2024 Transportation Equity Demand Index
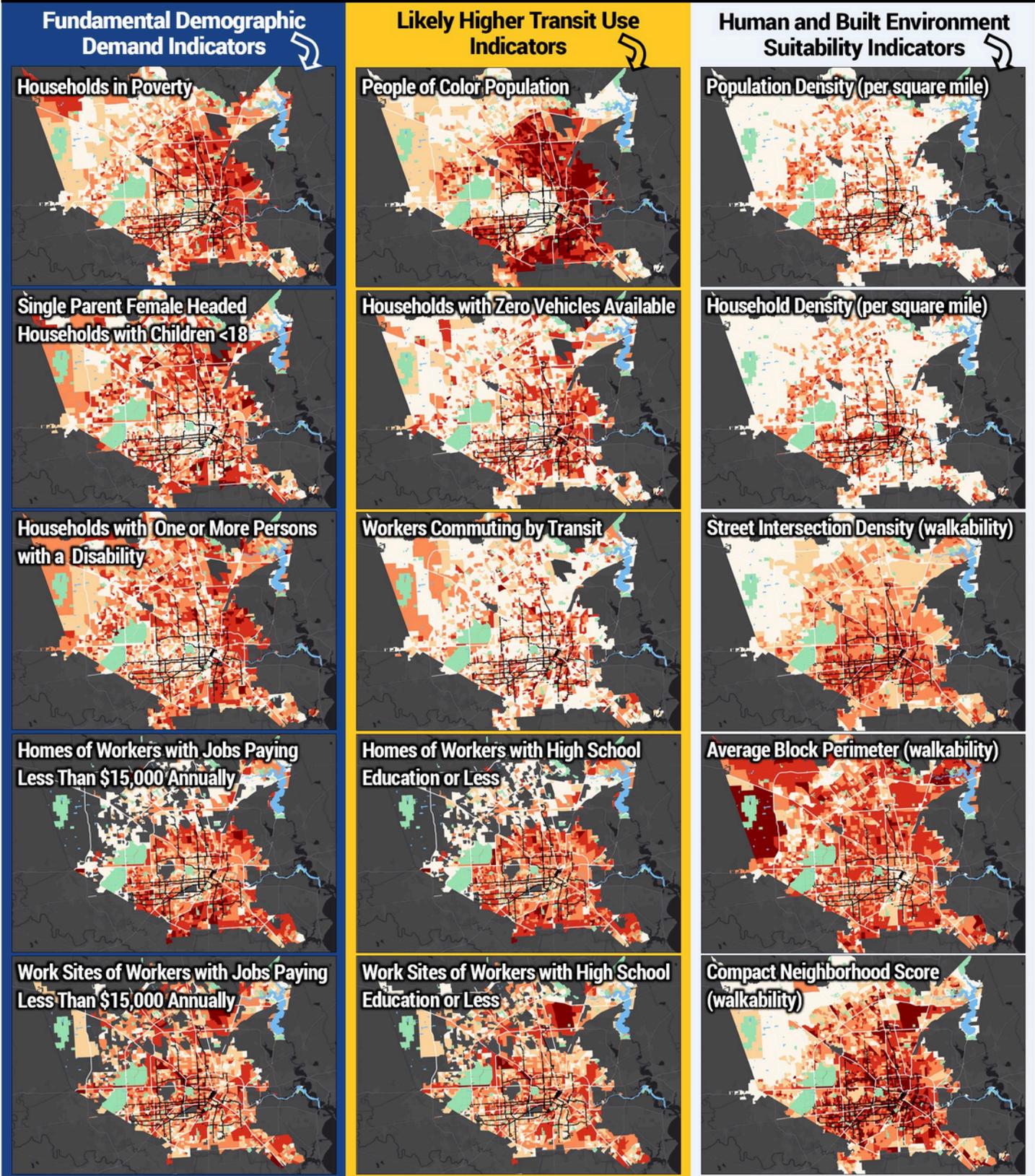
Methodology Notes

The Transportation Equity Demand Index—TEDI—identifies the areas of highest demand for equitably improving affordable transportation relative to all other parts of the METRO service area. The TEDI was last updated in 2024, reflecting the most recent available data. The primary statistical method was to transform each block group's values for 15 indicators into a percentile rank between 1 and 100 and then find the average of all 15 indicators. The result is a rank order of each block group in comparison to all other block groups. Higher values mean higher relative priority and feasibility for equitable transportation. Table 1 provides details on each of the 15 TEDI indicators. Figure depicts the methodology of overlaying 15 indicators. Figure , on the next page, depicts the relative distribution of each indicator.

