

TECHNICAL MEMORANDUM

To: Kingsley McAdam
Paul A Tummonds, Jr.
From: Katie Wagner, PE, PTOE
Erwin Andres
Date: March 13, 2018
Subject: Zoning Commission Case No. 17-26 - Michigan Avenue and Irving Street Zoning Map Amendment

Buchanan Partners, LLC
Goulston & Storrs

Introduction

This memorandum supports the proposed Zoning Map Amendment application before the Zoning Commission for the Michigan Avenue and Irving Street development located at 200 Michigan Avenue, NE in northeast Washington, DC (Ward 5), which is shown in Figure 1. This project consists of redeveloping the site which is currently a surface parking lot and overgrown and poorly maintained wooded area. To address the impacts of the proposed Zoning Map Amendment application, which would modify the zoning designation of the subject site from unzoned to MU-5-B, this memorandum presents a trip generation comparison of the PUD development program previously approved for the site with two development scenarios that would be consistent with the matter-of-right parameters of the MU-5-B Zone.

The two development scenarios for the subject parcel are:

- Option A - approximately 610 residential units, 30,000 sf of ground floor retail, and 265 hotel rooms; and
- Option B - approximately 425 residential units, 30,000 sf of ground floor retail, and 500 hotel rooms.

The proposed development programs analyzed for Option A and for Option B assume a maximum FAR (Floor Area Ratio) of 3.5 for Lots 1 and 4 (in Option B), and a maximum FAR of 4.2 for Lots, 2, 3, 4 (in Option A) & 5, which would be allowed under the proposed MU-5-B Zone.

Site Trip Generation Comparison

The DDOT approved December 2008 Traffic Impact Study and 2015 PUD modification for the Michigan and Irving development included a 336-room hotel (including 37,346 square feet of conference space), 18,000 sf retail, and an 81-room hotel as part of Phase 1. Phase 2 included 120 residential units and a 200-room hotel. The trip generation for the approved PUD for the Michigan Avenue and Irving Street development is summarized in Table 1.



Figure 1: Site Location

Table 1: Previously Approved Trip Generation for MIRV Development

Proposed Development	ITE Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Phase 1A								
Hotel With Conference Center	310	336 Rooms	105	73	178	103	99	202
		<u>Alternate Mode Reduction (30%)</u>	<u>-31</u>	<u>-22</u>	<u>-53</u>	<u>-31</u>	<u>-30</u>	<u>-61</u>
		Hotel Total	74	51	125	72	69	141
Restaurant	932	5,000 SF	30	28	58	34	21	55
		<u>Pass-by Trips (40%)</u>				-14	-8	-22
		<u>Alternate Mode Reduction (30%)</u>	<u>-9</u>	<u>-8</u>	<u>-17</u>	<u>-10</u>	<u>-6</u>	<u>-16</u>
		Restaurant Total	21	20	41	10	7	17
Retail	820	18,000 SF	35	21	56	97	105	202
		<u>Pass-by Trips (40%)</u>				-39	-42	-81
		<u>Alternate Mode Reduction (30%)</u>	<u>-11</u>	<u>-6</u>	<u>-17</u>	<u>-29</u>	<u>-32</u>	<u>-61</u>
		Retail Total	24	15	39	29	31	60
Phase 1B								
Hotel	310	81 Rooms	19	14	33	20	21	41
		<u>Alternate Mode Reduction (30%)</u>	<u>-6</u>	<u>-4</u>	<u>-10</u>	<u>-6</u>	<u>-6</u>	<u>-12</u>
		Hotel Total	13	10	23	14	15	29
Phase II								
Residential	220	120 DU	13	50	63	55	29	84
		<u>Alternate Mode Reduction (30%)</u>	<u>-4</u>	<u>-15</u>	<u>-19</u>	<u>-17</u>	<u>-9</u>	<u>-26</u>
		Residential Total	9	35	44	38	20	58
Hotel	310	220 Rooms	73	53	126	60	62	122
		<u>Alternate Mode Reduction (30%)</u>	<u>-22</u>	<u>-16</u>	<u>-38</u>	<u>-18</u>	<u>-19</u>	<u>-37</u>
		Hotel Total	51	37	88	42	43	85
		Total	192	168	360	205	185	390

As stated previously, this analysis addresses two development scenarios for the subject parcel. The first development scenario (Option A) includes approximately 610 residential units, 30,000 sf of ground floor retail, and 265 hotel rooms. The second development scenario (Option B) is based on the maximum trip generation for the site that includes approximately 425 residential units, 30,000 sf of ground floor retail, and 500 hotel rooms. Trip generation for the two proposed development scenarios allowed under the MU-5-B zoning was calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition. The mode splits assumed in the trip generation calculations are presented in **Table 2**. Trip Generation for the proposed development scenarios is presented in Table 3a and Table 3b. Table 4a and Table 4b present the difference in trip generation between the approved development and the two proposed development scenarios.

