

TECHNICAL MEMORANDUM

To:	Aaron Zimmerman	DDOT - PSD
	Evelyn Israel	DDOT - PSD
From:	Daniel Solomon	
	Robert B Schiesel, PE	
	Daniel B. VanPelt, PE, PTOE	
Date:	October 3, 2017	
Subject:	Dakota Crossing Chick-fil-A – Comprehensive Transport	tation Review

INTRODUCTION

This memorandum presents the findings of a Comprehensive Transportation Review (CTR) conducted in support of the Dakota Crossing Chick-fil-A Board of Zoning Adjustment (BZA) application (Case No. 19626). Figure 1 identifies the site location within the District. The project site is located in the Shops at Dakota Crossing retail center in the Fort Lincoln neighborhood in northeast Washington, DC (future address of 2410 Market Street, NE), as shown in Figure 2 and Figure 3. The site is generally bounded by a Lowe's Home Improvement store to the north, Market Street NE to the east, a ramp from New York Avenue to South Dakota Avenue to the south, and retail parking to the west. The site is currently a combination of an undeveloped lot and a paved parking area in the southern area of the private retail center.

The proposed project will include a 4,992 square foot fast-food restaurant building with indoor seating for approximately 94 customers, outdoor seating for approximately 26 customers, a child's play area, and 27 surface lot parking spaces. The fast-food restaurant will include a double-ordering queue drive-thru with queuing space for 36 vehicles. No walk-up window is proposed. As the project site is located along a privately maintained road in a private retail center, there will be no curb cuts in public space.

The Applicant is seeking a special exemption by the BZA to permit a fast-food restaurant with a drive-thru for the site. The MU-5 zones are intended to permit medium-density, compact mixed-use development with an emphasis on residential use. Under current zoning regulations for MU-5A, eating and drinking establishments are permitted as a matter of right. Drive-thru uses, such as a bank with a drive-thru, are also permitted. However, the combination of a fast-food restaurant with a drive-thru is not allowed.

The purpose of this CTR is to review the transportation impacts of permitting a fast food drive-through in this zone, including:

- A review of the expected queuing length at the drive-through, and whether that can be accommodated without any
 negative impact to public space including queuing on public space.
- A comparison of project vehicular trips with and without a drive-through; and
- A review of the parking supplied by the development, and whether it complies with the amount of parking that is required by Zoning.

Dakota Crossing Chick-fil-A Comprehensive Transportation Review October 3, 2017

The following conclusions were made regarding the Dakota Crossing Chick-fil-A development:

- A comparison of national trip generation rates for fast food restaurants with and without drive-throughs, and the trip generation actually observed at a comparable Chick-fil-a (with a drive-through) within the District showed that a Chick-fil-a would have similar vehicular trip generation to a fast food site without a drive-through. Thus, approving this use would not lead to a significant increase in trips during times of peak hours of use on the surrounding roadways, nor would it have a negative impact on surrounding roadways.
- The maximum amount of queuing anticipated at the site can be accommodated solely on the Chick-Fil-A parcel and will not negatively impact public space.

PROJECT OVERVIEW

This section provides an overview of the transportation features of the proposed development. The proposed project will include a 4,992 square foot fast-food restaurant building with indoor seating for approximately 94 customers, outdoor seating for approximately 26 customers, a child's play area, and 27 surface lot parking spaces. The fast-food restaurant will include a double-ordering queue drive-thru with queuing space for 36 vehicles. No walk-up window is proposed. Figure 4 shows the proposed ground-floor plan.

Queueing Analysis

The amount of queuing expected at the drive-through was based on data collected at other Chick-fil-A drive-throughs. Chick-Fil-A provided comparable data from similar sites including the maximum observed queue at each drive-through line. This information was used to estimate the max queue at the proposed development, and superimpose the estimated max queue onto the proposed site plan to ensure that the estimated max queue does not "spill back" into public space. Figure 5 shows the public and private right-of-way in the immediate vicinity of the site.

The comparable data, which is attached to this memo, included data collected at five (5) Chick-fil-A locations in Delaware, Maryland, New Jersey, Pennsylvania, and Virginia. All of these locations are of similar size to the proposed development and include dual drive-thru lanes, as is planned in the proposed development. Data collection was conducted form 7:00AM to 7:00PM on a weekday and a weekend at each of the sites, with max queue observations recorded every 15 minutes. The maximum observed queue at any of the five locations was 36 vehicles long (weekday at 1:00PM at the Maryland location). As is shown on Figure 4, approximately 36 vehicles can be accommodated in the drive-through queue on site. Thus, the maximum amount of queuing anticipated at the site can be accommodated solely on the Chick-Fil-A parcel and will not negatively impact public space.

