



Bay Area Air Quality Management District

Community Air Risk Evaluation (CARE) Program Task Force Meeting

October 20, 2005

OVERVIEW

- **STI prepared gridded emissions inventory**
- **District tasks**
- **Use of data**

CARE PROGRAM OVERVIEW

- **Program Plan Update**
- **Toxic Air Contaminant (TAC) Emission Inventory**
- **Demographic Data**
- **Data Display and Assessment**

PROGRAM PLAN UPDATE

CARE Program Objectives

- Investigate exposure to air toxic emissions
- Reduce risk for Bay Area residents

Focus on Exposure Throughout the Bay Area

- Evaluate TAC inventory results
- Supplementary PM air monitoring analysis
- Defer cumulative risk assessment for small sub area – work with ARB to develop a comprehensive study for all source types

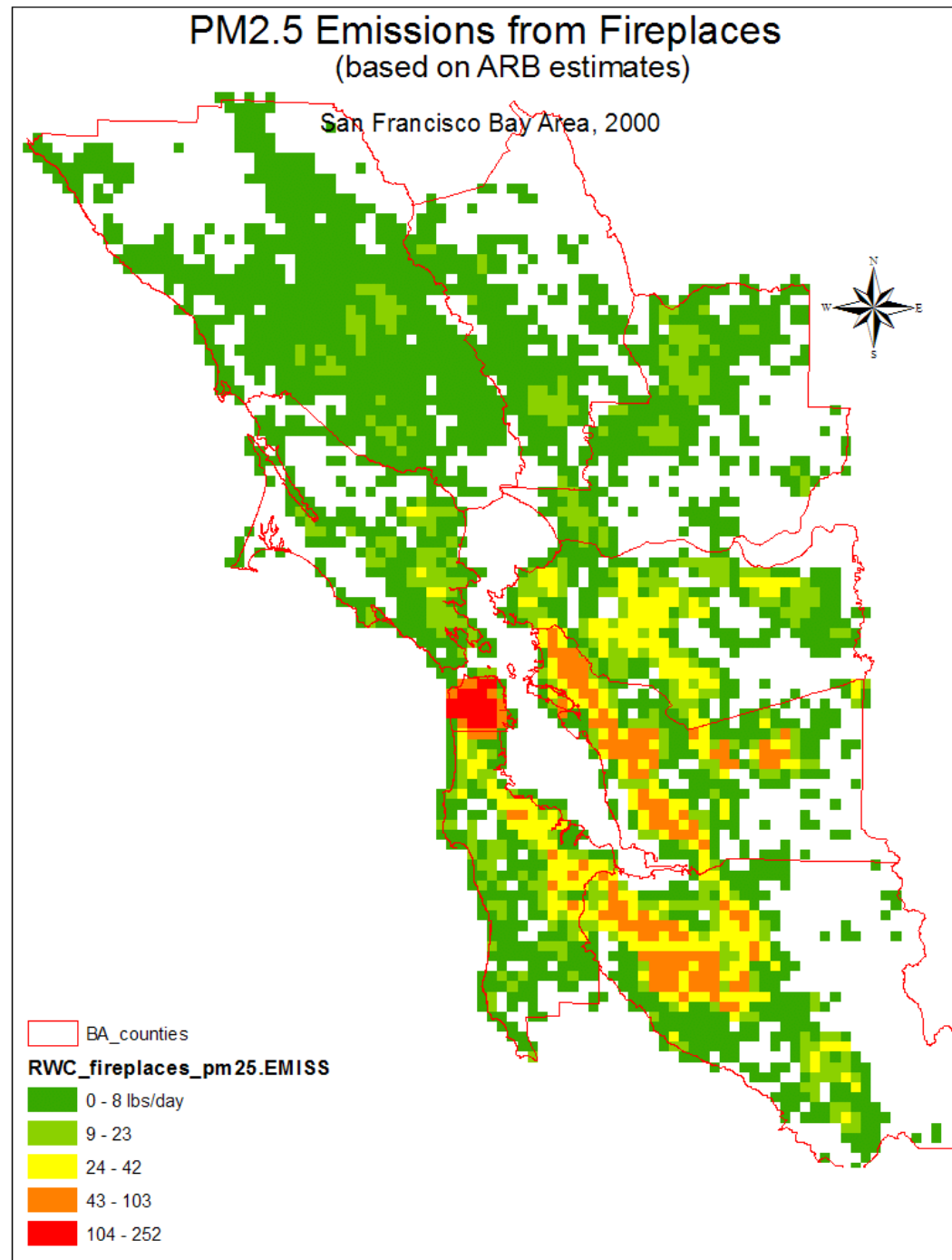
DISTRICT TASKS

- **Investigate completeness of data**
- **Perform QA/QC on data**
- **Identify uncertainty in EI**
- **Improve EI**

