Memorandum

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Date: February 8, 2022

Project #: 63906.00

From: Kok Wan Mah, P.E.
Senior Transportation Engineer

Re: West Oaks Development Trip Generation Revision

CC: Jeremy Wilcox (Tillman)
David McKay (McKay Law)
Thomas Wiggins (VHB)

Introduction

The intent of this memorandum is to provide support for the use of the ITE Trip Generation, 11th Edition for the West Oaks Development. Moving forward, as the parcels are being developed, the use of the 11th Edition will provide a more accurate accounting of the projected trips from the proposed development. The development will be located east of NW 27th Avenue and south of NW 35th Street, within the limits of the City of Ocala, in Marion County. A Traffic Impact Study was submitted to the City of Ocala in April of 2021 for the West Oaks Development. The Approved Development Program used in the analysis outlined below is based on the April 2021 study.

Trip Generation Comparison

The development program in the April 2021 study utilized the following land uses and intensities:

- Single Family (210) – 386 Dwelling Units
- Multi-Family Housing, Low-Rise (220) – 150 Dwelling Units
- Multi-Family Housing, Mid-Rise (221) – 832 Dwelling Units
- Shopping Center (820) – 70 KSF

The proposed revised version of the development program utilizes the following land uses and intensities:

- Single Family, Detached (210) – 170 Dwelling Units
- Single Family, Attached (215) – 138 Dwelling Units
- Sr. Adult Housing, Attached (252) – 95 Dwelling Units
- Multi-Family Housing, Low-Rise (220) – 150 Dwelling Units
- Multi-Family Housing, Mid-Rise (221) – 1,302 Dwelling Units
- Strip Retail Center (822) – 30 KSF

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Approved Development Program - 10th Edition versus 11th Edition

Table 1 shows the comparison between the 10th and 11th editions of the ITE Trip Generation. There is a decrease of 1,966 Daily trips and 27 PM Peak Period trips using the 11th Edition with this specific set of densities and intensities.

Table 1: Trip Generation Approved 10th Edition versus Approved 11th Edition

Traffic Study (11th Edition)

Land Use	ITE Code	Intensity	Daily Trip Ends	AM Peak Period In Trips	AM Peak Period Out Trips	AM Peak Period Total	PM Peak Period In Trips	PM Peak Period Out Trips	PM Peak Period Total
Single Family	210	386 DU	3,496	66	189	255	223	131	354
Multi-Family Housing (Low-Rise)	220	150 DU	1,037	17	52	69	54	31	85
Multi-Family Housing (Mid-Rise)	221	832 DU	3,922	81	273	354	198	127	325
Shopping Center (>150 KSF)	820	70 KSF	2,643	41	25	66	210	227	437
Subtotal			11,097	205	539	744	685	516	1,201
Internal Capture	2%	14%	1,554	4	11	15	96	72	168
Pass-By		34%	773				64	64	128
Total			8,771	201	528	729	525	380	905

Source: *ITE Trip Generation, 11th Edition*

Traffic Study (10th Edition)

Land Use	ITE Code	Intensity	Daily Trip Ends	AM Peak Period In Trips	AM Peak Period Out Trips	AM Peak Period Total	PM Peak Period In Trips	PM Peak Period Out Trips	PM Peak Period Total
Single Family	210	386 DU	3,602	70	209	279	234	138	372
Multi-Family Housing (Low-Rise)	220	150 DU	1,093	16	54	70	54	31	85
Multi-Family Housing (Mid-Rise)	221	832 DU	4,533	78	222	300	207	132	339
Shopping Center	820	70 KSF	4,717	41	25	66	200	217	417
Subtotal			13,945	205	510	715	695	518	1,213
Internal Capture	2%	13%	1,813	4	10	14	90	67	158
Pass-By		34%	1,395				62	62	123
Total			10,737	201	500	701	543	389	932

Source: *ITE Trip Generation, 10th Edition*

Difference			-1,966	0	28	28	-18	-9	-27

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Approved Program 10*th* Edition versus Revised Program 11*th* Edition

Table 2 shows the comparison between the Approved Program 10th Edition and the Revised Program 11th Edition. There is a decrease of 384 Daily trips and 11 PM Peak Period trips using the 11th Edition. This development program was chosen to match the market demand and stay under the peak-hour trips which impacts from the approved traffic study were based on.

Table 2: Trip Generation Approved 10th Edition versus Revised 11th Edition

Revised Development Program

Land Use	ITE Code	Intensity	Daily Trip Ends	AM Peak Period In Trips	AM Peak Period Out Trips	AM Peak Period Total	PM Peak Period In Trips	PM Peak Period Out Trips	PM Peak Period Total
Single Family	210	170 DU	1,644	31	90	121	103	61	164
Single-Family (Attached)	215	138 DU	1,001	20	46	66	45	34	79
Sr. Adult Housing - Attached	252	95 DU	299	6	13	19	13	11	24
Multi-Family Housing (Low-Rise)	220	150 DU	1,037	17	52	69	54	31	85
Multi-Family Housing (Mid-Rise)	221	1,302 DU	6,164	129	432	561	310	198	508
Strip Retail Center (<40k)	822	30 KSF	1,496	43	28	71	99	99	198
Subtotal			11,641	246	661	907	624	434	1,058
	2%	7%	815	5	13	18	44	30	74
Pass-By		34%	473				31	31	63
Total			10,353	241	648	889	549	372	921

