

## Alcohol Density and Crime Study – Executive Summary

### Introduction of Concept

- ❖ Research has associated alcohol density to various public health and safety problems.
- ❖ Building on this research, Public Health Madison and Dane County evaluated the impact of alcohol density in Dane County on crime to:
  1. Provide insight to partners about the association between alcohol density and crime.
  2. Use the understanding of this relationship to influence the design and targeting of interventions.
  3. Identify areas in the county in the greatest need for interventions.

### Study Design and Results

- ❖ This study examined the association of alcohol outlet density with violent crime, and youth crimes and citations in Dane County.
  - Four years of crime data (2007 – 2010) from 13 Dane County police departments.
  - 2010 WI Department of Revenue list of establishments with alcohol licenses.
  - Social and economic data from 2010 US Census was used to evaluate potential impact on crime, i.e., percent families below poverty, percent of population renting, percent female headed households, and percent of individuals without high school diploma.
  - All data was geocoded, i.e., assigning address data to a geographic location to be plotted on a map for spatial analysis display.
- ❖ Analysis of data involved:
  - Descriptive analysis
  - Logistic regression
  - Geographically Weighted Regression
- ❖ Results
  - Logistic regression
    - Alcohol outlet density and crime: Association not considered statistically significant.
    - Crime is significantly associated with social and economic factors:
      - Low median household income
      - Percent of residents with less than a high school education
      - Lower percentage renting
    - Limitations of study: county-level analysis may have diluted results for City of Madison.

- Geographically Weighted Regression model
  - Resulting map shows a comparison between the numbers of expected crimes as a function of the percent of the population in poverty and the numbers of actual crimes. Areas in blue have fewer crimes than predicted based on the factors in the block group and the surrounding block groups. Areas in red have a greater number than expected. (Black number = alcohol outlets, purple number = violent crimes)

