

MEMORANDUM

To: Joe Baker
 City Manager
 City of Berry Hill, Tennessee

From: Matt Schlicker, P.E.
 Project Manager
 Kimley-Horn and Associates, Inc.

Date: September 2, 2020

Subject: Parking Study for Brand – Berry Hill Development – Berry Hill, TN

INTRODUCTION

Brand Properties retained Kimley-Horn and Associates, Inc., to provide professional parking planning services for Brand – Berry Hill proposed development project in Berry Hill, Tennessee along Berry Road. The proposed mixed-use site is located directly north of Berry Road, south of Fessey Park Road, east of Fessey Park Road, and west of Bransford Avenue.

The purpose of this study is to project peak parking demands of the site upon completion, based on industry-standard data adjusted to localized conditions and Urban Land Institute (ULI) Shared Parking methodologies, accounting for the multiple land uses and for the ability to share parking throughout the day. Kimley-Horn and Associates, Inc. (Kimley-Horn) utilized the Urban Land Institute, Shared Parking Model, 3rd Edition, released in March 2020. The site is expected to park itself, meaning all parking demands generated by its uses will park on-site. This memorandum provides a summary of conclusions, the methodology used to make these conclusions, detailed parking demand calculations, as well as a discussion of other considerations.

Based on the land use densities detailed in **Table 1**, the projected peak parking demand for the site is **410 spaces** during its weekday peak at 10 PM in December and **400 spaces** during its weekend peak at 12 AM in December. The planned parking supply of **486 spaces** is sufficient to meet the projected peak parking demand. Assumptions related to the management of parking spaces on the site are detailed in **Table 2**.

| Table 1: Proposed Land Use Densities | |
|--------------------------------------|------------------|
| Land Use | Density |
| Residential | 314 Units |
| 1-Bedroom Units | 199 Units |
| 2-Bedroom Units | 109 Units |
| 3-Bedroom Units | 6 Units |
| Retail | 20,000 SF |

Table 2: Assumptions and Management Practices

| Management Practices and Assumptions | Impact on Model |
|--|--|
| <p>Daytime and evening parking supply will vary across land uses.</p> <p>Parking Allocation: 6 AM – 9 PM Retail Exclusive Spaces: 42 spaces Residential Exclusive Spaces: 393 spaces Shared Spaces: 51 spaces</p> <p>Parking Allocation: 9 PM – 6 AM Retail Exclusive Spaces: 54 spaces Residential Exclusive Spaces: 432 spaces Shared Spaces: 0 spaces</p> | <p>Parking demand generated by each land use must be compared to the number of spaces allocated to that land use by time-of-day.</p> <p>Five thresholds are used for comparison: Total Site Supply Residential Daytime Site Supply Residential Evening Site Supply Retail Daytime Site Supply Retail Evening Supply</p> |
| <p>The retail land use is modeled as retail only and does not contain land uses with higher parking demand such as food and beverage, entertainment, hotel, or office.</p> | <p>The parking ratio of 3.53 spaces/1,000 SF was used to project retail parking demand.</p> |

METHODOLOGY

There are two fundamental components of the parking demand model used for this analysis: first is the determination of parking ratios to be applied to generate parking demand estimates, second is the shared parking methodology.

Parking Ratio Determination

Parking demand is typically calculated separately for each land use within a development. **Table 3** shows the parking requirements for each land use in the proposed development, as required by Berry Hill parking requirements. Based on localized zoning requirements, the minimum number of parking spaces are shown in **Table 3**.

| Table 3: Berry Hill Permit Parking Requirements | | | | | |
|---|-------------|-----------|---------------------|----------------|--------------------------|
| Land Use | Subcategory | Density | Minimum Ratio | Minimum Spaces | Shared Parking Reduction |
| Residential | 1-Bedroom | 199 Units | 1.0 space/Unit | 199 | 392 |
| | 2-Bedrooms | 109 Units | 2.0 spaces/Unit | 218 | |
| | 3-Bedrooms | 6 Units | 2.5 spaces/Unit | 15 | |
| Retail | N/A | 20,000 SF | 4.0 spaces/1,000 SF | 80 | 73 |
| Total | | | | 512 | 465 |

The Berry Hill zoning requires a minimum of 512 parking spaces for the Brand – Berry Hill development. Additionally, per the Berry Hill zoning code, this proposed development is eligible for a shared parking reduction. Using the shared parking reduction factor of 1.1, the site is allowed to provide 465 shared parking spaces. This shared parking analysis goes into a further level of detail to evaluate the actual conditions of parking on the site where the uses share parking throughout the day. This shared parking analysis uses the ULI’s suggested parking ratios as a baseline for determining the projected parking demand. **Table 4** provides the base parking ratios used to develop the parking demands for the proposed development.

