



Memo

Date: Tuesday, August 26, 2025

Project: Headwaters Retail Development

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From: Leslie Pollack, P.E., PTOE, HDR Engineering

Subject: Trip Generation Options

Introduction

This memo compares trip generation between different land use scenarios for the Headwaters Retail development outlined in Table 1. Alternative land use scenarios, including a comparison against the most recently submitted TIA can also be found within this memo. It should be noted that the land use scenarios presented have been developed in conjunction with City of Dripping Springs staff, not the development team.

Assumptions

The development assumptions are as follows:

- The site has 44 total gross acres of which 35 acres are developable after streets, drainage, and open space are considered
- Impervious cover is capped at 50% across the full PDD
- Multifamily (MF) is limited to 410 units total in designated areas

Land-use size and density assumptions are as follows:

- Retail and Restaurant Floor-to-Area Ratio (FAR): 0.25
- Office FAR: 0.25
- Garden Style MF: 20 dwelling units (DU) per acre, unit size approximately 908 square feet
- Hotel: 120 rooms on approximately 2 acres

Trip distribution assumptions are as follows:

- 85% of total trips are Restaurants, and 15% are Retail
- Of the 85% Restaurant trips, assume even split of 50% between High-Turnover Sit-Down Restaurant and Fast Food with Drive-Through

Trip Generation Comparison

Unadjusted and adjusted trips were determined for several scenarios for the Headwaters Retail development. Trips were estimated using data contained in the Institute of Transportation Engineers Trip Generation, 11th Edition.

PASS-BY AND INTERNAL CAPTURE

Pass-by and internal capture trips can account for a large percentage of a site's unadjusted trips and are removed to create adjusted trips.

Pass-by trips are trips already traveling along the adjacent roadway that are attracted to the site. The Institute of Transportation Engineers (ITE) provides pass-by percentages based on land use. The following pass-by reductions were assumed for the following land uses.

- Retail Shopping – 40% PM Peak
- High Turnover Sit Down Restaurant – 43% PM Peak
- Fast Food Restaurant with Drive Through – 50% AM, 55% PM

Internal capture trips are trips that only use internal site roadways traveling between land uses on the site. The National Cooperative Highway Research Program (NCHRP) provides internal capture percentages based on the number of entering and exiting trips based on land use and density. This spreadsheet was utilized for informing the number of internal capture trips per development. The following internal capture percentages were assumed for the following scenarios:

- Scenario 1 - Commercial Focused – 15% AM Peak, 33% PM Peak
- Scenario 2 - Mixed Use Focused – 16% AM Peak, 34% PM Peak
- Scenario 3 - Multifamily Focused – 16% AM Peak, 34% PM Peak
- Scenario 4 - Office Focused – 0% AM Peak, 0% PM Peak
- Headwaters TIA – 12% AM Peak, 10% PM Peak

Table 2 through Table 6 break down the trip generation for Scenarios 1 – 4. Table 7 provides a holistic view of the total trip generations between each scenario, including the Headwaters TIA.

Table 1: Land Use Scenario Descriptions

Scenario	Multifamily	Retail	Restaurant	Office	Hotel	Health/Fitness Club	Car Wash	Gas Station	Notes
Scenario 1 - Commercial Focus	None	182 KSF	33 KSF	131 KSF	120 Rooms	None	None	None	Emphasizes commercial + employment, highest retail/office intensity
Scenario 2 – Mixed-Use Focus	215 Units	138 KSF	25 KSF	87 KSF	120 Rooms	None	None	None	Balanced mixed of MF + commercial; assumes MF portion of Phase 3 is within designated MF areas
Scenario 3 - Multifamily Focus	250 Units	83 KSF	15 KSF	44 KSF	None	None	None	None	Prioritizes residential buildout with reduced commercial; good for testing “upper bound” MF traffic impacts
Scenario 4 – Office Focus	None	None	None	381 KSF	None	None	None	None	All office uses
Headwaters TIA	None	129 KSF	23.3 KSF	None	None	160 KSF	4.6 KSF	12 Fueling Stations	Most recent TIA submission trip generation

Table 2: Trip Generation for Scenario 1 – Commercial Focus

SCENARIO 1 - COMMERCIAL FOCUSED	Size	Units	Unadjusted Trip Generation			Adjusted Trip Generation		
			24 Hour	AM	PM	24 Hour	AM	PM
Retail (Shopping Plaza 40-150 KSF)	182	KSF	15,420	642	1,515	9,653	546	609
High Turnover (Sit Down Restaurant)	17	KSF	1,822	163	154	1,122	139	59
Fast Food Restaurant with Drive Through	16	KSF	7,480	714	528	2,717	303	159
Office	131	KSF	1,468	211	208	1,116	179	139
Hotel	120	Rooms	877	53	61	667	45	41
TOTAL			27,067	1,783	2,466	15,274	1,212	1,007

