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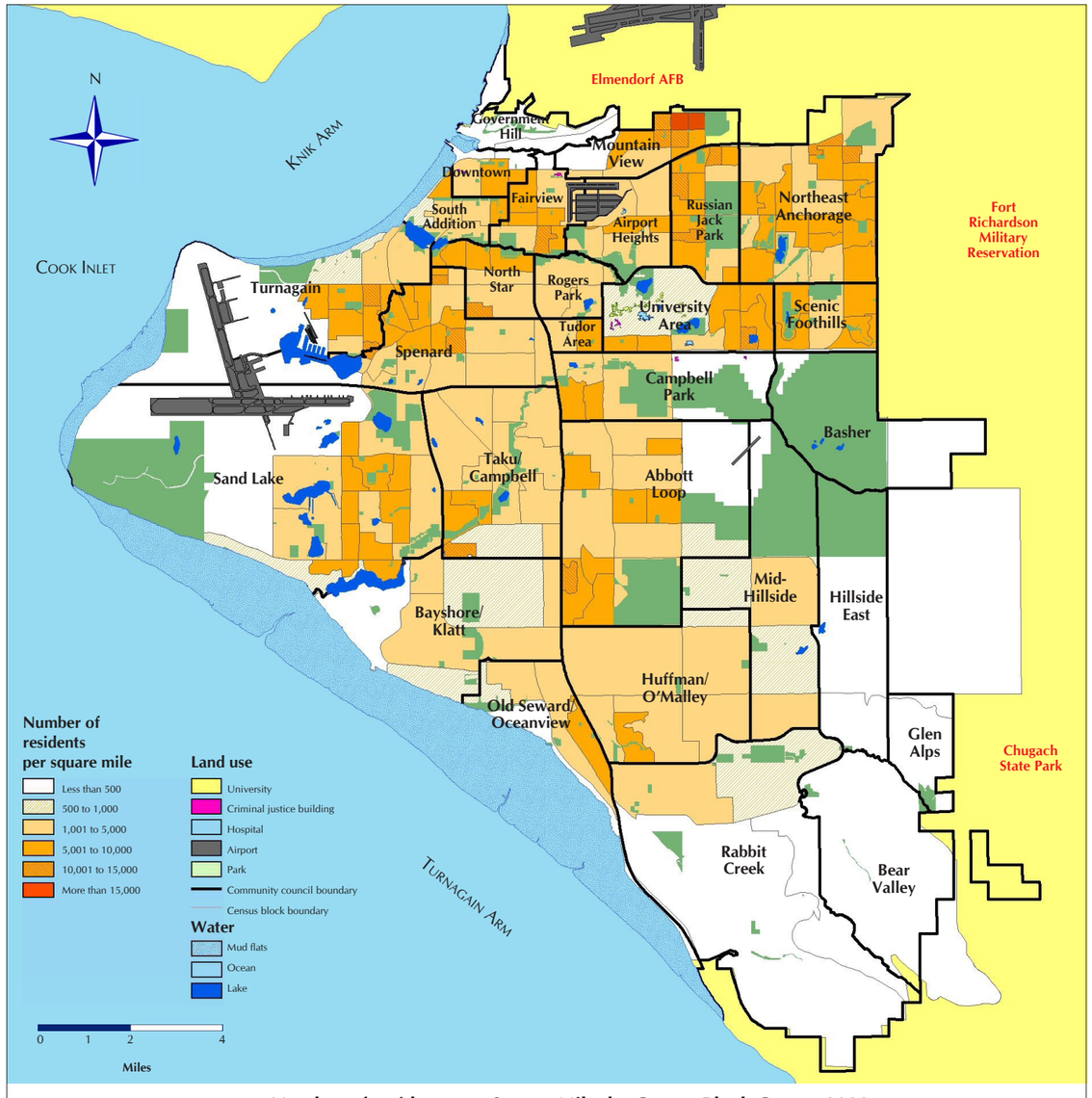
The Strength of Association:
Population Density and Social Deviance