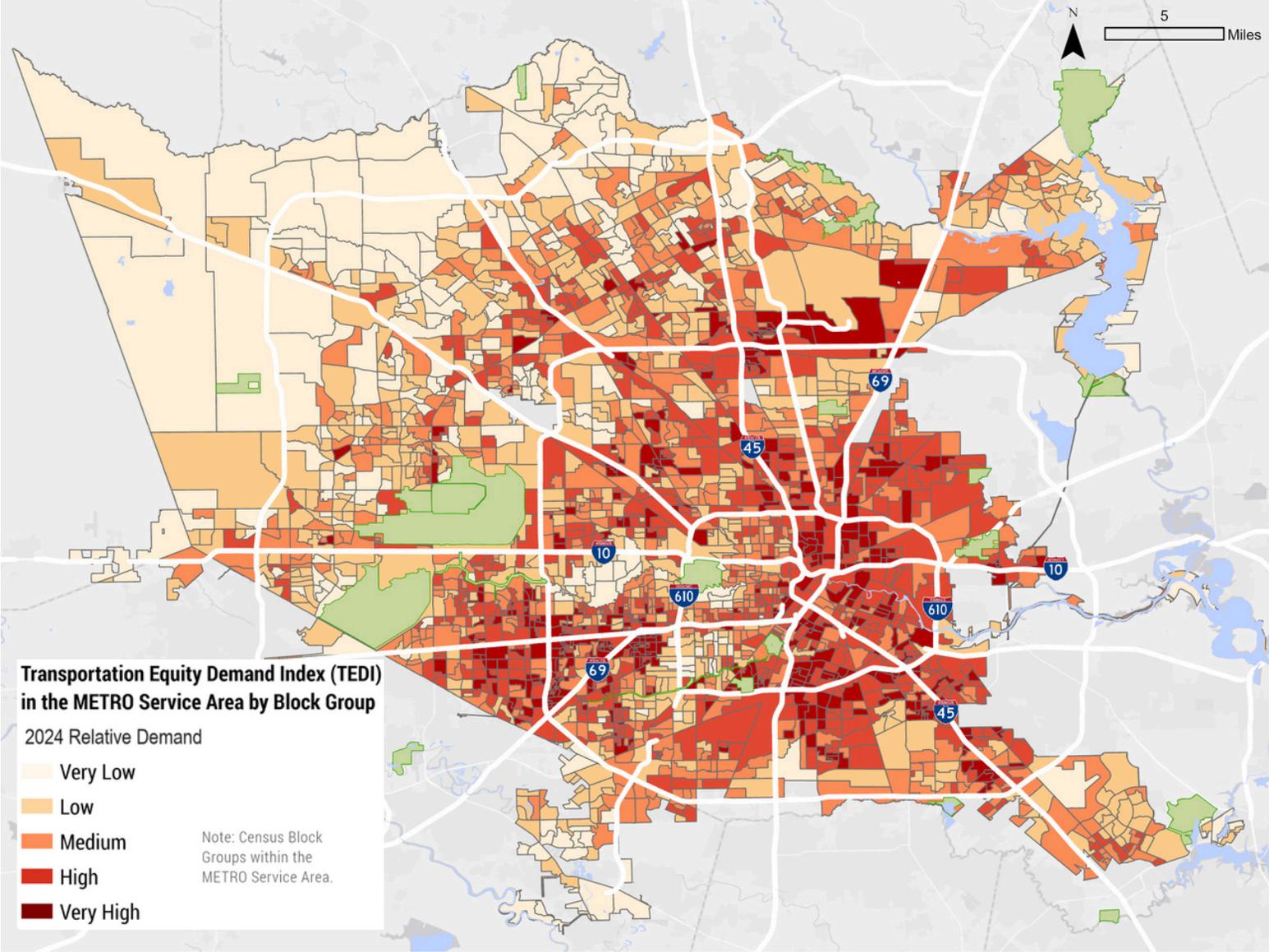| CATEGORY	INDICATOR	FORMAT	GEOGRAPHY	YEAR	UPDATED	SOURCE
Fundamental Demographic Demand	Households in Poverty	Percent	Block Group	2018–2022	Annual	U.S. Census Bureau, American Community Survey
	Single Parent Female Headed Households with Children Under Age 18	Percent	Block Group	2018–2022	Annual	U.S. Census Bureau, American Community Survey
	Households with One or More Persons with a Disability	Percent	Block Group	2018–2022	Annual	U.S. Census Bureau, American Community Survey
	Homes of Workers with Jobs Paying Less Than $15,000 Annually	Number	Block	2021	Annual	U.S. Census Bureau, Longitudinal Employer-Household Dynamics
	Work Sites of Workers with Jobs Paying Less Than $15,000 Annually	Number	Block	2021	Annual	U.S. Census Bureau, Longitudinal Employer-Household Dynamics
Likely Higher Transit Use (i.e., propensity, latent demand, or induced demand)	People of Color Population	Percent	Block Group	2018–2022	Annual	U.S. Census Bureau, American Community Survey
	Zero Vehicle Available Households	Percent	Block Group	2018–2022	Annual	U.S. Census Bureau, American Community Survey
	Workers Commuting by Transit	Percent	Block Group	2018–2022	Annual	U.S. Census Bureau, American Community Survey
	Homes of Workers with High School Education or Less	Number	Block	2021	Annual	U.S. Census Bureau, Longitudinal Employer-Household Dynamics
	Work Sites of Workers with High School Education or Less	Number	Block	2021	Annual	U.S. Census Bureau, Longitudinal Employer-Household Dynamics
Human and Built Environment Suitability	Population Density	Number	Block Group	2018–2022	Annual	U.S. Census Bureau, American Community Survey
	Household Density	Number	Block Group	2018–2022	Annual	U.S. Census Bureau, American Community Survey
	Street Intersection Density	Number	Block Group	2020	Annual	Center for Neighborhood Technology
	Average Block Perimeter (Feet)	Number	Block Group	2020	Annual	Center for Neighborhood Technology
	Compact Neighborhood Score	Number	Block Group	2020	Annual	Center for Neighborhood Technology