Table 3: Trip Generation for Scenario 2 – Mixed-Use Focus

SCENARIO 2 - MIXED USE FOCUSED	Size	Units	Unadjusted Trip Generation			Adjusted Trip Generation		
			24 Hour	AM	PM	24 Hour	AM	PM
Multifamily	215	DU	1,453	90	113	1,090	76	75
Retail (Shopping Plaza 40-150KSF)	138	KSF	12,033	487	1,177	7,436	409	466
High Turnover (Sit Down Restaurant)	13	KSF	1,394	122	118	848	102	44
Fast Food Restaurant with Drive Through	12	KSF	5,610	535	396	2,011	225	118
Office	87	KSF	1,028	149	148	771	125	98
Hotel	120	Rooms	877	53	61	658	45	40
TOTAL			22,395	1,436	2,013	12,814	982	841

Table 4: Trip Generation for Scenario 3 – Multifamily Focus

SCENARIO 3 - MULTIFAMILY FOCUSED	Size	Units	Unadjusted Trip Generation			Adjusted Trip Generation		
			24 Hour	AM	PM	24 Hour	AM	PM
Multifamily	250	DU	1,678	100	128	1,259	84	84
Retail (Shopping Plaza 40-150KSF)	83	KSF	7,800	293	755	4,820	246	299
High Turnover (Sit Down Restaurant)	8	KSF	858	77	72	522	65	27
Fast Food Restaurant with Drive Through	7	KSF	3,272	312	231	1,173	131	69
Office	44	KSF	568	83	84	426	70	55
TOTAL			14,176	865	1,270	8,200	596	535

Table 5: Trip Generation for Scenario 4 – Office Focus

SCENARIO 4 - 100% OFFICE FOCUSED	Size	Units	Unadjusted Trip Generation			Adjusted Trip Generation		
			24 Hour	AM	PM	24 Hour	AM	PM
				Total	Total		Total	Total
Office	381	KSF	3,715	529	504	3,715	529	504
TOTAL			3,715	529	504	3,715	529	504

Table 6: Trip Generation from Submitted Headwaters TIA

HEADWATERS TIA	Size	Units	Unadjusted Trip Generation			Adjusted Trip Generation		
			24 Hour	AM	PM	24 Hour	AM	PM
Health/Fitness Club	160	KSF	-	210	552	-	191	520
Retail (Shopping Plaza 40-150KSF) Supermarket	129	KSF	12,190	456	1,165	11,144	419	658
High Turnover (Sit Down Restaurant)	1705	KSF	1,876	168	159	1,500	134	60
Fast Food Restaurant with Drive Through	6	KSF	2,677	256	190	2,140	103	56
Gasoline Station with Convenience Store Market	12	Fueling Stations	3,086	325	274	2,821	71	65
Automated Car Wash	4.6	KSF	-	-	66	-	-	62
TOTAL			19,829	1,415	2,406	17,605	918	1,421

Table 7: Scenario Comparison

Scenario	Unadjusted Trip Generation			Adjusted Trip Generation		
	24 Hour	AM	PM	24 Hour	AM	PM
Scenario 1 – Commercial Focused	27,067	1,783	2,466	15,274	1,212	1,007
Scenario 2 – Mixed Use Focused	22,395	1,436	2,013	12,814	982	841
Scenario 3 – Multifamily Focused	14,176	865	1,270	8,200	596	535
Scenario 4 – Office Focused	3,715	529	504	3,715	529	504
Headwaters TIA	19,829	1,415	2,406	17,605	918	1,421

Phase 3 Development Scenarios

Scenario	Multifamily	Retail / Restaurant	Office	Hotel	Notes
1. Commercial Focused	None	~215,000 sf (~20 ac @ FAR 0.25)	~131,000 sf (~12 ac @ FAR 0.25)	~120 rooms (~2 ac)	Emphasizes commercial + employment; highest retail/office intensity
2. Mixed Node	~160 units (~8 ac; ~145,000–150,000 sf GFA)	~163,000 sf (~15 ac @ FAR 0.25)	~87,000 sf (~8 ac @ FAR 0.25)	~120 rooms (~2 ac)	Balanced mix of MF + commercial; assumes MF portion of Phase 3 is within designated MF areas
3. Multifamily Focus	~250 units (~12 ac; ~230,000–240,000 sf GFA)	~98,000 sf (~8 ac @ FAR 0.28)	~44,000 sf (~4 ac @ FAR 0.25)	None	Prioritizes residential buildout with reduced commercial; good for testing “upper bound” MF traffic impacts

Key Assumptions

- Phase 3 size: 44 gross acres (~35 net usable after streets/drainage/open space).
- Impervious cover: capped at 50% across the full PDD.
- MF limit: up to 410 units total in designated areas across the PDD (Exhibit E); more requires CUP.
- Density/size assumptions:
 - Retail/Restaurant: FAR 0.20–0.25
 - Office: FAR 0.20–0.25
 - Garden-style MF: ~20 du/ac; avg. unit size ~908 sf
 - Hotel: select-service ~120 rooms on ~2 acres
- Purpose: These are planning-level “what-if” mixes; your traffic engineer will map them to ITE 11th ed. trip generation (Shopping Center LUC 820, General Office 710, Multifamily 220/221, Hotel 310).