PROJECT #23-008682.00

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DATE:	July 8, 2022
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PROJECT NAME:	Superior Marketplace Residential Parking Reduction
PROJECT NUMBER:	23-008682.00

KEY FINDINGS

- The Client is proposing a new multi-family residential development consisting of up to 400 dwelling units, assuming a unit type mix that is 9% studios, 43% 1-bedroom units, 41% 2-bedroom units, and 7% 3-bedroom units.
- The Client is proposing a total parking supply of 565 parking spaces to serve all users for the new residential development, including residents and visitors to the residences, as well as potential new tenants and building staff. 542 of these spaces will be dedicated primarily to residents and managed using a parking management system, described on pages 5-6.
- The Town of Superior currently would require a parking supply of 824 spaces for the units per Code.
    - This would result in a deficit of – 285 spaces
- The Town's Code supports use of the Institute of Transportation Engineers (ITE) parking ratios as an industry standard.
- Walker used an industry-standard demand modeling method using 85th percentile parking ratios provided by ITE to determine actual parking needs for the proposed development, as currently programmed, in terms of the total number of bedrooms
    - All projections assume a 100% drive ratio (no adjustment down was made for drive share), based on US Census data for the Census tract in which the site is located
    - Using this method, Walker projects a total need of about 539 spaces to serve 400 units at the specified unit mix by number of bedrooms
- Based on this modeling, the Client's proposed parking supply of 565 stalls in total is sufficient to accommodate projected demand for residents and guests with a surplus of 26 spaces.
- As measured from the intersection of 5th Ave. and Sycamore St., the RTD Flatiron Flyer bus rapid transit (BRT) stops along the 36 Fwy. are located about 0.4 miles from the eastbound bus stop and 0.5 miles from the westbound bus stop respectively, meaning that the site is within a half mile, or a 10-minute walk, of regional rapid transit.

INTRODUCTION

Confluence Companies (the "Client") and its architect, Craine Architecture, are in the planning stages for a residential development as part of the larger, existing development called Superior Marketplace, which Confluence has acquired. The development is to be located on a site at the northeast corner of 5th Avenue and Sycamore Street. The exact number of dwelling units is still to be determined for the site, but the Client has indicated that up to 400 dwelling units are being considered. No other primary land uses are proposed for the site.

The Client is currently planning to provide a total of 565 parking spaces (542 structured, the remainder on development-owned and operated streets) for the property. Walker Consultants ("Walker") has been retained to conduct an analysis of parking needs for the proposed development and to prepare a formal draft memo for submittal to the Town of Superior that details the methodology, results, and conclusions of that analysis, as well as provides recommendations and potential strategies for transportation demand management, if needed.

CURRENT TOWN REQUIREMENT

Article XXIV, Section 16-24-10, Sub-Section A of the Town of Superior's Code of Ordinances outlines the current minimum parking supply requirements for specified land uses within the Town of Superior, including for multi-family residential uses.

Figure 1 below provides detailed programming for the site and associated parking supply requirements by code assuming the maximum possible 400 dwelling units and a unit type mix that is 9% studios, 43% 1-bedroom, 41% 2-bedroom, and 7% 3-bedroom units.

Figure 1: Current Parking Supply Requirements by Code Assuming 400 Units

Proposed Programming			Current Town Requirement				
			Base Requirement		Additional Requirement for Guest Spaces (For Developments of 6 or More Units)		Number of Spaces Required Before Reductions
Unit Type	Assumed Unit Type Mix by Percent	Number of Units	Ratio	per Unit	Ratio	per Unit	
Studio	9%	36	1.5	DU	0.25	DU	63
1-Bedroom	43%	172	1.5	DU			301
2-Bedroom	41%	164	2	DU			369
3-Bedroom	7%	28	3	DU			91
Total	**100%**	**400**					**824**

Currently, without any reductions or variances, the Code would require a total of 824 parking spaces to serve 400 new dwelling units at the unity type mix by number of bedrooms given above, representing a deficit of - 285 parking spaces between the current requirement and proposed number of parking spaces.