EXAMPLES OF QA/QC

- **Distribution of wood burning fireplace emissions in Bay Area**
- **Distribution of onroad PM_{2.5} emissions**

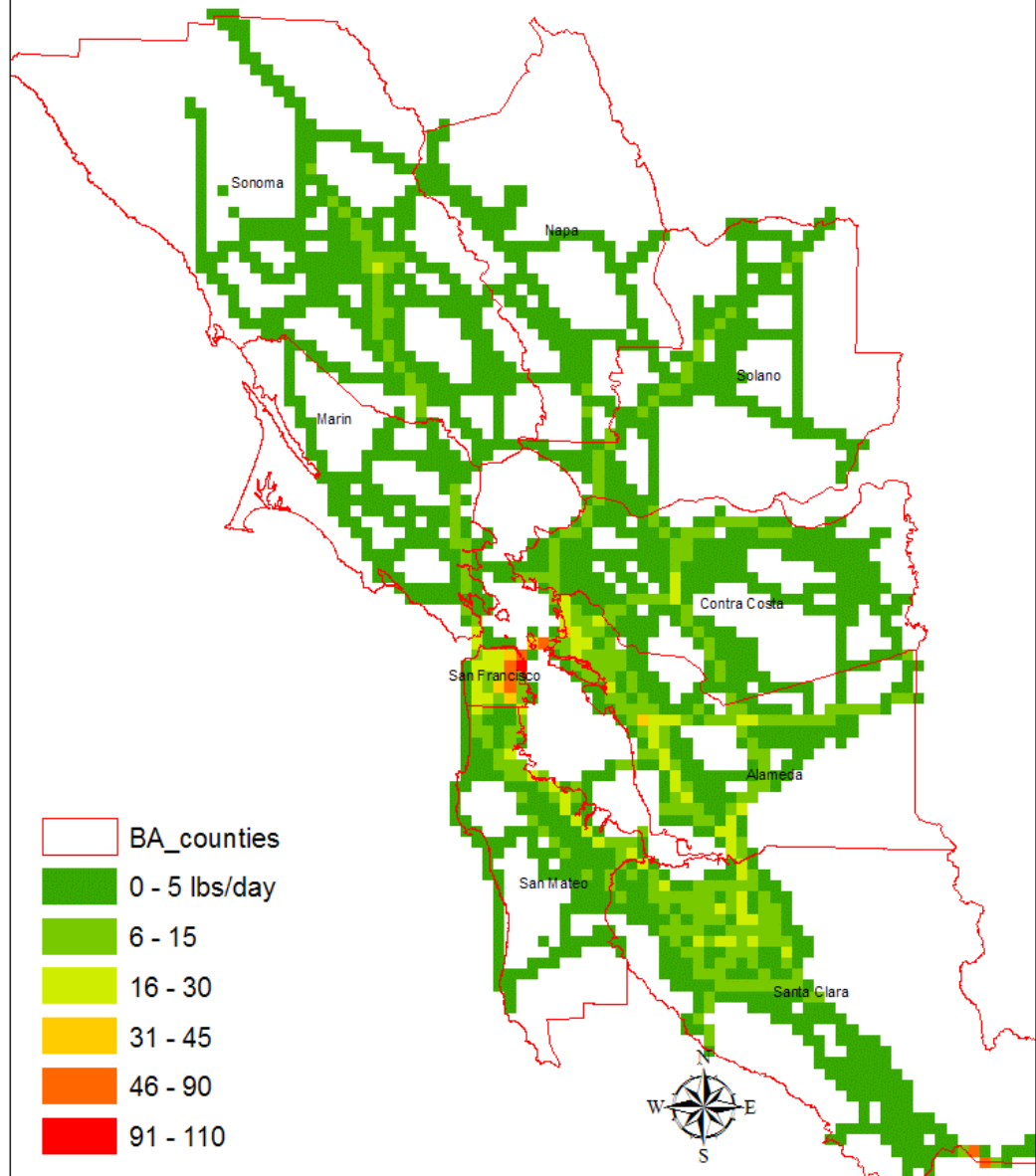
- based on ARB methodology
 - $[(\# \text{ households} * \% \text{ that burns wood}) - \# \text{ woodstoves}] * \text{amt wood burned per household}$
- % assumed to burn wood is outdated
- monitoring data suggest wood not prominent fuel in SF
- looking into recent 2000 Census data