Trip Generation

Several sources of information were used to develop vehicular trip generation projections for the site. The Institute of Transportation Engineers' (ITE) *Trip Generation*, 10th Edition, contains vehicular trip generation estimates for fast food restaurants with and without drive-throughs. In addition, Gorove/Slade conducted driveway counts at the Chick-fil-A located in the District at Maryland Avenue and 14th Street on Friday, September 15, 2017.

Table 1 shows trip generation estimates for three scenarios: (1) ITE's estimates for fast food restaurants without a drive-through, (2) ITE's estimates for fast food restaurants with a drive-through, and (3) the vehicular trip generation observed at

the Maryland Avenue location. Providing all three shows a comparison between both standard (ITE) data for fast food restaurants with and without a drive-through, and a specific data point for a Chick-fil-a (with a drive-through).

Trips estimated using ITE generation rates used data for "Fast Food Restaurant with Drive Through Window" (Land Use Code 934), and "Fast Food without Drive-Through" (LU Code 933). For this analysis, the methodology was supplemented to account for the use of non-auto modes of travel and to generate trips for non-auto modes. Non-auto mode split estimates were then developed using WMATA's *2005 Development-Related Ridership Survey*, consistent with other studies developed within the District of Columbia. The retail mode split for the development is anticipated to be 90% auto, 5% transit, 4% walking, and 1% biking.

As can be seen in Table 1, the number of trips generated with and without a drive-through, and the actual number of trips generated by an existing comparable site in the District are very similar. Thus, permitting the drive-through use would not lead to a significant increase in vehicular trip generation during peak times.

Mode	Land Use	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto	Fast Food w/ Drive Thru ¹	93 veh/hr	88 veh/hr	181 veh/hr	76 veh/hr	71 veh/hr	147 veh/hr
	Fast Food no Drive Thru ²	68 veh/hr	45 veh/hr	113 veh/hr	63 veh/hr	64 veh/hr	127 veh/hr
	Maryland Ave CFA ³	63 veh/hr	67 veh/hr	130 veh/hr	53 veh/hr	55 veh/hr	108 veh/hr
Transit	Fast Food w/ Drive Thru ¹	9 ppl/hr	9 ppl/hr	18 ppl/hr	8 ppl/hr	7 ppl/hr	15 ppl/hr
	Fast Food no Drive Thru ²	7 ppl/hr	4 ppl/hr	11 ppl/hr	6 ppl/hr	7 ppl/hr	13 ppl/hr
	Maryland Ave CFA ³	NA	NA	NA	NA	NA	NA
Bike	Fast Food w/ Drive Thru ¹	2 ppl/hr	2 ppl/hr	4 ppl/hr	2 ppl/hr	1 ppl/hr	3 ppl/hr
	Fast Food no Drive Thru ²	1 ppl/hr	1 ppl/hr	2 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr
	Maryland Ave CFA ³	NA	NA	NA	NA	NA	NA
Walk	Fast Food w/ Drive Thru ¹	7 ppl/hr	7 ppl/hr	14 ppl/hr	6 ppl/hr	6 ppl/hr	12 ppl/hr
	Fast Food no Drive Thru ²	5 ppl/hr	4 ppl/hr	9 ppl/hr	5 ppl/hr	5 ppl/hr	10 ppl/hr
	Maryland Ave CFA ³	NA	NA	NA	NA	NA	NA

Table 1: Trip Generation Comparison for the Proposed Development by Mode

(1)based on ITE Trip Generation 10th Edition for "Fast Food with Drive-Through" (LU Code 934)

(2)based on ITE Trip Generation 10th Edition for "Fast Food without Drive-Through" (LU Code 933)

(3)based on driveway counts during peak hour of generator (9:15am-10:15am and 5:15pm-6:15pm)

Parking

Under Subtitle C § 701.5, the parking requirement for Eating and Drinking Establishments is 1.33 parking spaces per 1,000 square feet, in excess of 3,000 square feet. The proposed development is required to provide three (3) parking spaces. The planned development will exceed the number of parking spaces required under zoning by providing a total of 27 parking spaces.

