

Technical Memorandum

Limited Parking and Traffic Study

Market Meadows Redevelopment

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HR Green Project Number 250249

Prepared For:

Jacob & Hefner Associates
790 Estate Drive, Suite 200
Deerfield, IL 60015

Prepared By:



Introduction

Shorewood Development Group is proposing a redevelopment of a portion of the Market Meadows Shopping Center parking lot in Naperville, Illinois. The proposed redevelopment would include the construction of a new drive-thru coffee shop in an existing parking area.

This study is being performed to verify if the parking lot is adequate to accommodate the potential redevelopment based on code requirements and industry parking rate data.

Site Layout

Market Meadows Shopping Center is located in the northwest corner of 75th Street and Naper Boulevard. The shopping center is subdivided into six lots as pictured in **Figure 1**. No developments are planned in Lots 1, 2, 3, 4, and 6, containing the existing Jewel-Osco grocery store, self-storage, mixed use shopping buildings, and McDonald's. In Lot 5, the existing US Bank building will remain, and the triangular-shaped parking area north of the bank will be redeveloped into a Dutch Bros. drive-thru coffee shop.

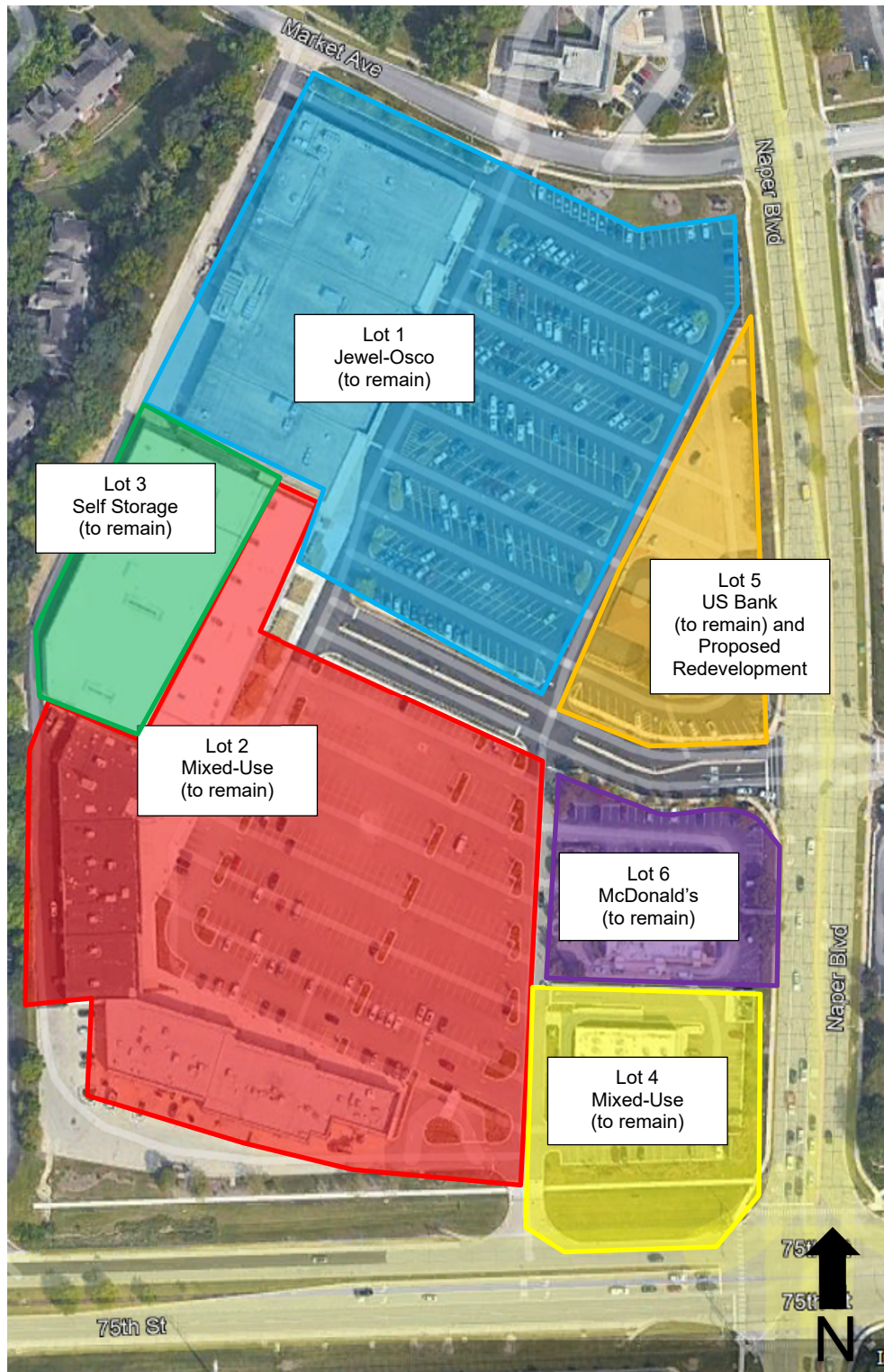
The redevelopment result in a loss of approximately 39 parking spaces from the existing Lot 5 parking supply. The other parking supply areas will remain as existing.