- Emissions based on CARB EMFAC model
- Spatially distributed using CalTrans DTIM system
 - Single VMT/fleet mix assumed within each county so HD emissions are 'spread out'
 - Dense spots in SF may include significant TAZ-based emissions (intra-zonal, trip ends)

2000 Annual Average Daily On-Road Exhaust PM_{2.5} Emissions

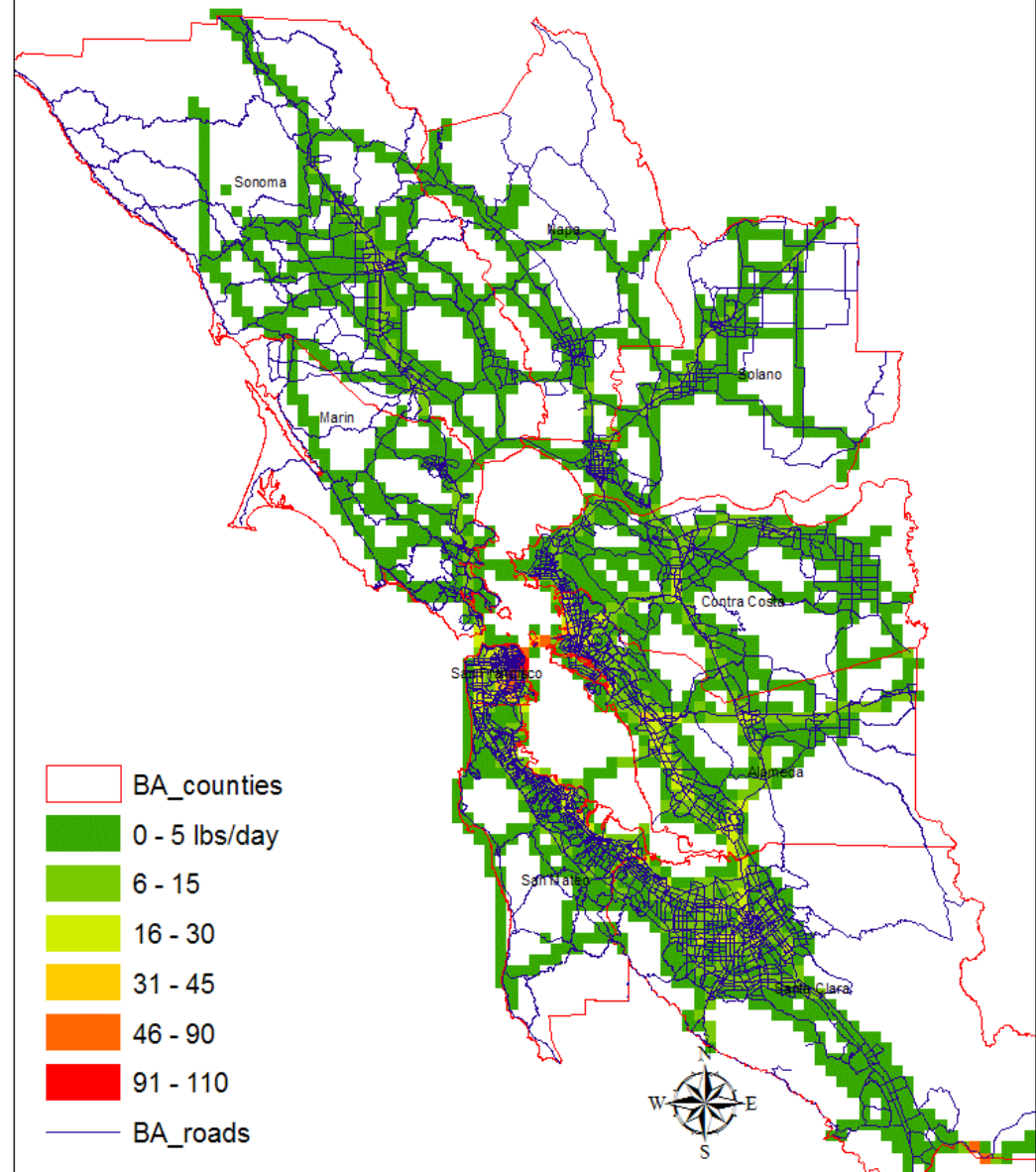
San Francisco Bay Area



- Same plot as previous with Census Bureau TIGER data (major roadways)
- Use of independent data to verify reasonableness
 - Grids showing emissions without roadways require some local (TAZ-based) activity
 - NW corner of Sonoma indicates anomaly