| Table 4: ULI Base Parking Ratios | | |
|----------------------------------|----------------------|----------------------|
| Land Use | Base Ratio | |
| | Weekday | Weekend |
| Residential | | |
| 1-Bedroom - Resident | 0.90 spaces/Unit | 0.90 spaces/Unit |
| 1-Bedroom - Visitor | 0.10 spaces/Unit | 0.15 spaces/Unit |
| 2-Bedroom - Resident | 1.65 spaces/Unit | 1.65 spaces/Unit |
| 2-Bedroom - Visitor | 0.10 spaces/Unit | 0.15 spaces/Unit |
| 3-Bedroom - Resident | 2.50 spaces/Unit | 2.50 spaces/Unit |
| 3-Bedroom - Visitor | 0.10 spaces/Unit | 0.15 spaces/Unit |
| Retail | | |
| Customer | 2.90 spaces/1,000 SF | 3.20 spaces/1,000 SF |
| Employee | 0.70 spaces/1,000 SF | 0.80 spaces/1,000 SF |

Shared Parking Methodologies

The ULI Shared Parking Model is a tool used to determine cumulative parking demand for developments with multiple land uses. The model considers that while each land use generates demand for a certain number of parking spaces, these parking demands fluctuate hour-by-hour, day-by-day, and month-by-month. Because individual land uses may not experience peak parking demand at the same time, the model seeks to share parking between these land uses to minimize the amount of space and resources devoted to parking. Additionally, the ULI Shared Parking Model allows for non-vehicular mode (trips such as walking, biking, transit, and rideshare) and non-captive ratio (trips between land uses internal to the site, between office and restaurant for instance) adjustments to be made for mixed-use developments to account for trips generated by the site that don't require parking.

Mode and Non-Captive Adjustments

Given the location of the proposed development and surrounding land uses, the site is expected to yield few commutes by foot, bike, and transit. The Brand – Berry Hill proposed development site is located approximately 0.3 miles from Nashville MTA Bus Route 21. It is anticipated that most mode adjustments will occur due to customers and employees utilizing rideshare services such as Lyft and Uber. The proposed development includes both retail and residential land uses, however, residents are not expected to contribute to the parking demand for the retail land use. Therefore, the parking demand will not be reduced by residents parking once and frequenting multiple locations. This is referred to as a non-captive adjustment. **Table 5 and Table 6** lists the assumptions used regarding the percent of trips discounted (reduced) due to non-vehicular modes and non-captive (movement between uses on-site) interactions, respectively. These assumptions reduce overall parking demand and are applied to the base parking ratios to create an adjusted rate.

Table 5: Drive Ratio Assumptions

| Land Use | Drive Ratio | |
|--------------------|-------------|---------|
| | Weekday | Weekend |
| Residential | | |
| Resident | 100% | 100% |
| Visitor | 100% | 100% |
| Retail | | |
| Customer | 100% | 100% |
| Employee | 90% | 90% |

Table 6: Non-Captive Ratio Assumptions

| Land Use | Non-Captive Ratio | | | |
|--------------------|-------------------|-----------------|-----------------|-----------------|
| | Weekday Daytime | Weekday Evening | Weekend Daytime | Weekend Evening |
| Residential | | | | |
| Resident | 100% | 100% | 100% | 100% |
| Visitor | 100% | 100% | 100% | 100% |
| Retail | | | | |
| Customer | 100% | 100% | 100% | 100% |
| Employee | 100% | 100% | 100% | 100% |

PROJECTED PARKING DEMAND

Projected parking demand is based on the land uses detailed in **Table 1**, base parking ratios detailed in **Table 4**, mode adjustments in **Table 5**, and non-captive ratio detailed in **Table 6**. When factoring the sharing of a common parking supply across land uses, the site is expected to generate a maximum of **410** parking spaces during its weekday peak at 10 PM in December and **400** parking spaces during its weekend peak at 12 AM in December. This shared parking methodology yields a 14% and 20% reduction in parking, respectively. Parking rates, assumptions, and resulting calculations are shown in **Table 7**.