Source: *ITE Trip Generation, 11th Edition*

Traffic Study (10th Edition)

Land Use	ITE Code	Intensity	Daily Trip Ends	AM Peak Period In Trips	AM Peak Period Out Trips	AM Peak Period Total	PM Peak Period In Trips	PM Peak Period Out Trips	PM Peak Period Total
Single Family	210	386 DU	3,602	70	209	279	234	138	372
Multi-Family Housing (Low-Rise)	220	150 DU	1,093	16	54	70	54	31	85
Multi-Family Housing (Mid-Rise)	221	832 DU	4,533	78	222	300	207	132	339
Shopping Center	820	70 KSF	4,717	41	25	66	200	217	417
Subtotal			13,945	205	510	715	695	518	1,213
Internal Capture	2%	13%	1,813	4	10	14	90	67	158
Pass-By		34%	1,395				62	62	123
Total			10,737	201	500	701	543	389	932

Source: *ITE Trip Generation, 10th Edition*

Difference			-384	40	148	188	6	-17	-11

Trip Equivalency Matrix Comparison

The 11th Edition and 10th Edition Trip Equivalency Matrices, based on the Land Uses outlined in the Trip Generation Comparison section, are included in **Table 3**. The 10th Edition version includes rates used in the April 2021 Study. It is recommended that the Equivalency Matrix be updated to the 11th Edition rates.

Table 3: Trip Equivalency Matrix Original 10th Edition versus 11th Edition

Revised Development Program (11th Edition)

PM Rate	From: / To:	Single Family [DU]	Single-Family (Attached) [DU]	Sr. Adult Housing - Attached [DU]	Multi-Family Housing (Low-Rise) [DU]	Multi-Family Housing (Mid-Rise) [DU]	Shopping Center [KSF]	Strip Retail Center (<40k) [KSF]
0.921	Single Family	1.000	1.623	3.300	1.737	2.538	0.242	0.018
0.567	Single-Family (Attached)	0.616	1.000	2.033	1.070	1.564	0.149	0.011
0.279	Sr. Adult Housing - Attached	0.303	0.492	1.000	0.526	0.769	0.073	0.006
0.530	Multi-Family Housing (Low-Rise)	0.576	0.934	1.900	1.000	1.462	0.139	0.010
0.363	Multi-Family Housing (Mid-Rise)	0.394	0.639	1.300	0.684	1.000	0.095	0.007
3.804	Shopping Center	4.131	6.705	13.633	7.175	10.487	1.000	0.075
50.639	Strip Retail Center (<40k)	55.000	89.262	181.500	95.526	139.615	13.313	1.000

Source: *ITE Trip Generation, 11th Edition*

Traffic Study (10th Edition)

PM Rate	From: / To:	Single Family [DU]	Single-Family (Attached) [DU]	Sr. Adult Housing - Attached [DU]	Multi-Family Housing (Low-Rise) [DU]	Multi-Family Housing (Mid-Rise) [DU]	Shopping Center [KSF]	Strip Retail Center (<40k) [KSF]
0.830	Single Family	1.000	-	-	1.701	2.365	0.267	-
-	Single-Family (Attached)	-	-	-	-	-	-	-
-	Sr. Adult Housing - Attached	-	-	-	-	-	-	-
0.488	Multi-Family Housing (Low-Rise)	0.588	-	-	1.000	1.390	0.157	-
0.351	Multi-Family Housing (Mid-Rise)	0.423	-	-	0.719	1.000	0.113	-
3.104	Shopping Center	3.740	-	-	6.361	8.843	1.000	-
-	Strip Retail Center (<40k)	-	-	-	-	-	-	-

Source: *ITE Trip Generation, 10th Edition*

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Bel Canto

From the buildout development program, West Oaks Developers LLC is granting 272 units for the Bel Canto parcel for the construction of multifamily dwelling units within the West Oaks property. The trips generated by the 272 multifamily units equates to 1,251 daily trips, 108 AM peak-hour trips, and 106 PM peak-hour trips. The trip generation summary is shown in **Table 4** below.

Table 4: Bel Canto Trip Generation

Bel Canto Trip Generation

Land Use	ITE Code	Intensity	Daily Trip Ends	AM Peak Period In Trips	AM Peak Period Out Trips	AM Peak Period Total	PM Peak Period In Trips	PM Peak Period Out Trips	PM Peak Period Total
Multi-Family Housing (Mid-Rise)	221	272 DU	1,251	25	83	108	65	41	106

Source: *ITE Trip Generation, 11th Edition*

Summary

The intent of this memorandum is to provide support for the use of the ITE Trip Generation, 11th Edition for the West Oaks Development. The Trip Generation comparison shows a reduction in Daily and total PM Peak Hour trips for both the approved and revised programs. Based on the comparison of the Equivalency Matrices, it is recommended that the Equivalency Matrix be updated to the 11th Edition rates.

We appreciate the opportunity to provide this evaluation to Siemens Development. If you have any questions, please do not hesitate to contact us.

Sincerely,

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