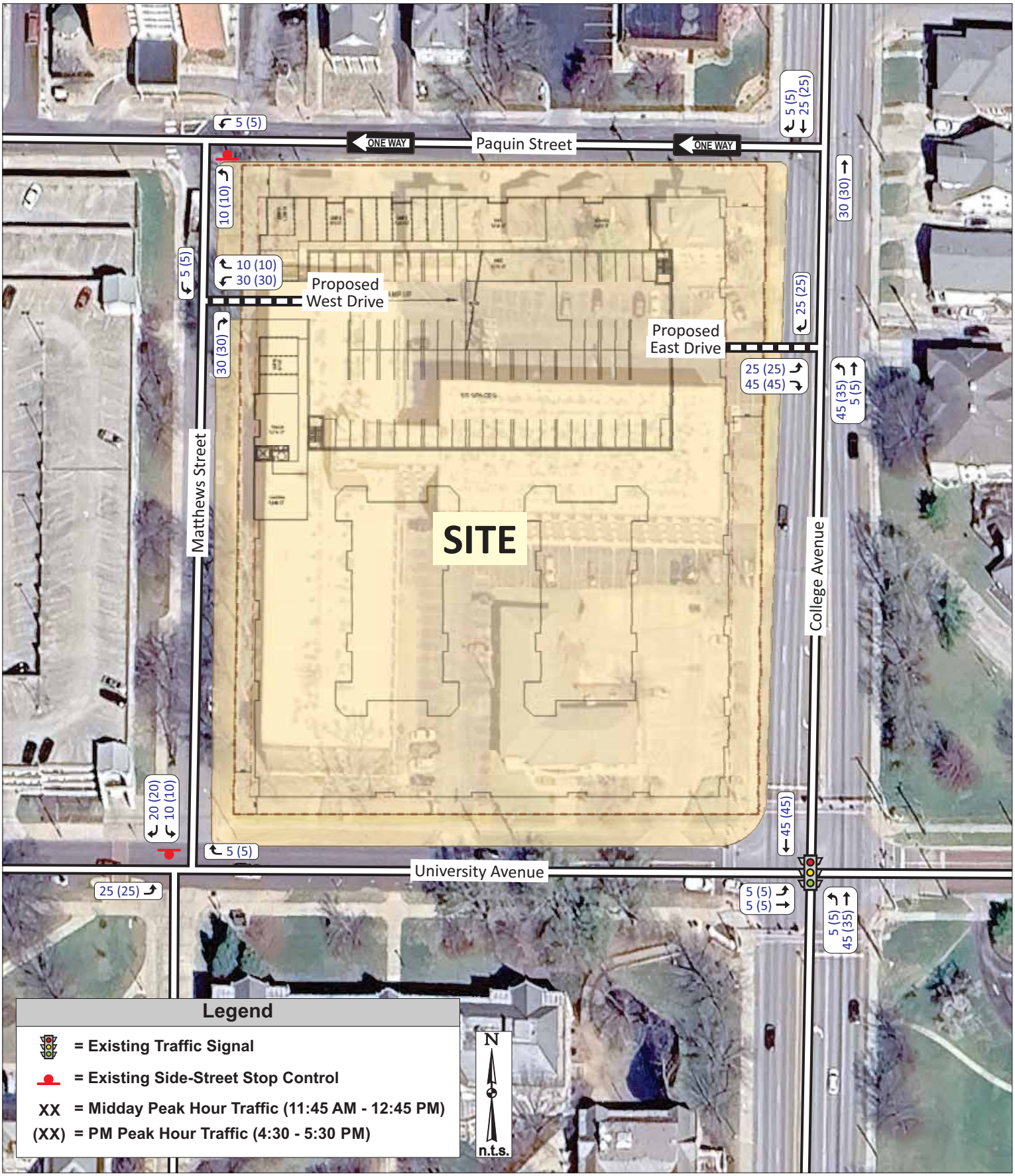

Exhibit 4: Site-Generated Trips

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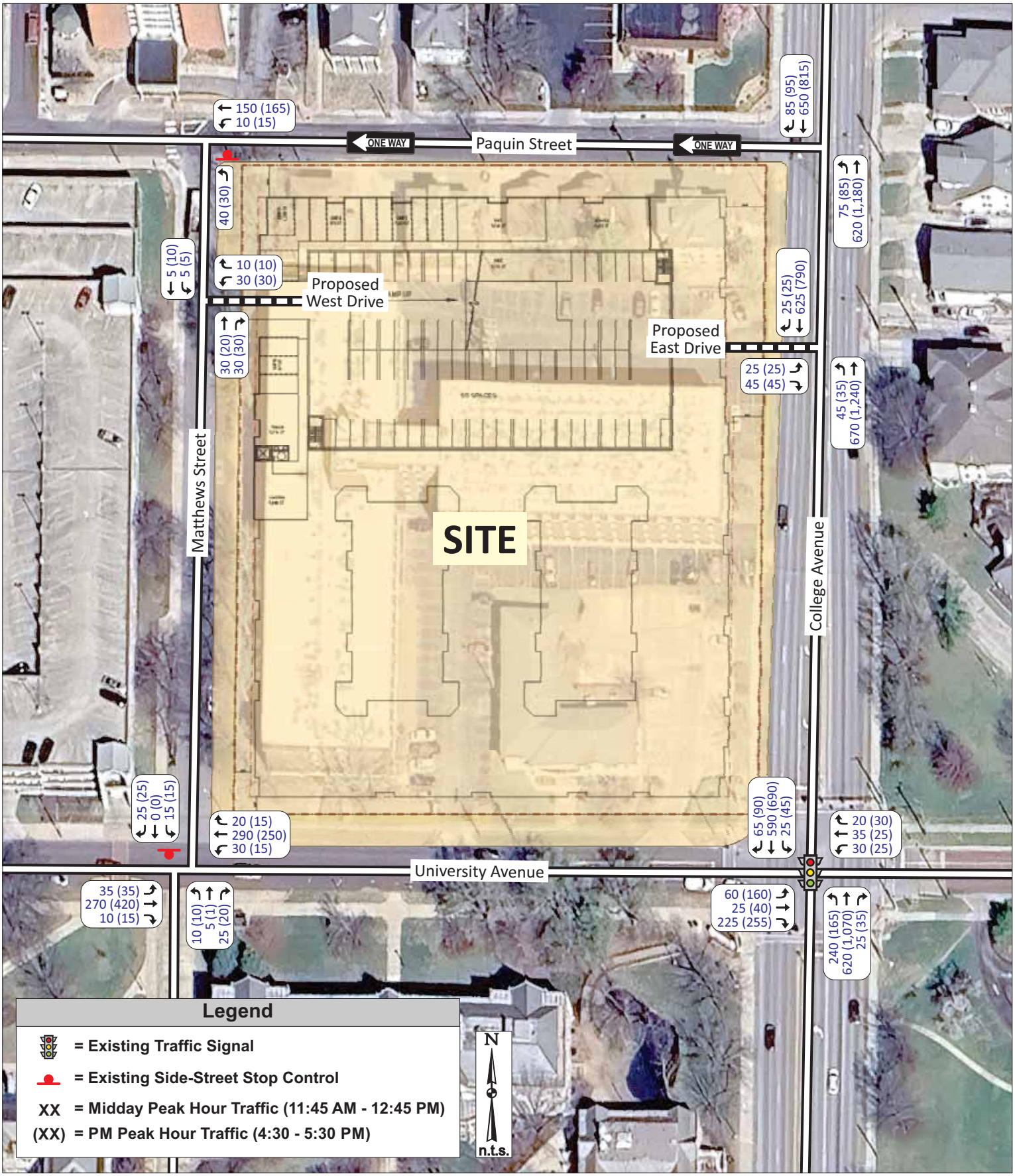

Exhibit 5: 2026 Build Traffic Volumes

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2026 Traffic Analysis

Study Procedures: The 2026 Base and Build operating conditions were analyzed using SYNCHRO 11, which is based on procedures outlined in the *Highway Capacity Manual*, published by the Transportation Research Board to determine estimates of capacity and operational performance of signalized and unsignalized intersections. Our traffic operations analysis includes measures of effectiveness generated by the SYNCHRO software for all intersections. The Synchro 11 outputs are reported for signalized intersections, while the HCM 6th Edition outputs from Synchro are shown for the unsignalized intersections. The HCM outputs are considered more realistic for unsignalized intersections.

The HCM, which is used universally by traffic engineers to measure roadway capacity, establishes six levels of traffic service (Level A "Free Flow" to Level F "Fully Saturated") established by the *Highway Capacity Manual*. Levels of service (LOS) are measures of traffic flow which consider such factors as speed, delay, traffic interruptions, safety, driver comfort, and convenience. Level C, which is normally used for highway design, represents a roadway with volumes ranging from 70% to 80% of its capacity. However, Level D is generally considered acceptable for peak period conditions.

The thresholds that define levels of service at an intersection are based upon the type of control used (i.e., whether it is signalized or unsignalized) and the calculated delay. For signalized and all-way stop intersections, the average control delay per vehicle is estimated for each movement and aggregated for each approach and the intersection as a whole. At intersections with partial (side-street) stop control, delay is calculated for the minor movements only since motorists on the main road are not required to stop. Furthermore, criteria differ for the two, since control types create different driver expectations. **Table 3** summarizes the thresholds used in the analysis for signalized and unsignalized intersections.

Table 3: Level of Service Thresholds

Level of Service (LOS)	Control Delay per Vehicle (sec/veh)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

2026 Operating Conditions: The study intersections were evaluated using the methodologies described previously. **Table 4** summarizes the results of this analysis, which reflects the 2026 Base and 2026 Build operating conditions and average delay at the study intersections during the weekday Midday and PM peak hours. In addition, the Synchro estimated 95th percentile queue length for approaches with a queue over 100 feet is shown in the table.

