TENW
Transportation Engineering NorthWest

MEMORANDUM

DATE: April 10, 2024

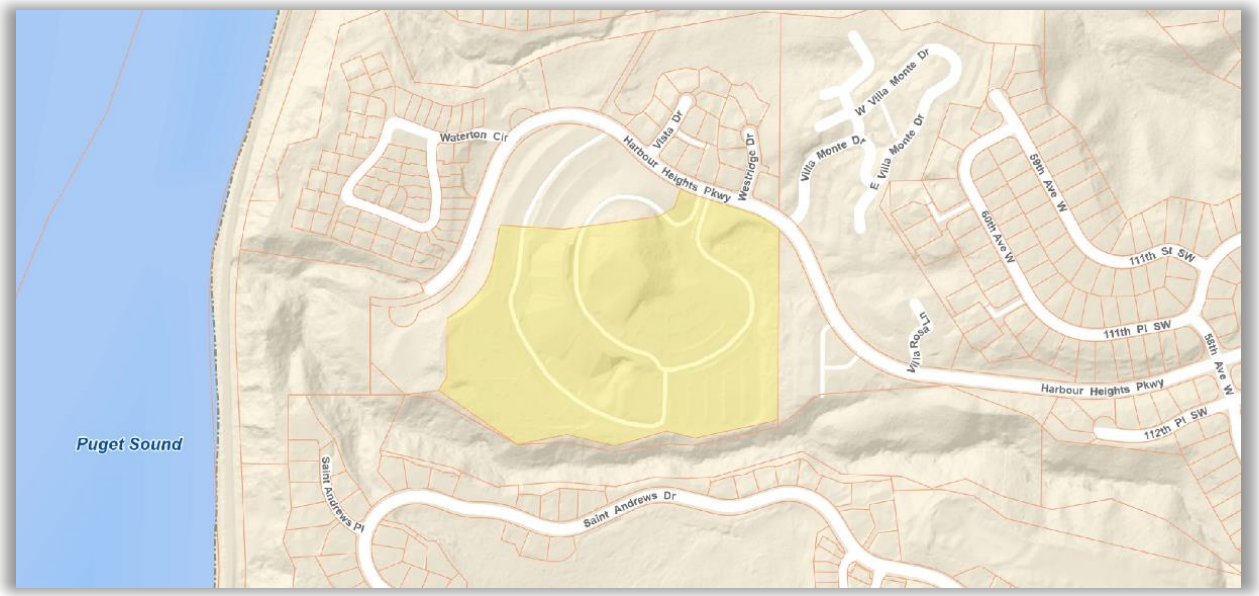
TO: Barbara Yarington
Tri Pointe Homes

FROM: Curtis Chin, P.E.
Jeff Schramm
TENW

SUBJECT: Harbour Pointe Rezone
Trip Generation Comparison
TENW Project No. 2024-084

This memorandum documents the trip generation comparison completed for the proposed *Harbour Pointe Rezone* which includes a proposed rezone from 'BP Business Park' to 'MR Multi Family Residential'. The property to be rezoned is located at 6500 Harbour Heights Pkwy SW (parcel #280420000401100) in the City of Mukilteo (see snip below).

A trip generation comparison was completed to assess the potential change in trip generation associated with the proposed rezone.



Trip Generation Comparison

To assess the potential impacts of the proposed rezone, a trip generation comparison was completed for four land use scenarios as described below. The weekday daily, AM, and PM peak hour trip generation estimates for each land use scenario were based on methodology published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition.

- Scenario 1 Existing BP Zoning (Historical Use – Office):
  Based on Snohomish County parcel records, the historical use of the site included 341,299 square feet (square feet) of building area for office use. To estimate the trips associated with the historical use, ITE land use code (LUC) 710 (General Office Building) was used.
- Scenario 2 Existing BP Zoning (Re-Use – Fulfillment Center):
  Under the current BP Business Park zoning, a fulfillment center type warehouse could be developed on the property. ITE land use code 155 (High Cube Fulfilment Center Warehouse) was used to estimate the trips associated with the potential use under current BP zoning. For comparison purposes, a 340,000 SF warehouse building was assumed.
- Scenario 3 Future MR Zoning (600 Multi-Family Residential Units):
  With the proposed rezone, up to 600 multi-family could potentially developed on the property. Trip estimates were based on ITE LUC 221 (Multifamily Housing – Mid Rise).
- Scenario 4 Future MR Zoning (275 Single-Family Residential Units):
  The likely development scenario with the proposed rezone includes the development of 275 single family units with a mix of attached and detached type residential units. For this scenario, 200 single family attached units (ITE land use code 215) and 75 single family detached units (ITE LUC 210) were assumed.

The resulting weekday daily, AM, and PM peak hour trip generation estimates for each land use scenario are summarized in Table 1. Detailed trip generation calculations are included in Attachment A.

Table 1
Harbour Pointe Rezone – Weekday Trip Generation Comparison

Land Use Scenario	Weekday Trip Generation Estimates		
	Daily	AM Peak Hour	PM Peak Hour
Scenario 1 (Existing BP Zoning) Historical Use (Office)	3,376	481	460
Scenario 2 (Existing BP Zoning) Re-Use (Fulfillment Center)	2,190	296	408
Scenario 3 (Proposed MR Zoning) Rezone (600 Multi-Family)	2,816	252	234
Scenario 4 (Proposed MR Zoning) Rezone (275 Residential Units)	2,248	155	192

As shown in Table 1, the trips associated with the rezone land use scenarios (Scenarios #3 and #4) are estimated to result in fewer trips during the weekday daily, AM peak, and PM peak hours when compared to the historical use of the site (office). When compared to the potential reuse of the site (as a fulfilment center), the two rezone scenarios generate fewer trips during both the weekday AM and PM peak hour time periods.