Dakota Crossing Chick-fil-A Comprehensive Transportation Review October 3, 2017

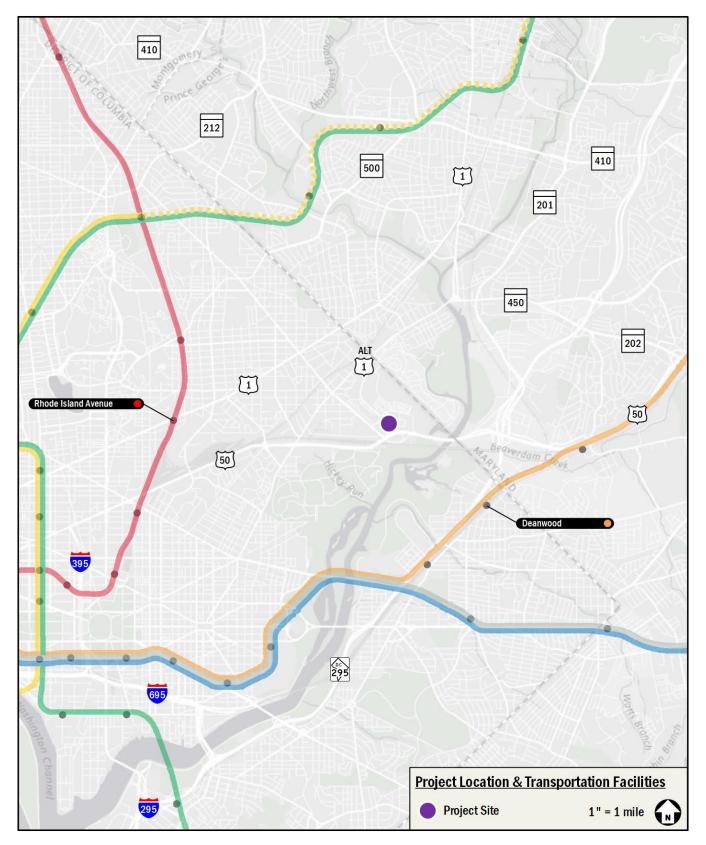


Figure 1: Regional Location

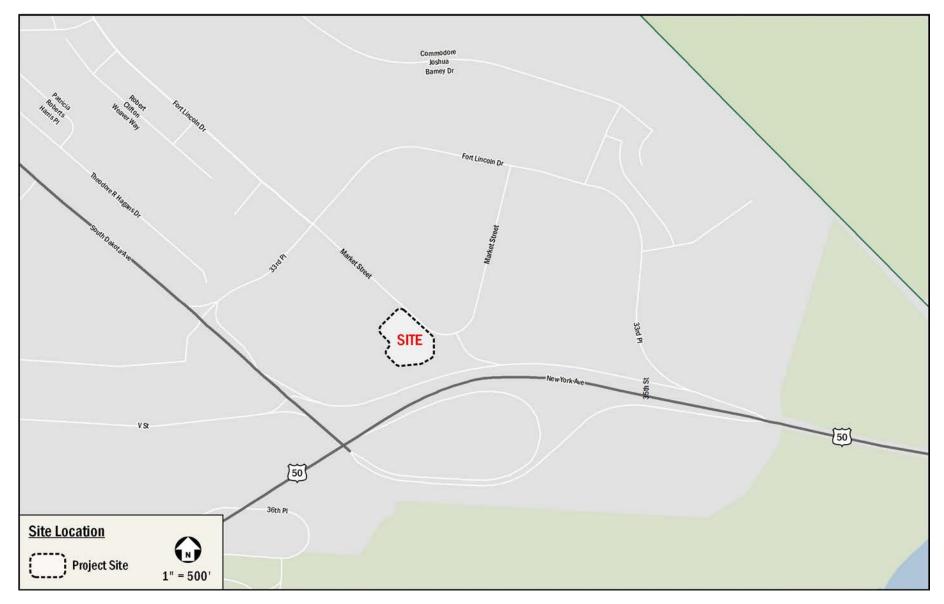


Figure 2: Site Location

Gorove/Slade

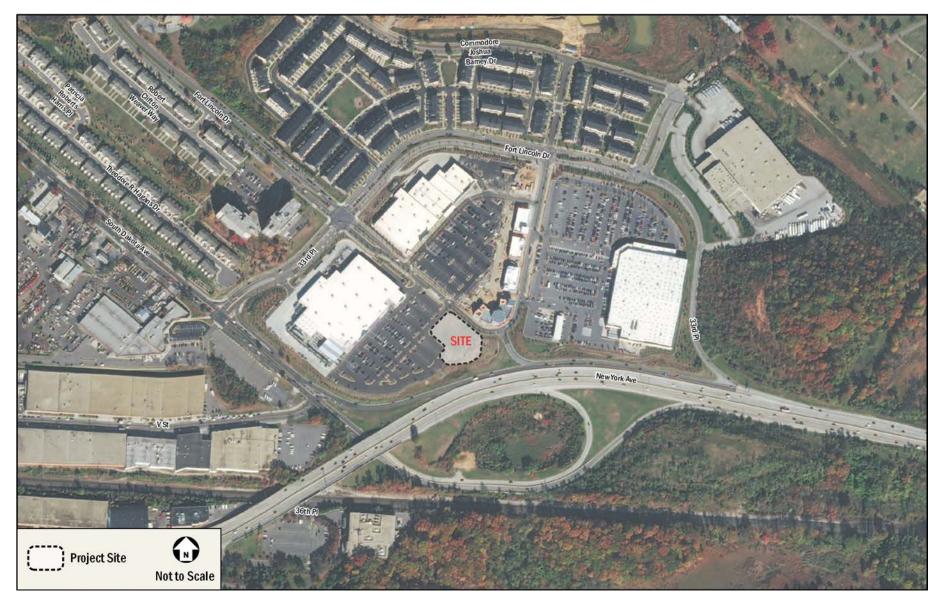


Figure 3: Aerial

Gorove/Slade

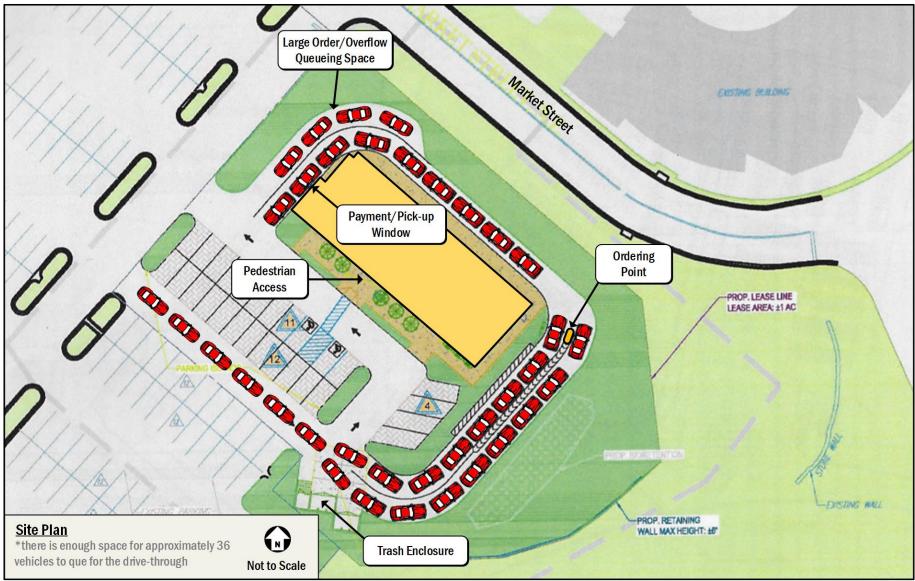


Figure 4: Site Plan

Gorove/Slade

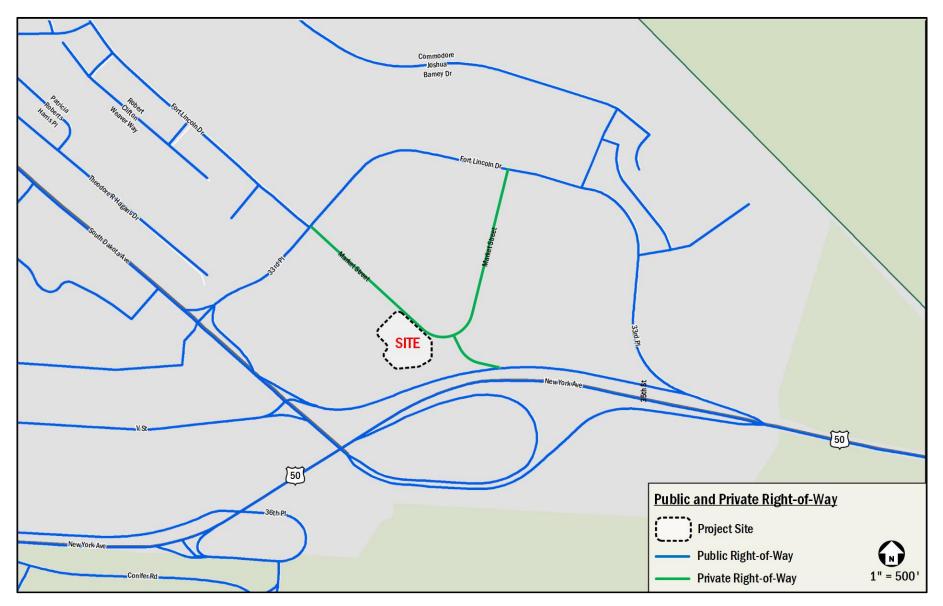


Figure 5: Public and Private Right-of-Way

TECHNICAL ATTACHMENTS

This report is supplemented by the following technical attachments:

- **Technical Attachment A: Multimodal Trip Generation** Assumptions and calculation steps used to determine the site's projected trip generation
- Technical Attachment B: Raw Vehicular Count Data Raw data showing vehicular driveway counts in 15-minute intervals passing through the study area; collected in September 2017
- Technical Attachment C: Chick-fil-A Comparable Site Data Raw data showing bicycle traffic in 15-minute intervals passing through the study area; collected in September 2016

Page 9