Chart 1: TEDI Indicator Details

Transportation Equity Demand Index Indicators

Maps depict relative distribution in the METRO service area by block group: darker colors indicate higher demand for equitable, effective transportation for people walking, rolling, biking, and riding transit. Black points mark frequent transit on Sundays pre-COVID (<15 minutes, 6 a.m. to 9 p.m.).

Fundamental Demographic Demand Indicators

Households in Poverty

Single Parent Female Headed Households with Children <18

Households with One or More Persons with a Disability

Homes of Workers with Jobs Paying Less Than $15,000 Annually

Work Sites of Workers with Jobs Paying Less Than $15,000 Annually

Likely Higher Transit Use Indicators

People of Color Population

Households with Zero Vehicles Available

Workers Commuting by Transit

Homes of Workers with High School Education or Less

Work Sites of Workers with High School Education or Less

Human and Built Environment Suitability Indicators

Population Density (per square mile)

Household Density (per square mile)

Street Intersection Density (walkability)

Average Block Perimeter (walkability)

Compact Neighborhood Score (walkability)

Map 2: TEDI Individual Indicators

This map illustrates TEDI results by block group. The darker areas are locations where affordable transportation (i.e., transit, walking, rolling, and biking) is in high demand in Houston.

Transportation Equity Demand Index (TEDI) in the METRO Service Area by Block Group

2024 Relative Demand

- Very Low
- Low
- Medium
- High
- Very High

Note: Census Block Groups within the METRO Service Area.