2000 Annual Average Daily On-Road Exhaust PM_{2.5} Emissions

San Francisco Bay Area

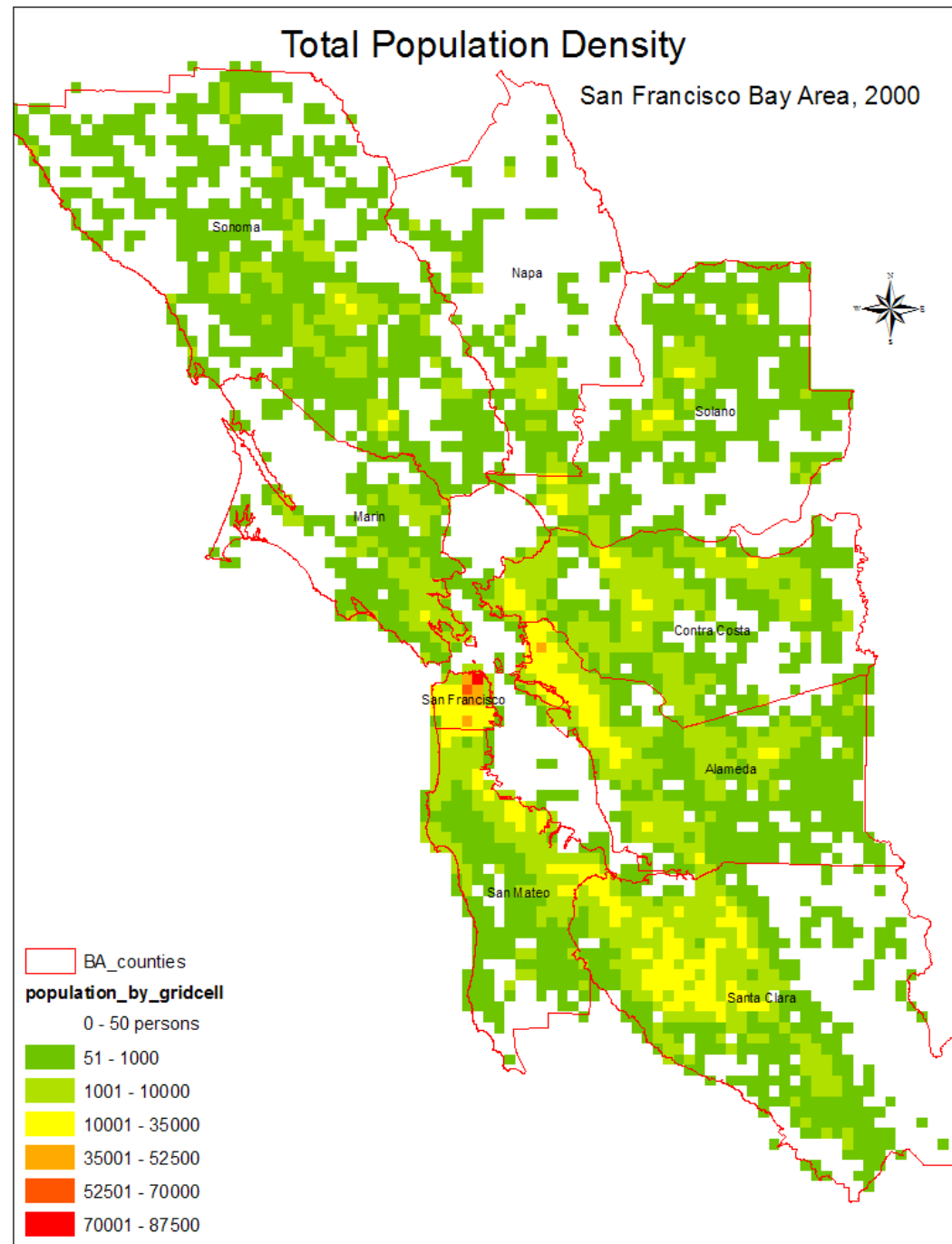


USE OF DATA

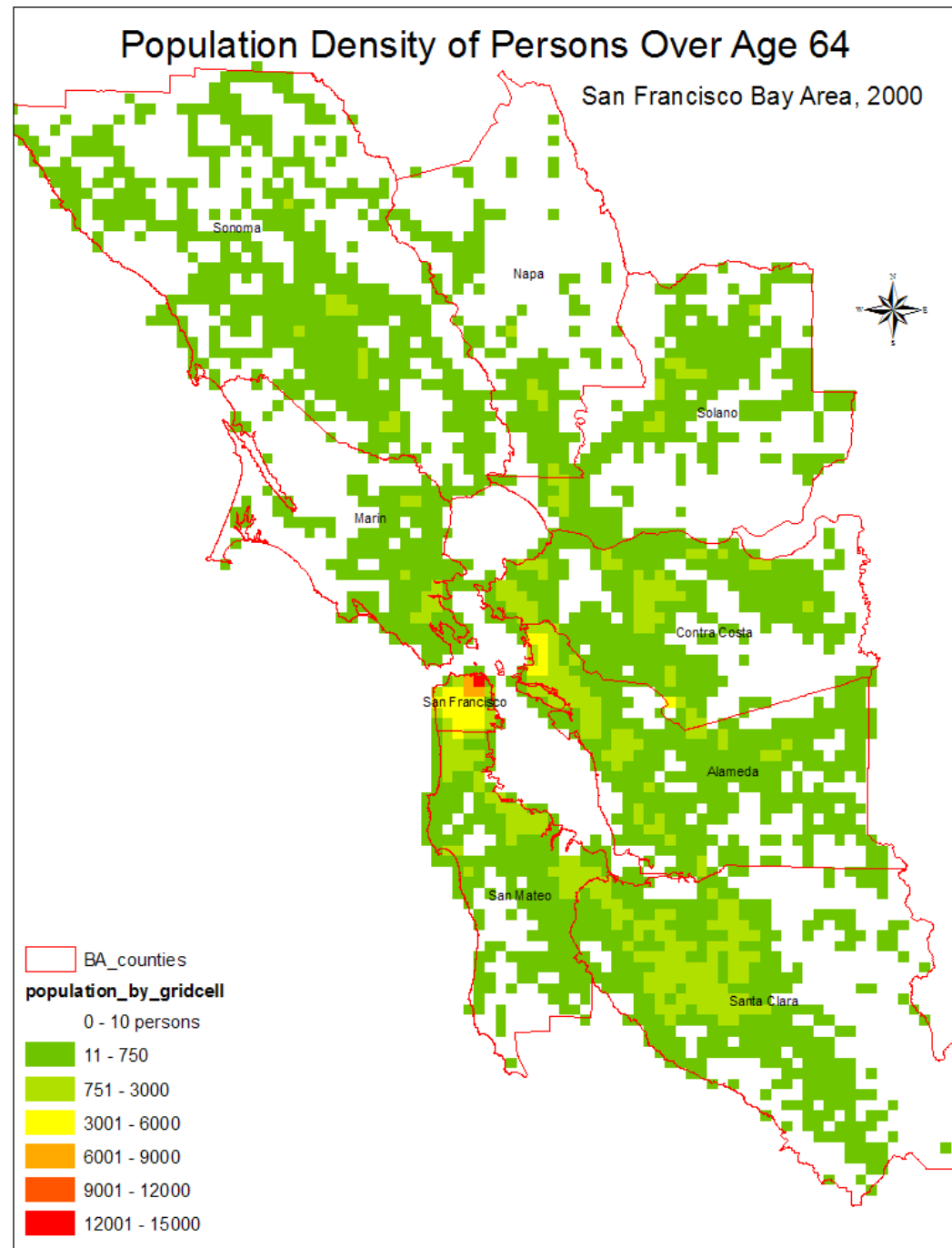
Identify population more sensitive to poor air quality

- **Age**
 - **Population over age 64**
 - **Population under age 18**
- **Income**
 - **Population under poverty level**
 - **Less access to healthcare**
 - **May drive older vehicles (higher emissions)**
 - **Car/person ratio may be low**

