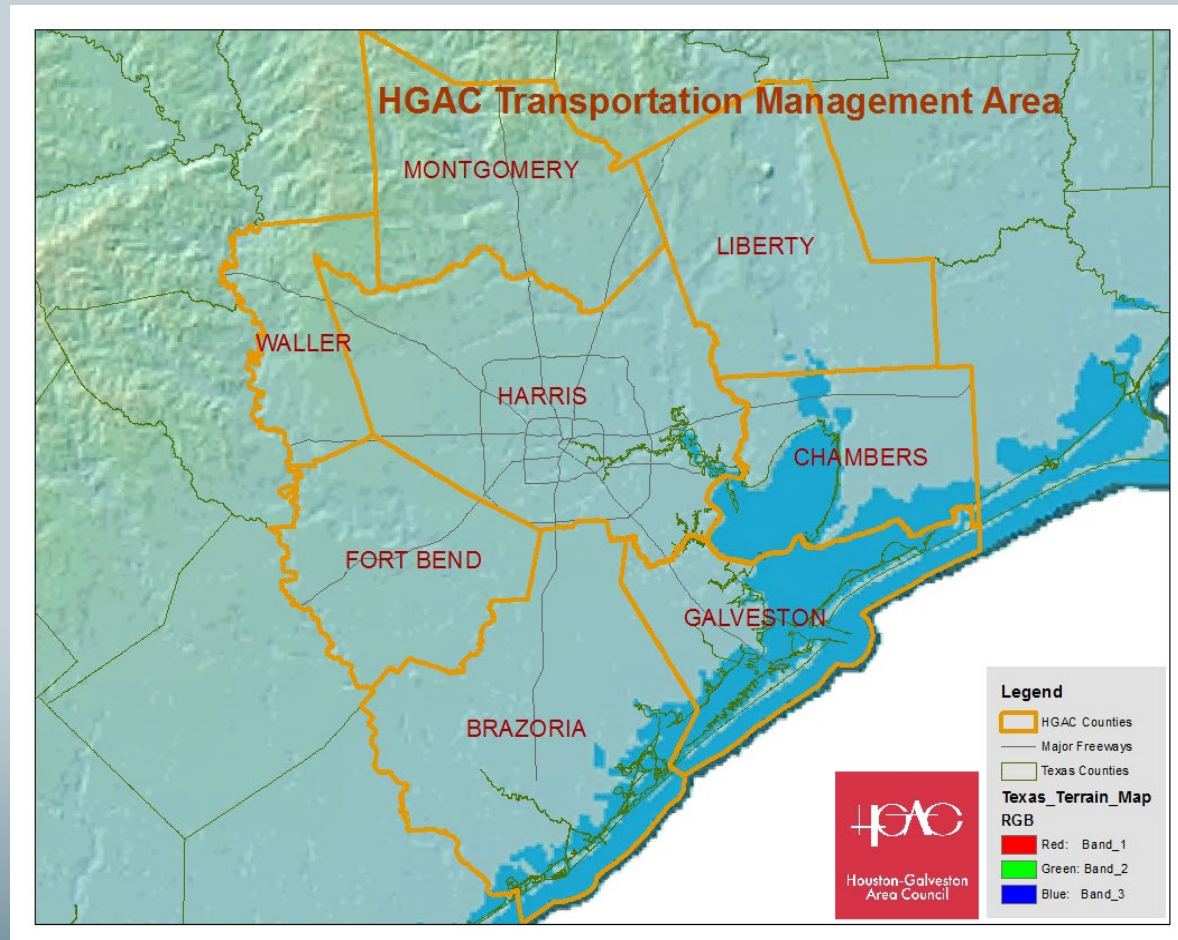


Pearland Transit Benefit Cost Analysis Modeling Tips and Tricks

**REMI Users Conference, Cincinnati, OH,
October 18 -20, 2023**

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Houston-Galveston Area Council