Map 3: TEDI 2024, Houston METRO Service Area

LINK Houston conducted further analysis to identify the highest-demand areas of the region. ArcGIS Pro software tools were used, specifically the Optimized Hot Spot Analysis tool (which iterates Getis-Ord Gi* and Moran's I statistics) to identify statistically significant concentrations of demand.

This map illustrates the results of the spatial statistics. The "High TEDI Demand 99% Confidence" areas are the priority list of high demand areas for equitable and affordable transportation, whether that be transportation infrastructure (sidewalks, crosswalks, bikeways, and transit stops/stations) or transportation services (i.e., public transit operations).
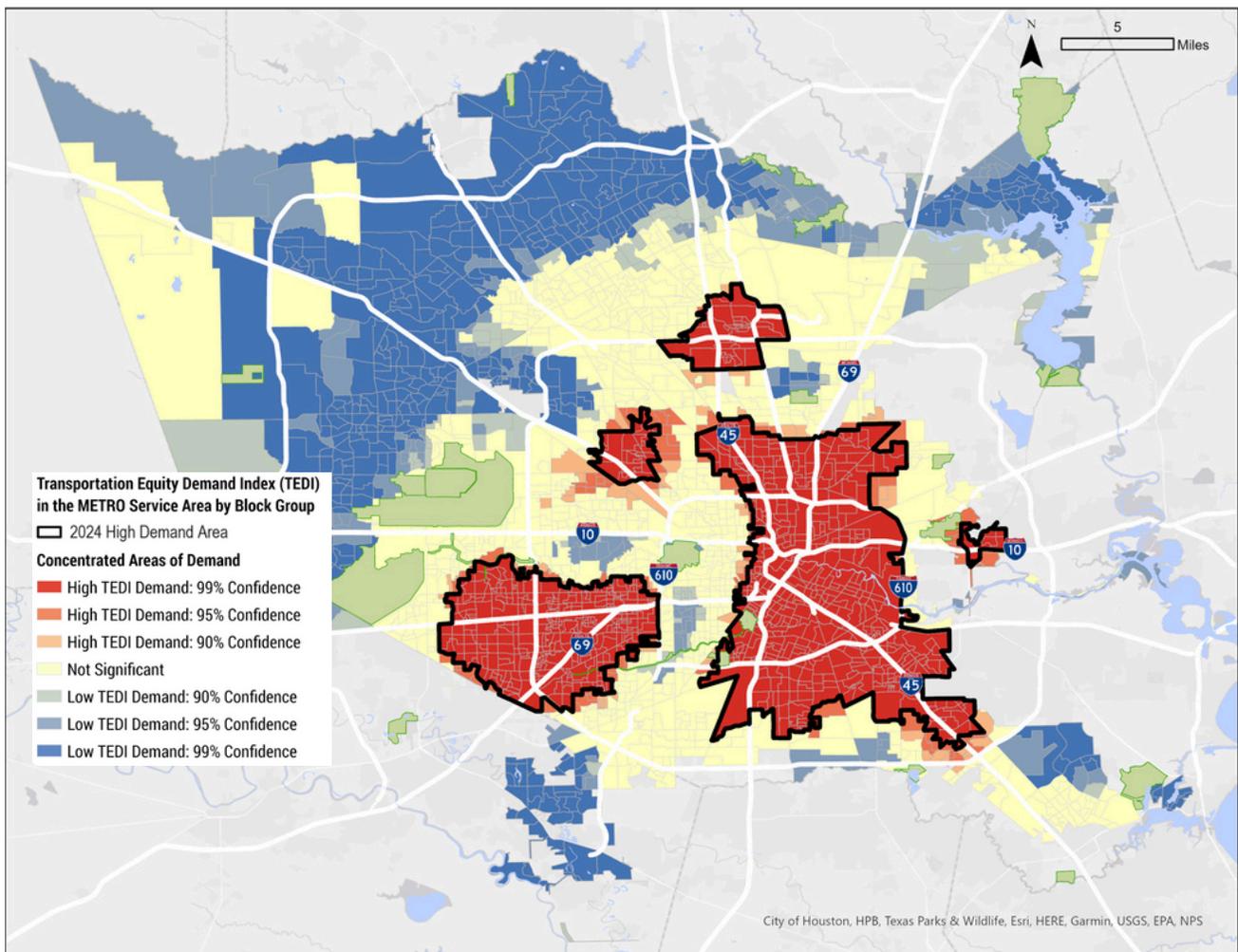
Map 4: TEDI 2024, Statistically Concentrated "High TEDI Demand 99% Confidence Areas"

