Population density.

One of the statements that Hawaii rail proponents make is that Honolulu has the right population density. **CBT**, a pro-rail group, says,

> "Population density is equally important than pure population as a determinant of the potential for rail transit ridership. As reported in the 2000 census, the population density for the entire island of Oahu was 1461 people per square mile making Oahu the nation's 16th most dense metropolitan area. The population density of the primary transportation corridor is more than 50% higher than the Oahu average and is higher than all but four metropolitan areas on the mainland. The potential of rail transit on Oahu is greater than many other successful rail systems on the Mainland."

If you examine **the data they are using** you find that while they correct about the number, it is not one you can use. For example, if you look at the first table below, you will note that Las Vegas only has a population density of 40 people per square mile. The main problem is that land areas used to calculate density are somewhat arbitrary. For example, the Honolulu MSA has a population density of 1461 per square mile. Las Vegas MSA has a density of 40. However, the area used for Honolulu's MSA is 600 square miles while that for Las Vegas is 39,369 square miles. Obviously, such a disparity does not make sense. Anyone who has been to Las Vegas knows that the population density there is somewhat similar to that of Honolulu.

MSA (metro area)	Area in sq. miles	Population	Density
Honolulu	600	876,156	1461
Las Vegas	39,369	1,563,282	40

There is another way to judge available Census density data, other than metro area and that is **"Central city only."** When we do that the results appear to be in line with what one would expect as in the table below:

Central city only	Area in sq. miles	Population	Density
Honolulu	96	371,657	4337
Las Vegas	113	478,434	4,222

An interesting way to look at this "Central city only" data is to assemble it for the top 49 metro areas, and then add Honolulu[i] and then sort these areas in descending order of population density. **Click here for the result.**

Any group of ten contiguous metro areas in the list shows a remarkable diversity in the use of public transportation for commuting. For example, Honolulu's central city density is at the center of ten metro areas that have densities of plus or minus ten percent of Honolulu's. Yet, these journey to work percentages range from 9.5 to 1.8 percent.

The average of these ten metro areas is less than the next higher ten metro areas in the table which have a range of 2.0 to 24.9 percent. The ten metro areas below the Honolulu Ten in the table have a range of 0.8 percent to 5.7 percent. And so on.

This teaches us that while there is, on average, a correlation between aggregations of central city densities and public transportation use, it is not useful as a predictive tool for any one area.

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[i] The journey-to-work data for the six cities larger than Honolulu that also did not make the top 49 list are currently not available.