Table 4: 2026 Capacity Analysis Summary

Intersection / Approach	Weekday Midday Peak Hour		Weekday PM Peak Hour	
	2026 Base	2026 Build	2026 Base	2026 Build
College Avenue and Paquin Street (Side-Street STOP)				
Northbound College Avenue Left-Turn	B (10.1)	B (10.2)	B (10.9)	B (11.2)
Southbound College Avenue Approach	A (<1.0)	A (<1.0)	A (<1.0)	A (<1.0)
College Avenue and University Avenue (Signalized)				
Eastbound University Avenue Approach	C (25.7)	C (26.1)	C (32.0) 95th Q: 180' LT	C (32.2) 95th Q: 185' LT
Westbound University Avenue Approach	D (43.0)	D (42.6)	C (29.6)	C (29.4)
Northbound College Avenue Approach	A (6.3) 95th Q: 115' T	A (6.6) 95th Q: 130' T	A (9.5) 95th Q: 280' T	A (9.9) 95th Q: 290' T
Southbound College Avenue Approach	B (14.7) 95th Q: 215' T	B (16.0) 95th Q: 240' T	B (16.0) 95th Q: 260' T	B (16.8) 95th Q: 280' T
Overall	**B (14.0)**	**B (14.5)**	**B (16.1)**	**B (16.5)**
Matthews Street and University Avenue (Side-Street STOP)				
Eastbound University Avenue Left-Turn	A (8.9)	A (9.1)	A (8.3)	A (8.4)
Westbound University Avenue Left-Turn	A (8.8)	A (8.9)	A (8.6)	A (8.7)
Northbound Matthews Street Approach	C (23.9)	D (28.5)	C (18.7)	C (20.7)
Southbound Matthews Street Approach	C (22.5)	D (26.7)	C (18.1)	C (19.7)
Matthews Street and Paquin Street (Side-Street STOP)				
Westbound Paquin Street Approach	A (<1.0)	A (<1.0)	A (<1.0)	A (<1.0)
Northbound Matthews Street Approach	B (10.1)	B (10.2)	B (10.1)	B (10.3)
College Avenue and Site Drive (Side-Street STOP)				
Eastbound Site Drive Approach		B (14.3)		C (17.8)
Northbound College Avenue Left-Turn		A (9.3)		A (9.9)
Southbound College Avenue Approach		A (<1.0)		A (<1.0)
Matthews Street and Site Drive (Side-Street STOP)				
Westbound Site Drive Approach		A (8.9)		A (8.9)
Northbound Matthews Street Approach		A (<1.0)		A (<1.0)
Southbound Matthews Street Approach		A (3.7)		A (2.4)

X (XX.X) - Level of Service (Vehicular delay in seconds per vehicle)
95th percentile queue for approach (only values over 100 feet shown)

As shown in the table, all approaches at the study intersections operate at acceptable levels of service (i.e., LOS D or better) during both peak hours in the 2026 Base conditions. All approaches at the study intersections are expected to continue to operate at acceptable levels of service during both peak hours in the 2026 Build conditions, with negligible differences in the forecasted delay as compared to the 2026 Base conditions.

SUMMARY

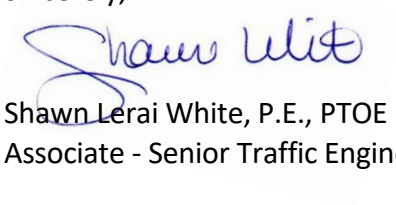
CBB completed the preceding study to address the traffic impacts associated with the proposed student housing development located in the northwest quadrant of the College Avenue and University Drive intersection in Columbia, Missouri. The proposed development will consist of approximately 308 apartment units totaling 970 beds. Access for the proposed student housing development would be provided via one drive on Matthews Street and one drive on College Avenue.

In summary, the following findings should be considered in conjunction with the proposed development:

- The proposed residential student housing development is estimated to generate a total of 215 trips during the weekday Midday peak hour and 205 trips during the weekday PM peak hour.
- In the 2026 Base conditions, all approaches at the study intersections are expected to operate at acceptable levels of service during the Midday and PM peak hours.
- In the 2026 Build conditions, all approaches continue to operate at acceptable levels of service during the peak hours with negligible differences in forecasted delay as compared to the 2026 Base conditions.
- As more detailed plans are developed, it is recommended that the site civil engineer illustrate the minimum sight distance triangle requirements on the plans at each proposed access point to ensure that adequate sight distance can be achieved for safe operations within the clear area of the right-of-way. Careful consideration should be given to sight distance obstructions when planning any future aesthetic enhancements, such as berms, fencing and landscaping, at the site drives to ensure that these improvements do not obstruct the view of entering and exiting traffic at the site intersections with the public roads.

We trust this traffic impact study adequately describes the forecasted traffic conditions that should be expected as a result of the proposed student housing development in Columbia, Missouri. If additional information is desired, please feel free to contact me at 314-449-9572 or swhite@cbbtraffic.com.

Sincerely,



Shawn Lerai White, P.E., PTOE
Associate - Senior Traffic Engineer