For the purposes of this study, the parking supply of the shopping center will be considered as a whole, and that cross-parking among the Lots will be common. The proposed parking supply is outlined in **Table 1**. A total of 887 parking spaces will be available after the proposed redevelopment. To be more conservative, this includes 41 parking spaces marked off for the Jewel-Osco seasonal garden center. The garden center is operated from April through June, so for most of the year, those 41 spaces will be available for regular use after the seasonal garden center closes down.

TABLE 1 – PARKING SUPPLY

<i>Location</i>	<i>Available Parking Spaces</i>
Lot 1 (existing Jewel-Osco)	327
Lot 2+3 (existing Self-Storage and mixed use)	416
Lot 4 (existing mixed use)	49
Lot 5 (existing US Bank and Proposed Redevelopment)	37
Lot 6 (existing McDonald's)	58
TOTAL	887

FIGURE 1 – SHOPPING CENTER LAYOUT

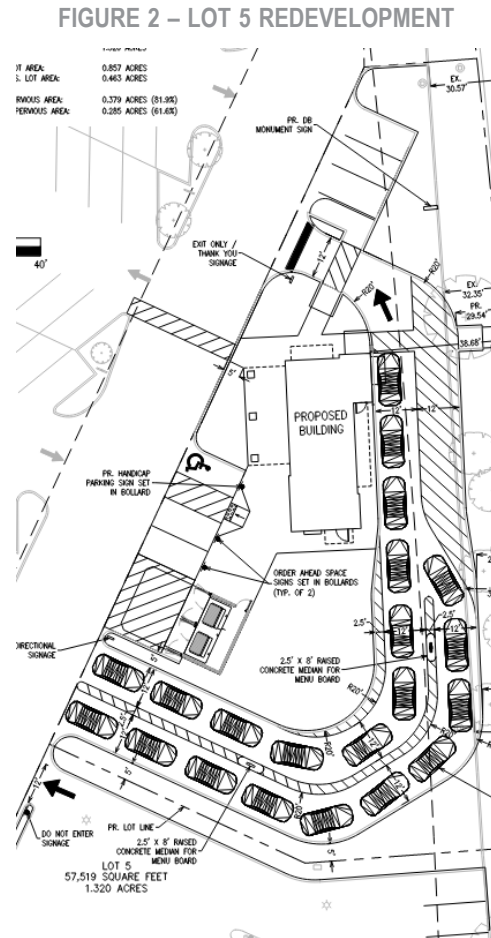


Proposed Development

The Lot 5 redevelopment area will be occupied by a proposed Dutch Bros. Coffee. The full site plan is available in the Appendix, with portions reproduced within this report.

The development plan, shown in **Figure 2**, is for the construction of an approximately 1,179 s.f. drive-thru coffee shop. This redevelopment will be built in the place of the existing parking lot north of the existing US Bank.

The site will provide a total of 6 parking spaces in place of the 45 removed spaces resulting in a net loss of 39 parking spaces.



Projected Parking Requirements

Each of the land uses in the shopping center was considered for parking requirements, based on the Institute of Transportation Engineers (ITE) *Parking Generation, 6th Edition*. ITE provides either an average parking demand rate or a fitted curve equation based on their study data for peak parking demand by land use. ITE also provides data on the percentage of peak parking demand each hour, as experienced by each land use. Because peak parking demands will vary based on the business being studied, the shopping center's overall parking demand was analyzed on an hourly basis, in order to determine the overall peak parking demand for the entire shopping center.