| Table 7: Shared Parking Demand Summary | | | | | | | | | | | |
|---|-----------|-----------------|-----------|-------------------|-----------|---------------------|-----------------|-----------|-------------------|-----------|---------------------|
| Average Month: December | | | | | | | | | | | |
| | | Weekday (10 PM) | | | | | Weekend (12 AM) | | | | |
| Land Use | Quantity | Base Rate | Mode Adj. | Non-Captive Ratio | Adj. Rate | Est. Parking Demand | Base Rate | Mode Adj. | Non-Captive Ratio | Adj. Rate | Est. Parking Demand |
| Residential | | | | | | | | | | | |
| 1-Bedroom | 199 Units | 0.90 | 100% | 100% | 0.90 | 171 | 0.90 | 100% | 100% | 0.90 | 180 |
| 2-Bedrooms | 109 Units | 1.65 | 100% | 100% | 1.65 | 171 | 1.65 | 100% | 100% | 1.65 | 180 |
| 3-Bedrooms | 6 Units | 2.50 | 100% | 100% | 2.50 | 14 | 2.50 | 100% | 100% | 2.50 | 15 |
| Visitors | 314 Units | 0.10 | 100% | 100% | 0.10 | 32 | 0.15 | 100% | 100% | 0.15 | 24 |
| Retail | | | | | | | | | | | |
| Customers | 20,000 SF | 2.90 | 100% | 100% | 2.90 | 17 | 3.20 | 100% | 100% | 3.20 | 1 |
| Employees | | 0.70 | 100% | 100% | 0.63 | 5 | 0.80 | 100% | 100% | 0.72 | - |
| Customer/Guest | | | | | | 49 | Customer/Guest | | | | 25 |
| Employee/Resident | | | | | | 361 | Employee | | | | 375 |
| Total | | | | | | 410 | Total | | | | 400 |

As seen in **Figure 1** the projected weekday peak parking demand does not exceed the projected parking supply of 486 spaces. Similarly, the projected weekend peak parking demand does not exceed the projected supply, **Figure 2**.