Number of residents per Square Mile, by Census Block Group, 2000

In response to current public policy discussions in Anchorage, a previous issue *Anchorage Community Indicators* (3A:1, June 2004) explored the relationship between *housing density* within Anchorage neighborhoods and the annual rate of *social deviance* using six measures of police activity. The basic theoretical model examined previously holds that *social density* is positively correlated with *social deviance*. Stated in simple and somewhat overly-deterministic terms, the model states increases in social density produce corresponding increases in levels of social deviance, represented schematically by the following two-variable model:

Social density → Social deviance

Empirically, social density was measured in this prior analysis using a single indicator, *housing density,* derived from 2000 census data; social deviance was measured indirectly using six indicators of formal state response to legally prohibited behaviors (i.e., "crimes"), specifically in the form of police response (i.e., "calls-for-service"). The bivariate analysis presented previously in *Anchorage Community Indicators* found **no evidence of a relationship between *housing density* and *deviance***. This finding was contrary to conventional (though not criminological) wisdom.

The current issue builds on these previously reported findings by introducing a second measure of social density: *population density*. Population density refers to the number of people residing within a bounded geographical space. As before, the geographical spaces used in this analysis are U.S. Census *block groups*. Population density was measured as the number of residents per square mile residing within each of the 188 block groups within the municipality.

Population density is thought to be a better measure of social density than housing density because it solves some difficult problems. The first issue is that although housing density is a direct measure of *housing units* within a given geographical space, it is only a proxy for the amount of *people* who reside there. Second, and perhaps more significant, is that in areas with moderate to high housing unit vacancy rates or where housing units contain a large number of people, the actual number of people within a particular geography may be drastically over-estimated (high housing unit vacancy) or under-estimated (large household size). Fortunately, by using population density as a measure of social density, these problems are overcome.

As with the previous *ACI* analysis, simple bivariate correlations were calculated. The results are presented in the accompanying table.

Once again, **we find no evidence—at the bivariate level—that social density of Anchorage neighborhoods is associated with community-level rates of social deviance**. Looking across the first row of the table, all of the correlation coefficients reported approach zero ("strong" correlations approach -1 or +1) and are not statistically significant; also, it is notable that to the extent any association was detected, it was in the *opposite* direction of what would be expected given an assumption of a social density → social deviance relationship.

Also in line with previous analyses, we find that while social density does not appear to be associated with community-level rates of deviance, these data do suggest that various forms of legally prohibited behaviors are highly inter-correlated. That is to say "problem behaviors" tend to cluster together within communities; where you find one form, you tend to find others as well.

The analyses presented here are preliminary and intended to be suggestive rather than conclusive. Readers should be cautious in drawing conclusions based on this (very) limited empirical "test." As data continues to accumulate and more becomes known about the social structure of Anchorage neighborhoods, Anchorage Community Indicators will examine neighborhood levels social deviance much more closely, using more complex analytical methods.

These maps and the accompanying data are available on the Justice Center website (www.uaa.alaska.edu/just). Additional technical information about the data can be obtained by phone at 786-4885.

Correlation Matrix: Population Density—Social Deviance

N in all cells = 188 block groups

		Social deviance measures						
		Population density	Domestic violence	Weapons offense	Drug offense	Alcohol offense	Serious property crime	Serious violent crime
	Population density	**1.000**	**-.001**	**.040**	**-.041**	**-.090**	**-.081**	**-.035**
Social deviance measures	Domestic violence	—	1.000	.521 *	.574 *	.577 *	.595 *	.627 *
	Weapons offense	—	—	1.000	.750 *	.684 *	.777 *	.813 *
	Drug offense	—	—	—	1.000	.853 *	.858 *	.875 *
	Alcohol offense	—	—	—	—	1.000	.924 *	.939 *
	Serious property crime	—	—	—	—	—	1.000 *	.930 *
	Serious violent crime	—	—	—	—	—	—	1.000

* $p < .01$