In Lot 1, the existing Jewel-Osco supermarket building is approximately 67,103 s.f.

The parking requirements for Lot 2 fall under several land use categories. Although ITE does not have a data category specifically for swimming schools, it was determined that the parking generation rates for ITE Land Use Category 492 – Health/Fitness Club would most closely apply to the Big Blue Swimming School. ITE describes a Health/Fitness Club as focusing on individual fitness or training, while also providing exercise classes. Additionally, the hourly parking demands for this land use indicate that peaks occur after school and on weekends, which coincide with the expected usage patterns of a swim school.

Restaurant land uses in Lot 2 are expected to fall under two categories. Poke Bros. (1,608 s.f.) and BIBIBOP Asian Grill (2,716 s.f.) are both considered ITE Land Use Category 930 – Fast Casual Restaurant, where customers order at a counter and food is made fresh to order. Freedom Brothers restaurant (5,732 s.f.) falls under Category 932 – High-Turnover (Sit Down) Restaurant. The High-Turnover land use is commonly referred to as casual dining, where diners are served by wait staff and pay after the meal.

The remaining area in Lot 2 is a variety of mostly retail stores, both existing and proposed. Because ITE data does not exist specifically for each specific type of retail, the remaining storefronts can be classified under ITE Land Use Category 821 – Shopping Plaza (40-150k s.f.). This land use provides a conservative estimate for relatively high-traffic retail businesses, usually consolidated into a strip mall, shopping mall, or shopping center. The restaurant and swim school land uses were considered separately, because they tend to generate parking at a higher rate than shopping plazas.

In Lot 2, approximately 44,110 s.f. of existing storefronts can be classified under Land Use Category 821. This land use has an option for shopping plazas with supermarkets, which typically generate higher parking demand than shopping plazas without supermarkets. To be conservative, the shopping plaza with supermarket option will be used. Because the supermarket is considered part of the shopping plaza, this results in a total square footage of 111,213 s.f. including the Jewel and the Lot 2 shopping plaza. Including the supermarket under Land Use Category 821 results in a larger parking demand than considering the supermarket separately from the shopping plaza.

Lot 3 is the existing self-storage facility. This land use belongs to ITE Land Use Category 151 – Mini-Warehouse. The building footprint will be approximately 42,519 s.f., with an overall usable floor area of 129,045 s.f.

The building in Lot 4 includes three tenants. The 2,899 s.f. BMO Bank was classified as ITE Land Use 912 – Drive-In Bank. This land use provides for drive-in banking services like the ATM, as well as walk-in services. Both the Chipotle and the Jersey Mike's are considered Fast Casual Restaurants (Category 930).

The US Bank in Lot 5 was also determined to be Land Use 912 – Drive-In Bank. The proposed Dutch Bros. coffee shop falls under Land Use 937 – Coffee/Donut Shop with Drive-Through Window.

Finally, the 5,000 s.f. existing McDonald's building in Lot 6 was classified as Land Use 934 – Fast-Food with Drive-Through Window.

The *ITE Parking Generation* manual provides percentages of peak and off-peak parking demands for typical business hours during a weekday and Saturday. Where available, these percentages were used to calculate the parking demand for each business during all peak periods. Parking demands for each land use were calculated and summed for the entire shopping center. The projected parking demands were reviewed to determine that the weekday peak parking hours are expected to be at 12pm and 6pm, and the peak weekend parking hours were at 1pm and 4pm. The peak period parking demands for each Lot are summarized in **Table 2**.

