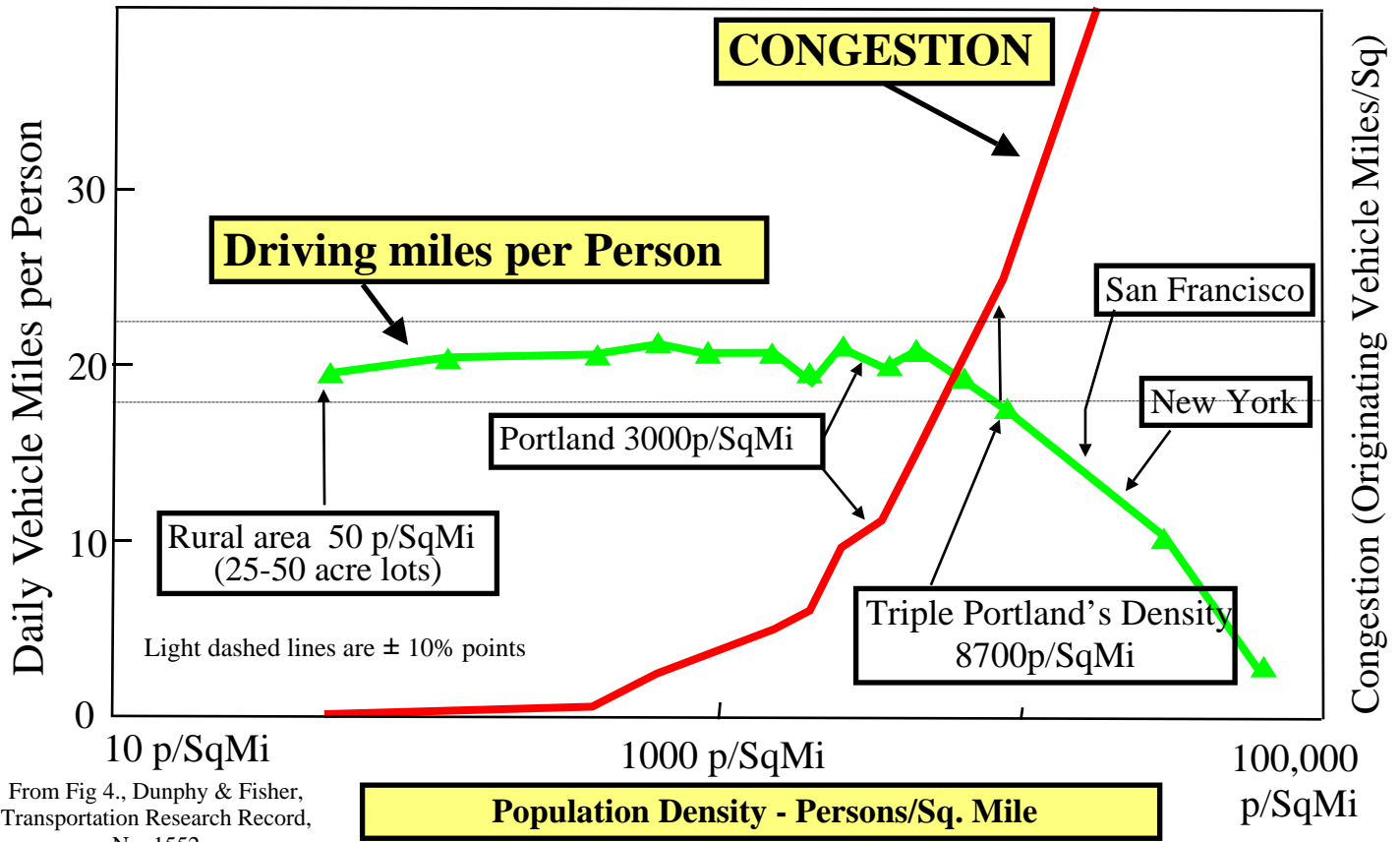


Density Increases Congestion

Driving DOES NOT Decrease Until You Triple Portland's Density



From Fig 4., Dunphy & Fisher, Transportation Research Record, No. 1552

Population Density - Persons/Sq. Mile

The green line is vehicle miles per person. --- It is almost unchanged by increased density until you get to densities triple that of Portland. To cut driving in half you have to surpass New York City's average density.

The red line is congestion -- It increases dramatically with density.

Since driving per person stays about the same, congestion goes up with density:
more people = more cars = more congestion.

TABLE 4 Average Daily Travel in the United States, by Mode and Density, 1990

DENSIT	VEHICLE TRAVEL *		PERSON DAILY TRAVEL												SUM OF PERSON			
			PERSONAL VEH				BUS		RAIL		TAXI		WALKBIKE		OTHER			
	TRIPS	MILES	TRIPS	MILES	TRIPS	MILES	TRIPS	MILES	TRIPS	MILES	TRIPS	MILES	TRIPS	MILES	TRIPS	MILES	TRIPS	MILES
50	2.42	21.13	3.35	30.09	0.02	0.17	0	0.02	0	0.02	0.24	0.15	0.16	1.13	3.77	31.58		
125	2.53	20.73	3.5	28.97	0.02	0.12	0	0.01	0.01	0.03	0.24	0.16	0.13	0.66	3.9	29.95		
375	2.57	20.4	3.53	28.15	0.02	0.11	0	0.01	0	0.02	0.29	0.24	0.12	0.8	3.96	29.33		
625	2.64	20.99	3.52	27.78	0.03	0.28	0	0.07	0	0.01	0.21	0.21	0.12	0.65	3.88	29		
875	2.57	18.35	3.44	24.91	0.05	0.36	0.01	0.2	0.01	0	0.26	0.18	0.13	0.6	3.9	26.25		
1500	2.57	18.63	3.48	25.07	0.03	0.23	0.01	0.23	0	0.01	0.23	0.2	0.11	0.43	3.86	26.17		
2000	2.37	16.01	3.28	22.63	0.04	0.17	0.04	0.27	0.03	0.03	0.33	0.33	0.08	0.34	3.8	23.77		
2500	2.62	19.04	3.46	22.27	0.06	0.31	0.01	0.19	0	0.01	0.28	0.23	0.11	0.44	3.92	23.45		
3500	2.47	16.89	3.34	22.69	0.06	0.36	0.02	0.36	0.01	0.01	0.29	0.24	0.09	0.45	3.81	24.11		
4500	2.6	17.24	3.51	23.91	0.05	0.3	0.01	0.11	0	0.01	0.3	0.22	0.08	0.22	3.95	24.77		
6250	2.39	16.28	3.29	23.38	0.09	0.44	0.02	0.22	0.01	0.03	0.36	0.29	0.06	0.2	3.83	24.56		
8750	2.18	14.15	2.92	19.05	0.11	0.44	0.05	0.61	0.02	0.05	0.45	0.27	0.07	0.17	3.62	20.59		
30000	1.28	8.73	1.9	12.28	0.29	1.78	0.21	1.99	0.03	0.13	0.95	0.64	0.04	0.2	3.42	17.02		
60000	0.34	2.31	0.59	4.48	0.42	1.75	0.61	4.74	0.16	0.32	1.55	1.01	0.07	0.25	3.4	12.55		
ALL	2.42	18.44	3.31	25.46	0.06	0.34	0.02	0.28	0.01	0.03	0.32	0.24	0.11	0.59	3.83	26.94		

* ONLY POV DRIVER TRIPS INCLUDED

Dunphy & Fisher's chart from Transportation Research Record, No. 1552

More at: www.PortlandFacts.com

Density&Congestion_Chart_New.ppt