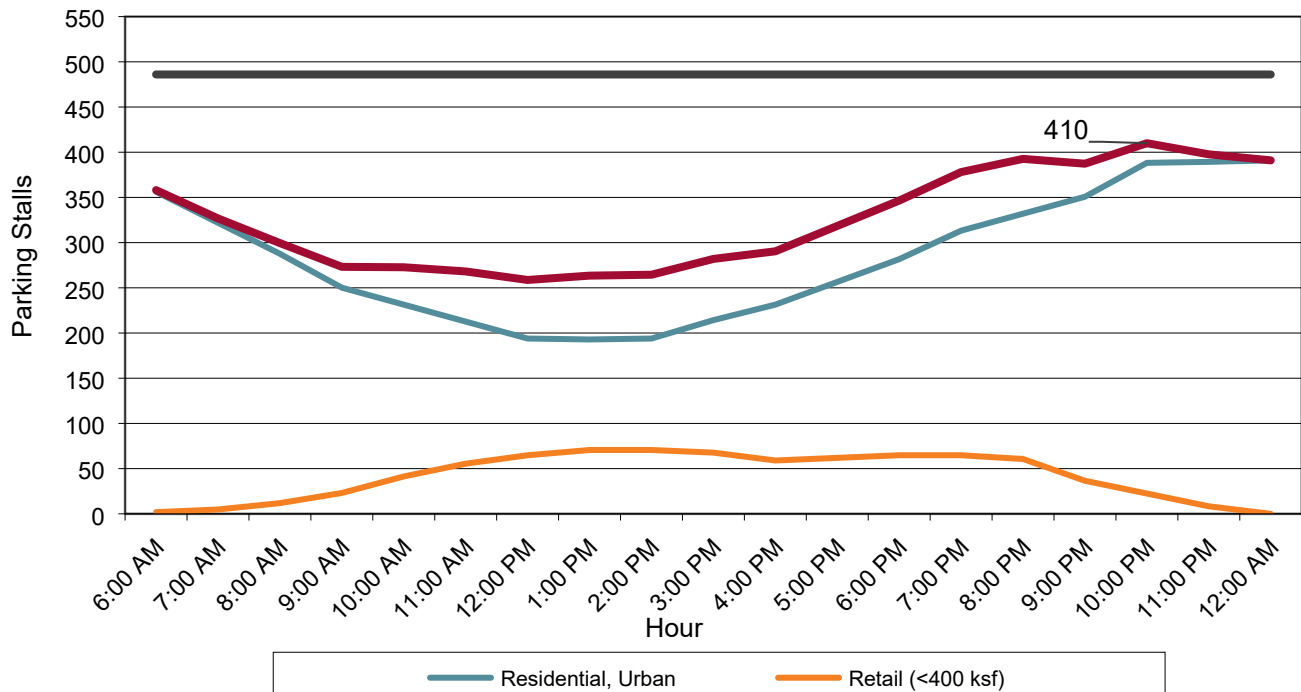


Figure 1. Projected Weekday Peak Parking Demand

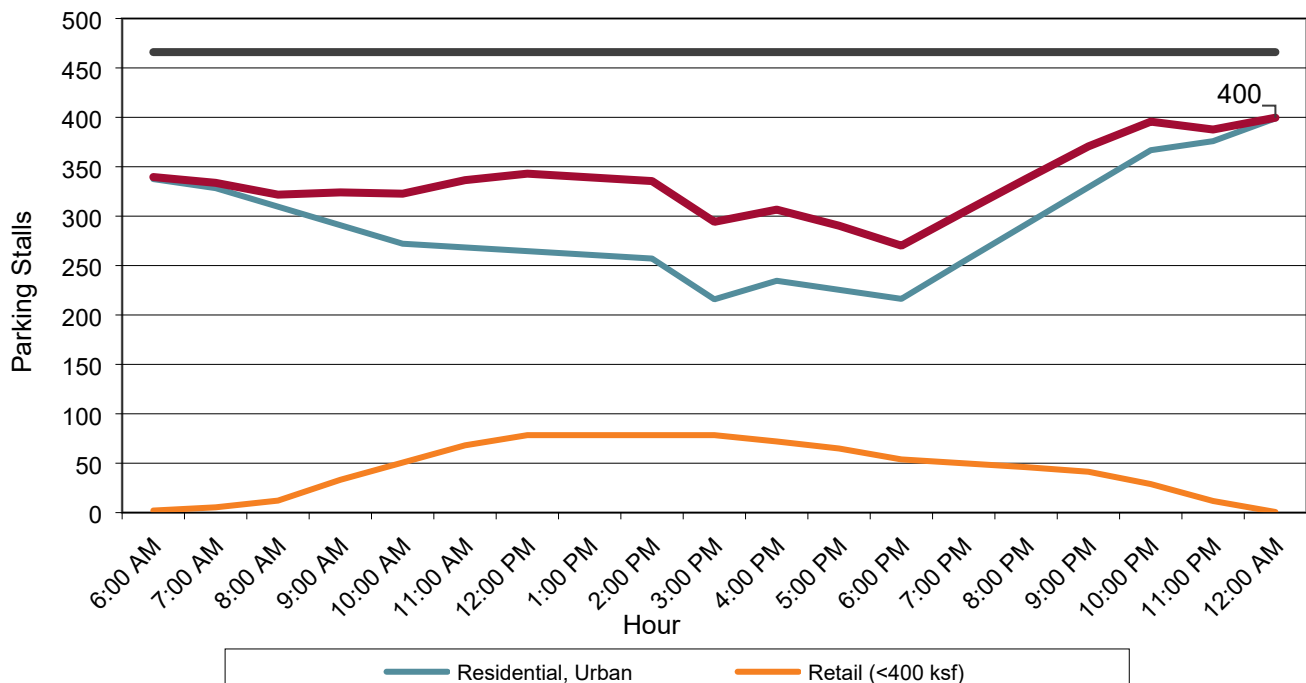


Figure 2. Projected Weekend Peak Parking Demand

As detailed in the Assumptions and Management Practices table, the number of parking spaces available to satisfy residential parking demand will change throughout the day. From 6 AM – 9 PM, the available residential parking supply is 444 spaces (393 dedicated residential spaces and 51 shared parking spaces). **Figure 3** compares the projected residential parking demand to the residential parking supply. Based on the projected residential demand, during the 6 AM – 9 PM timeframe, the projected peak residential parking demand occurs at 6 AM. During this peak hour, the site is expected to satisfy all residential parking demand and have a surplus of 88 spaces. This projected surplus increases throughout the day, indicating that the site will have ample parking supply to satisfy the residential demand. Because a surplus of residential parking spaces is expected during the week, the 51 shared parking spaces remain available to satisfy retail parking demand. During the week, the projected peak retail parking demand occurs at 1 PM, with a peak demand of 71 spaces. This demand will be satisfied by the 93 retail spaces (42 dedicated retail spaces and 51 shared parking spaces that are not needed to satisfy residential parking demand).

During the 9 PM – 6 AM timeframe, the projected peak residential parking demand is 391 spaces. This demand can be satisfied with the 432 spaces dedicated to residential parking, resulting in a surplus of 41 spaces. From 9 PM – 6 AM, the projected peak retail demand is 37 spaces, which can be satisfied with the 54 spaces dedicated to retail parking. Similarly, the projected weekend parking demand can be satisfied with space allocation detailed in Table 2.