Attachment

ATTACHMENT A

Trip Generation Calculations

Scenario 1 (Historical Use)
Harbour Pointe Rezone (Mukilteo)
Weekday Trip Generation Summary

Land Use	Units [1]	ITE LUC [2]	Trip Rate or Equation [2]	Directional Distribution In	Directional Distribution Out	Trips Generated In	Trips Generated Out	Trips Generated Total
DAILY								
General Office Building	341,299 GFA	710	Ln(T) = 0.87 Ln(X) + 3.05	50%	50%	1,688	1,688	3,376
					Daily Trips =	**1,688**	**1,688**	**3,376**
AM PEAK HOUR								
General Office Building	341,299 GFA	710	Ln(T) = 0.86 Ln(X) + 1.16	88%	12%	423	58	481
					AM Peak Hour Trips =	**423**	**58**	**481**
PM PEAK HOUR								
General Office Building	341,299 GFA	710	Ln(T) = 0.83 Ln(X) + 1.29	17%	83%	78	382	460
					PM Peak Hour Trips =	**78**	**382**	**460**

Notes:
[1] GFA = Gross Floor Area.
[2] Based on Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 11th Edition, 2021.

Scenario 2 (Fulfillment Center)
Harbour Pointe Rezone (Mukilteo)
Weekday Trip Generation Summary

Land Use	Units [1]	ITE LUC [2]	Trip Rate or Equation [2]	Directional Distribution In	Directional Distribution Out	Trips Generated In	Trips Generated Out	Trips Generated Total
DAILY								
High-Cube Fulfillment Center Warehouse - Sort	340,000 GFA	155	6.44	50%	50%	1,095	1,095	2,190
					Daily Trips =	**1,095**	**1,095**	**2,190**
AM PEAK HOUR								
High-Cube Fulfillment Center Warehouse - Sort	340,000 GFA	155	0.87	81%	19%	240	56	296
					AM Peak Hour Trips =	**240**	**56**	**296**
PM PEAK HOUR								
High-Cube Fulfillment Center Warehouse - Sort	340,000 GFA	155	1.20	39%	61%	159	249	408
					PM Peak Hour Trips =	**159**	**249**	**408**

Notes:
[1] GFA = Gross Floor Area.
[2] Based on Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 11th Edition, 2021.

Scenario 3 (600 Multi-Family Units)
Harbour Pointe Rezone (Mukilteo)
Weekday Trip Generation Summary

Land Use	Units [1]	ITE LUC [2]	Trip Rate or Equation [2]	Directional Distribution In	Directional Distribution Out	Trips Generated In	Trips Generated Out	Trips Generated Total
DAILY								
Multifamily Housing (Mid-Rise)	600 DU	221	T = 4.77(X) - 46.46	50%	50%	1,408	1,408	2,816
					Daily Trips =	**1,408**	**1,408**	**2,816**
AM PEAK HOUR								
Multifamily Housing (Mid-Rise)	600 DU	221	T = 0.44(X) - 11.61	23%	77%	58	194	252
					AM Peak Hour Trips =	**58**	**194**	**252**
PM PEAK HOUR								
Multifamily Housing (Mid-Rise)	600 DU	221	T = 0.39(X) + 0.34	61%	39%	143	91	234
					PM Peak Hour Trips =	**143**	**91**	**234**

Notes:
[1] DU = Dwelling Units.
[2] Based on Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 11th Edition, 2021.

Scenario 4 (275 Single-Family Residential Units)
Harbour Pointe Rezone (Mukilteo)
Weekday Trip Generation Summary

Land Use	Units [1]	ITE LUC [2]	Trip Rate or Equation [2]	Directional Distribution In	Directional Distribution Out	Trips Generated In	Trips Generated Out	Trips Generated Total
DAILY								
Single-Family Detached Housing	75 DU	210	Ln(T) = 0.92 Ln(X) + 2.68	50%	50%	387	387	774
Single-Family Attached Housing	200 DU	215	T = 7.62(X) - 50.48	50%	50%	737	737	1,474
					Daily Trips =	**1,124**	**1,124**	**2,248**
AM PEAK HOUR								
Single-Family Detached Housing	75 DU	210	Ln(T) = 0.91 Ln(X) + 0.12	25%	75%	14	43	57
Single-Family Attached Housing	200 DU	215	T = 0.52(X) - 5.70	25%	75%	24	74	98
					AM Peak Hour Trips =	**38**	**117**	**155**
PM PEAK HOUR								
Single-Family Detached Housing	75 DU	210	Ln(T) = 0.94 Ln(X) + 0.27	63%	37%	48	28	76
Single-Family Attached Housing	200 DU	215	T = 0.60(X) - 3.93	59%	41%	68	48	116
					PM Peak Hour Trips =	**116**	**76**	**192**

Notes:
[1] DU = Dwelling Units.
[2] Based on Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 11th Edition, 2021.