

MEMORANDUM

To: Town of Castle Rock, Development Review

From: Steve Tuttle, PE, PTOE

Date: May 27, 2021

Project: Miller's Landing

Subject: Master Traffic Study Addendum

The purpose of this memorandum is to address the density of project buildout development analyzed in the Miller's Landing Master Traffic Study (MTS), prepared by the Fox Tuttle Transportation Group, dated May 14, 2021. We understand that the Town has asked for clarification as to the differences between the MTS land use projections and the Preliminary Development Plan (PDP) maximum density proposal.

To summarize the differences, the MTS evaluated a buildout land use scenario as follows, vs. the maximum gross floor area (GFA) use as provided in the PDP:

	<u>MTS</u>	<u>PDP Max.</u>
Retail GFA:	457,750 SF	460,000 SF
Office GFA:	125,000 SF	125,000 SF
Residential:	600 units	900 units

The MTS represents a decrease of 2,250 SF of retail and 300 residential units from the PDP maximum allowable uses. The PDP maximum land uses provide flexibility per the Town's IO zoning to provide a mix of uses in response to market conditions. For instance, the project could build the maximum 900 dwelling units but may only provide a portion of the retail and/of office maximum GFA, or a higher mix of commercial use with less than maximum residential use. Due to several factors, and most prominently the economics of providing structured parking for these uses, building all uses to a maximum density is not likely to be feasible. The land use scenario for buildout as analyzed the MTS represents a realistic and achievable total land use scenario and was thus provided to Fox Tuttle for the purposes of this analysis.

However, to provide some context to potential impacts of a maximum allowable density buildout scenario vs. the MTS-evaluated scenario, trip generation estimates were calculated for the maximum density scenario. The trip generation tables are attached.

The PDP maximum density scenario, to include an additional 2,250 SF of retail and 300 residential units beyond what was analyzed in the MTS, is anticipated to generate the following additional trips:

Land Use Scenario	Average Weekday Trips	Average Saturday Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips			Saturday Peak Hour Trips		
	Total	Total	Total	In	Out	Total	In	Out	Total	In	Out
TOTAL (PDP Max Density)	27505	29884	1053	577	476	2522	1259	1263	2970	1550	1420
TOTAL (MTS)	25810	28322	946	548	398	2385	1177	1208	2829	1480	1349
Additional Trips w/Max. PDP Density	+1695	+1562	+107	+29	+78	+137	+82	+55	+141	+70	+71
Percent Increase:											
7% 11% 6% 5%											

As shown above, the PDP maximum density scenario represents an increase of roughly 1,700 weekday daily trips (+7% from the MTS), 107 AM peak hour trips (+11% from the MTS), and 137 PM peak hour trips (+6% from the MTS).

Assigning these increases in trips to the site access intersections at buildout would result in any single vehicular turning movement at a site access having an increase in peak hour volume of anywhere between 2 to 41 vehicles per hour (vph) and any off-site intersection having an increase in peak hour volume of anywhere between 2 to 26 vph. For example, the project-added volume for the southbound right-turn from I-25 to westbound Plum Creek Parkway would increase from 85 vph at buildout in the AM peak and 175 vph in the PM peak to 90 vph in the AM peak (+5 vph) and 190 vph in the PM peak (+15 vph) with the PDP maximum density scenario. **This level of increase would not result in any changes to the findings and recommendations of the Master Traffic Study.**

Thus, the findings of the MTS as submitted May 14, 2021 are still valid even under the consideration of a maximum land use scenario. As discussed previously, the MTS land use projections represent a realistic and achievable buildout land use scenario and were therefore used for determination of site traffic impacts, as analyzed.

/SGT

Attachments:

Table 2. Trip Generation Estimate (from MTS)

Table 2A. Trip Generation Estimate Comparison (PDP Max. Density vs. MTS)

**Miller's Landing
Master Traffic Study**



Table 2. Trip Generation Estimate (from MTS)

Land Use	Size	Unit	Internal Capture and Multi-Use Trip Reduction ⁽¹⁾	Average Weekday Trips		Average Saturday Trips		Weekday AM Peak Hour Trips				Weekday PM Peak Hour Trips				Saturday Peak Hour Trips			
				Rate	Total	Rate	Total	Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Miller's Landing Phase 1 (2023)																			
#820 Shopping Center	300	1,000 SF	0%	37.75	11325	46.12	13836	0.94	282	175	107	3.81	1143	549	594	4.50	1350	702	648
Subtotal Phase 1					11325		13836		282	175	107		1143	549	594		1350	702	648
Miller's Landing Phase 2 (2027)																			
#710 General Office Building	125.0	1,000 SF	5%	9.74	1157	2.21	262	1.16	138	119	19	1.15	137	22	115	0.53	63	34	29
Retail (Combined) ²	157.8	1,000 SF	5%	68.24	10227	76.24	11425	2.14	321	201	120	5.70	854	453	401	7.77	1165	621	544
#221 Multifamily Housing (Mid-Rise)	600.0	D.U.	5%	5.44	3101	4.91	2799	0.36	205	53	152	0.44	251	153	98	0.44	251	123	128
Subtotal Phase 2					14485		14486		664	373	291		1242	628	614		1479	778	701
TOTAL All Phases					25810		28322		946	548	398		2385	1177	1208		2829	1480	1349

Source: ITE Trip Generation 10th Edition. 2017.

⁽¹⁾ Accounts for auto and non-auto multi-use trips between two or more uses on site (ie: someone visits a coffee shop on their way to their office or walks to a restaurant from work for lunch or from the hotel, thus only one unique auto trip to the site was generated in these instances).

⁽²⁾ Combined rate for retail uses - averages ITE trip rates assuming retail space is 67% general retail ("Shopping Center") and 33% restaurant uses (5% "Fast Casual Restaurant, 15% "Quality Restaurant", and 13% "High-Turnover Restaurant").

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Retail (Combined) ²	160.0	1,000 SF	5%	68.24	10372	76.24	11588	2.14	325	203	122	5.70	866	459	407	7.77	1181	630	551
#221 Multifamily Housing (Mid-Rise)	900.0	D.U.	5%	5.44	4651	4.91	4198	0.36	308	80	228	0.44	376	229	147	0.44	376	184	192
Subtotal Phase 2					16180		16048		771	402	369		1379	710	669		1620	848	772
TOTAL All Phases (PDP Max Density)					27505		29884		1053	577	476		2522	1259	1263		2970	1550	1420
TOTAL All Phases (MTS)					25810		28322		946	548	398		2385	1177	1208		2829	1480	1349
Additional Trips w/Max. PDP Density				1695		1562		107	29	78		137	82	55		141	70	71	
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