It should be noted that Sub-Section A also specifies that all off-street parking space requirements listed "shall be supplemented by Institute of Transportation Engineers (ITE) schedule of parking in the most current adopted edition, Parking Generation [*sic*], as it may be amended where the ITE standards are more restrictive."

PROJECTED PARKING DEMAND

WALKER'S PARKING DEMAND MODEL

Walker's Parking Demand Model calculates parking demand for residential multi-family dwelling units by unit type in terms of number of bedrooms per unit, by prevailing land use density of the site, and by unit mix in terms of income, if applicable (market rate versus affordable).

Our model considers the availability and use of alternative modes of transportation; captive market effects[1]; and daily, hourly, and seasonal variations. In the case of this project, our parking analysis represents the interrelationship of parking between residents and visitors.

Our analysis begins first by taking the land use quantities of this project (i.e., number of dwelling units proposed by number of bedrooms) and multiplying by a base parking demand ratio and monthly and hourly adjustment factors. All base ratios and hourly and monthly adjustments are industry standards that are based on thousands of parking occupancy studies, vetted by leading parking consultants and real estate professionals, and documented within the Third Edition of ULI/ICSC's *Shared Parking* and/or the Institute of Transportation Engineers' (ITE) Fifth Edition of the *Parking Generation Manual*.

Walker applies two additional adjustments to the base parking demand ratios, one to reflect an estimate of the local transportation modal split (called the driving ratio) and another to account for the best estimate of captive market effects[2] (called the non-captive ratio). These will all be described in more detail in the sections to follow.

For this study, parking ratios provided by ITE were used.

Figure 2 provides an illustrative view of the steps involved in the parking analysis.

Figure 2: Steps of Parking Demand Analysis

Number of Proposed Dwelling Units by Type	X	Standard or Base Parking Generation Ratio	X	Monthly Factor	X	Hourly Factor	X	Driving Ratio	X	Non-Captive Ratio	=	TOTAL

For most residential land uses, our model is based on the 85th percentile of peak-hour observations, a standard used by the ITE, the NPA's Parking Consultants Council, and the International Parking and Mobility Institute.

The key goal of our model is to minimize the land area or infrastructural resources devoted to parking to the greatest extent reasonable. The ultimate goal of this model is to find and project a peak parking demand period, reasonably predictable worst-case scenario, or design day condition.

[1] Recognition of a user group already on site for another primary purpose and not generating incremental parking demand for an accessory use. For example, a sandwich shop located in an office tower generates very little, if any, outside parking demand. Since the parking demand for the office tower tenants has already been accounted for, to avoid double counting, a non-captive adjustment factor is applied to the parking demand calculation for the sandwich shop. In this extreme example, the non-captive ratio may be 0 percent.

[2] Captive market means attendees who are on-site for more than one reason and are not creating additive parking demand.

MODEL SCENARIOS & ASSUMPTIONS

Our parking demand model assumes conditions typical of a medium-density residential development within a typical suburban land use context and takes into account the site's proximity to RTD transit – specifically the Flatiron Flyer, AB, and 228 local bus – as well as to Superior's new downtown development, located just east of the site across McCaslin Blvd.

ADJUSTMENTS TO MODEL

MODE SPLIT (DRIVING RATIO)

Before running our calculations, Walker adjusted default assumptions for transportation mode split. By default, a driving ratio of between 80% to 100% is used for typical development in the western United States, with 100% representing a scenario where everyone drives vehicles, and no-one uses transit, walks, or bikes. A lower range of ratios may be used for development in urban settings or land use contexts such as this development.

Typically, Walker consults various pertinent United States Census data pertaining to mode split for the census tract in which the proposed development is located in order to make tailored driving ratio adjustments. For residents, adjustments are based on the latest available vehicle availability data as shown in US Census Table B25044 – Tenure by Vehicles Available. The Census data in Table B25044 distinguishes between owners and renters. Walker used renter data for all units proposed for this project.