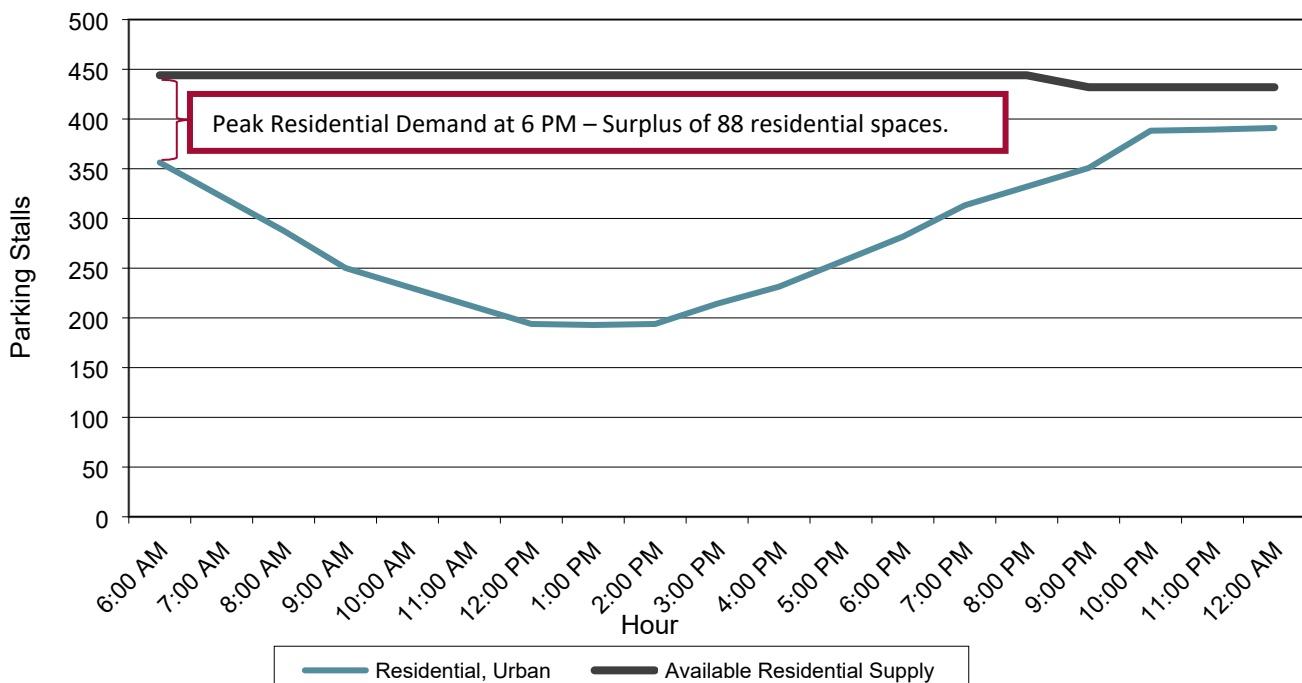


Figure 3. Comparison of Residential Parking Demand and Available Residential Parking Supply

OTHER CONSIDERATIONS

Several factors could increase or decrease the number of parking spaces needed to serve the site as calculated and reported in this memorandum.

Factors that could increase parking demand include:

- Less rideshare or non-vehicular mode use
- Any utilization of parking used as parking for adjacent properties
- Any amount of reserved/nested parking for beyond the quantities previously stated in the assumptions and management practices.
- Land uses other than retail and residential, such as food and beverage, entertainment, hotel, office.

Factors that could decrease the parking demand include:

- More rideshare use by visitors/employees
- More visitors arriving on non-vehicular modes (Nashville MTA Bus, Biking, Walking, and Electric Scooters)
- Lower vehicle ownership rates among residents

CONCLUSION AND RECOMMENDATIONS

Based on the ULI Shared Parking Methodologies, the Brand – Berry Hill development is expected to generate a peak parking demand of approximately 410 parking spaces during its weekday peak at 10 PM in December and 400 parking spaces during its weekend peak at 12 AM in December. The total site supply of 486 spaces will be sufficient to meet this peak parking demand.

We hope you find this information helpful. Please reach out to me at 615-564-2708 should you have any questions, or should you want to work with us in tweaking your program to maximize your parking potential.

Sincerely,

Kimley-Horn and Associates



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Project Manager



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