CATEGORY	CHARACTERISTIC	Central East		Far East		Greenspoint		Northwest		Southwest		2024 HIGH DEMAND AREAS		ALL OTHER AREAS		METRO SERVICE AREA TOTAL	
		Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number
	Population	14%	597,532	0%	15,724	1%	63,677	1%	41,653	11%	489,087	27%	1,207,673	73%	3,195,732	100%	4,403,405
	Working Population	12%	262,722	0%	6,356	1%	28,894	1%	19,751	12%	242,571	27%	560,294	73%	1,542,356	100%	2,102,650
	Households	14%	223,196	0%	5,092	1%	20,559	1%	15,904	12%	189,579	29%	454,330	71%	1,130,839	100%	1,585,169
	Land Area (square miles)	7%	137.1	0%	3.2	1%	15.9	0%	7.8	3%	57.8	12%	221.7	88%	1,663.7	100%	1885.4
CATEGORY	INDICATOR	Percent Rate	Number	Percent Rate	Number	Percent Rate	Number	Percent Rate	Number	Percent Rate	Number	Percent Rate	Number	Percent Rate	Number	Percent Rate	Number
Fundamental Demographic Demand	Housholds in Poverty	23%	50,980	22%	1,095	28%	5,782	24%	3,802	21%	40,631	23%	102,290	11%	122,201	13%	213,293
	Single Parent Female Headed Households with Children < 18	8%	18,194	18%	933	16%	3,367	10%	1,645	10%	19,865	10%	44,004	8%	84,959	8%	126,105
	Households with One or More Persons with a Disability	25%	56,881	23%	1,149	19%	3,844	21%	3,375	18%	34,482	22%	99,731	21%	233,559	19%	307,023
	Homes of Workers with Jobs Paying Less than $15,000 Annually	x	47,200	x	1,221	x	5,898	x	3,471	x	33,407	x	91,197	x	254,024	x	201,253
	Work Sites of Workers with Jobs Paying Less than $15,000 Annually	x	86,162	x	1,725	x	9,702	x	4,129	x	54,393	x	156,111	x	286,563	x	307,386
Likely Higher Transit Use	People of Color Population	87%	522,647	93%	14,596	96%	60,876	82%	34,028	84%	411,216	86%	1,043,363	67%	2,130,957	71%	3,105,507
	Zero Vehicle Available Households	12%	27,070	7%	366	12%	2,538	12%	1,928	13%	24,516	12%	56,418	4%	49,160	6%	93,323
	Workers Commuting by Transit	4.3%	11,352	2.0%	125	2.8%	797	2.9%	576	6.0%	14,557	4.9%	27,407	1.4%	21,477	2.5%	53,422
	Homes of Workers with High School Education or Less	x	91,531	x	2,459	x	11,518	x	7,308	x	66,634	x	179,450	x	535,487	x	353,025
	Work Sites of Workers with High School Education or Less	x	226,875	x	3,107	x	24,134	x	9,196	x	81,653	x	344,965	x	478,862	x	597,010
Human and Built Environment Suitability	Population Density	x	4,358	x	4,981	x	4,015	x	5,360	x	8,461	x	5,447	x	1,921	x	2,336
	Household Density	x	1,628	x	1,613	x	1,296	x	2,047	x	3,280	x	2,527	x	680	x	1,115
	Street Intersection Density	x	232	x	112	x	133	x	183	x	269	x	242	x	119	x	158
	Average Block Perimeter (feet)	x	1,961	x	1,704	x	1,492	x	2,233	x	1,683	x	1,856	x	2,024	x	1,954
	Compact Neighborhood Score	x	5.98	x	3.14	x	4.43	x	5.97	x	5.82	x	5.84	x	3.44	x	4.20

Table 5: TEDI 2024, Summary of Indicators by High Demand Area