Table 2: Mode Splits

Land Use	Mode			
	Drive	Transit	Bike	Walk
Residential Mode Split	70%	25%	2%	3%
Retail Mode Split	70%	15%	5%	10%
Hotel Mode Split	70%	15%	0%	15%

Table 3a: Trip Generation for Option A Proposed MIRV Development under Proposed Map Amendment

Mode	Land Use	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto	Apartments	34 veh/hr	97 veh/hr	131 veh/hr	99 veh/hr	65 veh/hr	164 veh/hr
	Retail	62 veh/hr	38 veh/hr	100 veh/hr	64 veh/hr	70 veh/hr	134 veh/hr
	Hotel	53 veh/hr	36 veh/hr	89 veh/hr	62 veh/hr	59 veh/hr	121 veh/hr
	Total	149 veh/hr	171 veh/hr	320 veh/hr	225 veh/hr	194 veh/hr	419 veh/hr
Transit	Apartments	18 ppl/hr	50 ppl/hr	68 ppl/hr	52 ppl/hr	33 ppl/hr	85 ppl/hr
	Retail	46 ppl/hr	28 ppl/hr	74 ppl/hr	48 ppl/hr	51 ppl/hr	99 ppl/hr
	Hotel	19 ppl/hr	13 ppl/hr	32 ppl/hr	22 ppl/hr	21 ppl/hr	43 ppl/hr
	Total	83 ppl/hr	91 ppl/hr	174 ppl/hr	122 ppl/hr	105 ppl/hr	227 ppl/hr
Bike	Apartments	1 ppl/hr	4 ppl/hr	5 ppl/hr	3 ppl/hr	3 ppl/hr	6 ppl/hr
	Retail	9 ppl/hr	6 ppl/hr	15 ppl/hr	10 ppl/hr	10 ppl/hr	20 ppl/hr
	Hotel	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
	Total	10 ppl/hr	10 ppl/hr	20 ppl/hr	13 ppl/hr	13 ppl/hr	26 ppl/hr
Walk	Apartments	2 ppl/hr	5 ppl/hr	7 ppl/hr	5 ppl/hr	4 ppl/hr	9 ppl/hr
	Retail	19 ppl/hr	11 ppl/hr	30 ppl/hr	19 ppl/hr	21 ppl/hr	40 ppl/hr
	Hotel	19 ppl/hr	13 ppl/hr	32 ppl/hr	22 ppl/hr	21 ppl/hr	43 ppl/hr
	Total	40 ppl/hr	29 ppl/hr	69 ppl/hr	46 ppl/hr	46 ppl/hr	92 ppl/hr

Table 3b: Trip Generation for Option B Proposed MIRV Development under Proposed Map Amendment

Mode	Land Use	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto	Apartments	24 veh/hr	67 veh/hr	91 veh/hr	71 veh/hr	45 veh/hr	116 veh/hr
	Retail	62 veh/hr	38 veh/hr	100 veh/hr	64 veh/hr	70 veh/hr	134 veh/hr
	Hotel	101 veh/hr	70 veh/hr	171 veh/hr	125 veh/hr	119 veh/hr	244 veh/hr
	Total	187 veh/hr	175 veh/hr	362 veh/hr	260 veh/hr	234 veh/hr	494 veh/hr
Transit	Apartments	13 ppl/hr	35 ppl/hr	48 ppl/hr	37 ppl/hr	23 ppl/hr	60 ppl/hr
	Retail	46 ppl/hr	28 ppl/hr	74 ppl/hr	48 ppl/hr	51 ppl/hr	99 ppl/hr
	Hotel	36 ppl/hr	25 ppl/hr	61 ppl/hr	45 ppl/hr	42 ppl/hr	87 ppl/hr
	Total	95 ppl/hr	88 ppl/hr	183 ppl/hr	130 ppl/hr	116 ppl/hr	246 ppl/hr
Bike	Apartments	1 ppl/hr	2 ppl/hr	3 ppl/hr	2 ppl/hr	2 ppl/hr	4 ppl/hr
	Retail	9 ppl/hr	6 ppl/hr	15 ppl/hr	10 ppl/hr	10 ppl/hr	20 ppl/hr
	Hotel	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr
	Total	10 ppl/hr	8 ppl/hr	18 ppl/hr	12 ppl/hr	12 ppl/hr	24 ppl/hr
Walk	Apartments	1 ppl/hr	4 ppl/hr	5 ppl/hr	4 ppl/hr	2 ppl/hr	6 ppl/hr
	Retail	19 ppl/hr	11 ppl/hr	30 ppl/hr	19 ppl/hr	21 ppl/hr	40 ppl/hr
	Hotel	36 ppl/hr	25 ppl/hr	61 ppl/hr	45 ppl/hr	42 ppl/hr	87 ppl/hr
	Total	56 ppl/hr	40 ppl/hr	96 ppl/hr	68 ppl/hr	65 ppl/hr	133 ppl/hr

Table 4a: Trip Generation Comparison (Approved versus Proposed Option A)

Scenario	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Approved	192	168	360	205	185	390
Proposed	149	171	320	225	194	419
Difference	-43	3	-40	20	9	29

Table 4b: Trip Generation Comparison (Approved versus Proposed Option B)

Scenario	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Approved	192	168	360	205	185	390
Proposed	187	175	362	260	234	494
Difference	-5	7	2	55	49	104

As presented in Table 4a, the Option A development scenario will generate 40 less vehicular AM peak hour trips and 29 more vehicular PM peak hour trips compared to the previously approved PUD development program. Similarly, as presented in Table 4b, the proposed maximum development (Option B) will generate 2 more vehicular AM peak hour trips and 104 more vehicular PM peak hour trips compared to the previously approved PUD development program. Given that the Applicant is committed to implementing the transportation mitigation improvements and Transportation Demand Management (TDM) elements associated with the previously approved PUD, either development scenario under the proposed MU-5-B Zone would be accommodated without adverse impact to the surrounding roadway network.