H-GAC Service Region



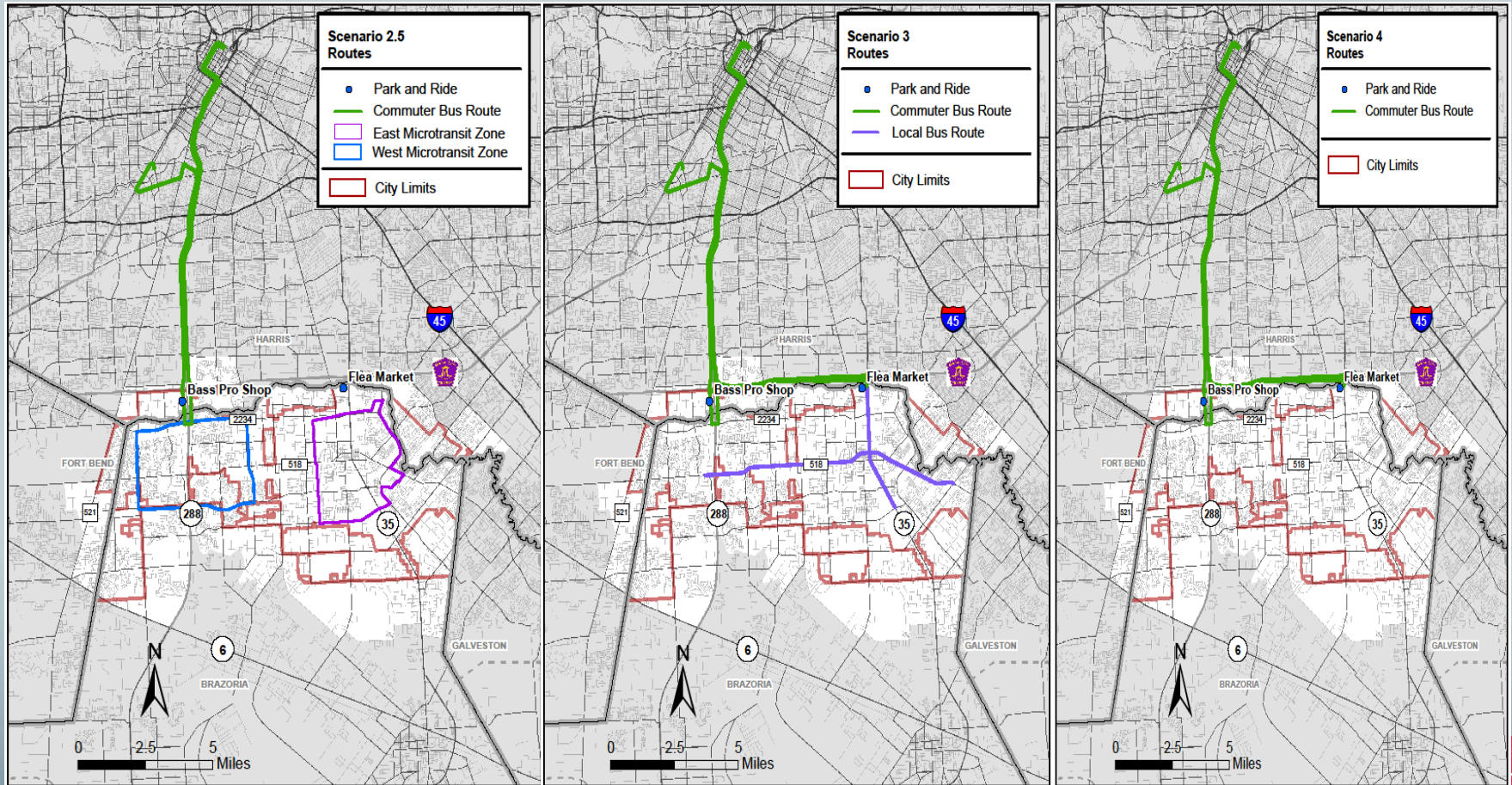
About H-GAC

- The 13-county H-GAC region is growing, becoming more diverse.
- Its service areas is 12,500 square miles and contains 7 million people.
- We are also the Metropolitan Planning Organization (MPO) for the region.
- H-GAC's mission is to serve as the instrument of local government cooperation, promoting the region's orderly development and the safety and welfare of its citizens

City of Pearland, TX Info

- Founded in 1894 and was actually better known for its figs than its pears.
- Pearland is located about 15 miles south from the large city of Houston.
- The current population is 125,990. The City's population has grown more than 5 folds since 1990.
- The estimated jobs are 44,300. A large group of residents are commuters who work in Texas Medical Center.