TABLE 2 – ITE PARKING REQUIREMENTS

Land Use	Building Size (s.f.)	ITE Land Use Code	ITE Parking Requirements			
			Weekday		Saturday	
			Mid-Day (12pm)	Evening (6pm)	Mid-Day (1pm)	Evening (4pm)
Lot 1+2 – Shopping Plaza with Supermarket	111,213	821	337	317	358	340
Lot 2 – Big Blue Swimming School	10,072	492	33	69	34	29
Lot 2 – Freedom Brothers	5,732	932	49	44	46	42
Lot 2 – Poke Bros.	1,608	930	16	12	10	6
Lot 2 - BIBIBOP	2,716	930	26	20	18	9
Lot 3 – Self-Storage	129,045	151	7	2	11	12
Lot 1+2+3 Totals	260,386	-	468	464	477	438
Lot 4 – BMO Bank	2,899	912	9	3	8	0
Lot 4 – Chipotle	2,300	934	22	17	14	8
Lot 4 – Jersey Mike's	1,659	933	17	13	11	6
Lot 4 Totals	6,858	-	48	33	33	14
Lot 5 – US Bank	5,000	912	15	6	15	0
Lot 5 – Dutch Bros.	950	937	20	13	29	28
Lot 5 Totals	5,950	-	35	19	44	28
Lot 6 – McDonald's	5,000	934	38	14	42	27
Lot 6 Totals	5,000	-	38	14	42	27
OVERALL TOTAL			589	530	596	507

According to ITE parking rates, the highest parking demand is projected to be 596 vehicles during the Saturday mid-day peak period. Compared to the 887 available parking spaces, the overall parking utilization is predicted to be 67.2%. The analysis indicates that the parking supply is expected to be adequate for the development plans based on ITE code. The additional 32.8% of unutilized parking supply will likely aid in traffic circulation, as available parking spaces reduce

the amount of time vehicles must spend driving through the lot, searching for a parking space.

Site Traffic Circulation

A high-level qualitative analysis of the proposed parking lot circulation was also performed. No changes are planned to the existing entrances to the shopping center, and the existing parking lot drive aisles are being maintained. Access to the Dutch Bros. drive-through lane and parking will be via the existing north-south drive aisle.

Dutch Bros. will have a dual lane drive-through, which tapers down to a single lane before the pickup window. The lanes include storage for 21 vehicles. The ITE Trip Generation Manual indicates that peak demand for a coffee shop with drive-through window of this size is approximately 48 entering vehicles during the weekday morning peak hour. Assuming all 48 vehicles in the weekday morning peak hour use the drive through, this equates to approximately 12 vehicles every 15 minutes. This demand would easily fit within the drive-through lanes. However, drive-through demand may exceed ITE average rates for a new coffee franchise in the area.

When the drive-through lanes begin to fill up, the restaurant will send “Line Busters” – employees with iPads – to take orders from cars ahead of the menu boards to expedite the ordering process. As orders are completed, “Drink Runners” will take orders out to cars in the queue and allow them to use the escape lane to exit the queue early. These strategies will help speed up drive-through delivery times and minimize queueing impacts.

Because this is the first Dutch Bros. coffee store in the Chicagoland area, demand is expected to be high in the first months after opening. During grand openings, Dutch Bros. typically staff traffic controllers through a third-party vendor. These traffic controllers are preferably off-duty police officers who can help contain the queue and preserve traffic flow. The attached grand opening traffic management plan specifies the signing and procedure that the traffic controllers will use to manage the queue. The initial queue will be routed into the southern drive aisle where cars will be allowed to stack. Traffic controllers will direct cars to the drive-through lanes when space is available. This will provide stacking space for the queues and keep the north-south drive aisle clear for bank customers. The need for traffic control is regularly re-evaluated by the restaurant’s field team with the goal of having a well-organized queue and making as minimal of an impact on neighboring businesses or public roadways as possible. As demand stabilizes, the restaurant’s queue management strategies are likely to keep queues from disrupting the flow of traffic within the shopping center.

Conclusion

The projected parking demand for the proposed redevelopment in the Market Meadows Shopping Center was analyzed. Parking demand for mid-day and evening peak periods on a weekday and on a Saturday were analyzed for the development plan, according to ITE code requirements. The projected peak parking demands were shown to be less than the proposed number of parking spaces. Parking utilization for the two options is predicted to be 70.4% during the Saturday peak period. Additionally, traffic circulation surrounding the proposed coffee shop drive-through lanes was reviewed. Drive-through queues are not likely to be longer than the stacking areas and are not expected to negatively impact traffic flow on major drive aisles in the shopping center. Employees will use strategies to manage longer queues, and traffic controllers will be utilized during the grand opening periods to help manage the initial demand.