Figure 3 shows vehicle availability data for the renters within Boulder County Census Tract 606, the Census tract in which the site is located. Note that, because for this study Walker is trying to account for the actual number of vehicles, the figures for households with two or more vehicles have been appropriately weighted to determine the respective number of vehicles for each household type by number of vehicles available.

Figure 3: Tenure by Vehicles Available (Renters)

Number of Vehicles Available for Renting-Only Households (All Unit Sizes/Types)	Number of Households	Percentage of Households	Number of Households (Weighted by Number of Vehicles)	Percentage of Households (Weighted by Number of Vehicles)
No Vehicle	8	0.5%	8	0.3%
1 Vehicle	763	46.1%	763	26%
2 Vehicles	646	39.0%	1,292	44%
3 Vehicles	112	6.8%	336	12%
4 Vehicles	116	7.0%	464	16%
5 or More	11	0.7%	55	2%
Total	**1,656**	**100%**	**2,918**	**100%**

Source: US Census

According to the above data, there is a ratio of about 1.76 vehicles per household overall. Households with no vehicle represented about 0.5% of the total number of households in the Census tract. However, after weighing appropriately to account for multiple vehicles for households with more than one vehicle available, that

decreases to about 0.3%. As a result, because the weighted percentage falls under half a percent, which rounds to 0%, no drive ratio adjustment was applied. The drive ratio was therefore assumed to be 100%.

CAPTIVITY (NON-CAPTIVE RATIO)

Captive ratios of 100% are always used for residents and associated residential parking demand.

PARKING NEEDS ACCORDING TO ITE RATIOS

Walker conservatively used 85th percentile peak weekday parking demand ratios for multi-family housing in a mid-rise context in a general suburban setting, assuming no nearby rail transit, as provided in the 5th Edition of the Institute of Transportation Engineers' *Parking Generation Manual.*

Walker projected parking demand using ITE ratios as a function of the overall assumed number of bedrooms across the maximum 400 potential new units. Note that no adjustments were applied as the drive ratio for this site was determined to be effectively 100%.

Figure 4 below outlines Walker's projected parking needs for this project using ITE ratios.

Figure 4: Projected Parking Needs (ITE Ratios)

Unit Type	Assumed Unit Type Mix by Percent	Number of Total Bedrooms (400 Units Total)	85th Percentile Parking Ratio (by Bedroom)	Total Projected 85th Percentile Demand (by Bedroom)
Studio	9%	36	0.87	31
1-Bedroom	43%	172		150
2-Bedroom	41%	328		285
3-Bedroom	7%	84		73
Total	**100%**	**620**		**539**

When considering the total number of bedrooms as assumed, and using the respective 85th percentile ITE ratio, a peak parking demand and need of 539 spaces was projected. This is significantly lower than the total number of parking spaces provided in total, and lower than the number of parking spaces provided in a structured facility.

SUPPORTING FACTORS

PARKING MANAGEMENT RECOMMENDATIONS

The Client is currently proposing a gated parking management system furnished by Flash Parking for the development. The parking structure would feature an entrance station, an exit station, and be equipped with AVI readers. The parking management system would be cloud-based and be compatible with smartphones, enabling eParking reservations and electronic validations in real time, if desired.

The parking management system could be used to accommodate resident guest parking while ensuring that the parking is not available to outside user groups not associated with the development, such as commercial retail shoppers elsewhere within the Superior Marketplace.

PROXIMITY TO REGIONAL TRANSIT

The site is located within a half mile, along the most efficient pedestrian path of travel, from both the eastbound and westbound stops along the Flatiron Flyer bus rapid transit (BRT) corridor along the 36 Freeway that connects Boulder to Union Station in downtown Denver. The stations also serve other regional routes, such as the AB express route to Denver International Airport.

The 228 local bus provides service to the rest of Superior and across the freeway to Louisville via McCaslin Blvd, with additional stops at Coal Creek Dr. and McCaslin Blvd.

Figure 5 on the next page shows the site's proximity to surrounding RTD transit stops along the most efficient path of travel, as measured from an origin point at the corner of Sycamore and 5th Ave.

Figure 5: Transit Proximity to Site and Walking Circles