Pearland Transit Routes Considered



TDM Daily Output for Transit

No build	2026			2030			2040		
	VMT	VHT	VTT	VMT	VHT	VTT	VMT	VHT	VTT
Harris	-	-	-	-	-	-	-	-	-
Brazoria	741	48	103	741	48	103	864	54	120

Scenario 2.5	2026			2030			2040		
	VMT	VHT	VTT	VMT	VHT	VTT	VMT	VHT	VTT
Harris	369	22	51	369	22	51	369	23	51
Brazoria	741	48	103	741	48	103	864	54	120
O&MS2.5 Annual		1,111,946			1,119,746			1,143,876	

Scenario 3	2026			2030			2040		
	VMT	VHT	VTT	VMT	VHT	VTT	VMT	VHT	VTT
Harris	835	44	116	835	45	116	835	46	116
Brazoria	933	60	130	933	60	130	1056	66	147
O&MS3 Annual		2,688,691			2,705,067			2,763,269	

Scenario 4	2026			2030			2040		
	VMT	VHT	VTT	VMT	VHT	VTT	VMT	VHT	VTT
Harris	835	44	116	835	45	116	835	46	116
Brazoria	745	48	103	745	48	103	869	54	121
O&MS4 Annual		2,245,959			2,267,137			2,318,017	



PT Micro Transit Daily Input

Scenario 2 (East)	2026			2030			2040		
	VMT	VHT	VTT	VMT	VHT	VTT	VMT	VHT	VTT
Brazoria	290	14	40	290	14	40	580	28	81
O&M 2 (\$Annual)	332,800			332,800			665,600		

Scenario 2.5 (East & West)	2026			2030			2040		
	VMT	VHT	VTT	VMT	VHT	VTT	VMT	VHT	VTT
Brazoria	907	42	126	907	42	126	1512	70	210
O&M 2.5 (\$Annual)	998,400			998,400			1,622,400		

Scenario 3&4 (Citywide)	2026			2030			2040		
	VMT	VHT	VTT	VMT	VHT	VTT	VMT	VHT	VTT
Brazoria	1946	70	270	1946	70	270	2724	98	363
O&M 3&4 (\$Annual)	1,620,000			1,620,000			2,250,000		

Pearland Transit Combined User and Economic Benefits (2026 - 2040)*

Scenario	Travel Time Savings (Mil)	Disposable Personal Income (Mil)	O&M Costs (Mil)	Benefit Cost Ratio	Employment	Population
Scenario 2	6.22	-10	23.73	0.00	-60	-34
Transit 2.5	0.9	-20	16.91	0.00	-110	-246
Micro Transit E	5.32	10	6.82	2.25	50	212
Scenario 2.5	18.18	0	35.32	0.51	43	444
Transit 2.5	0.9	-20	16.91	0.00	-110	-246
Micro Transit E&W	17.28	20	18.41	2.02	153	690
Scenario 3	60.11	63.49	68.63	1.80	416	2277
Transit 3	5.91	3.49	40.86	0.23	22	170
Micro Transit CityW	54.2	60	27.77	4.11	394	2107
Scenario 4	59.8	50	62	1.77	372	2115
Transit 4	5.6	-10	34.23	0.00	-22	8
Micro Transit CityW	54.2	60	27.77	4.11	394	2107
*Discount rate is 4%.						

REMI Modeling Tips & Tricks

- Added Gulfcost Transit for the base no build to improve result.
- Make decision to keep or remove roadway TDM input for such as small transit project.
- Evaluate TDM output and adjust for reasonableness.
- Properly estimate O & M Expenditures. Research National Transit Database (NTD) and latest literatures in transit benefit cost analysis to set the range.

Questions and Comments?

- Please contact sharon.ju@h-gac.com

Thank you!