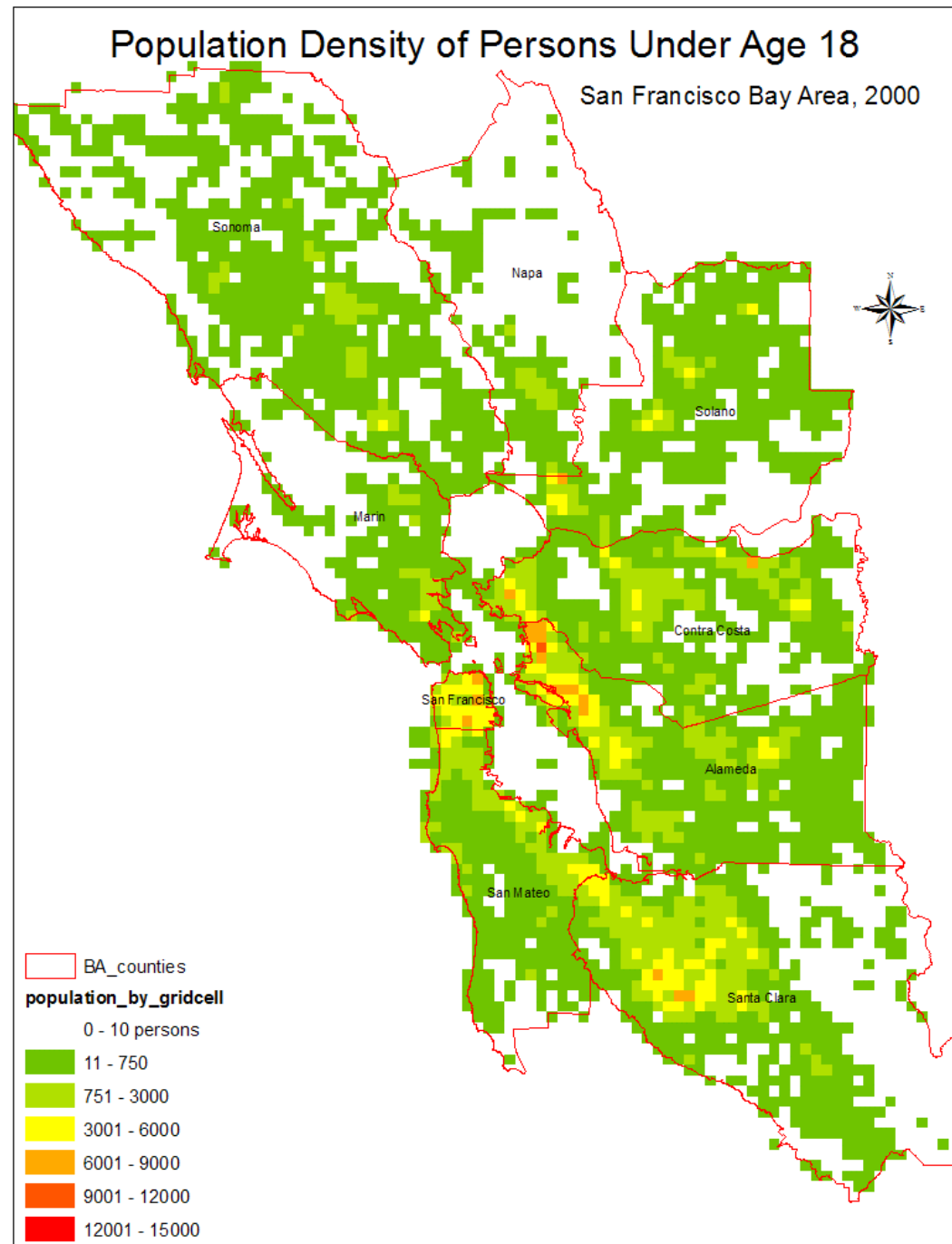
- Based on 2000 Census data
 - Block-level aggregated to 2km grid cells
 - Cells in the bay arise from blocks defined by Census Bureau as extending over the bay
- Dense spots in SF, especially NE corner
- Dense along the East Bay and San Jose



- Based on 2000 Census data
- This population is more concentrated in SF and a small portion of the East Bay.
- Relatively fewer in San Jose



- From 2000 Census data
- More widely distributed
- Dense spots in
 - SF, El Cerrito/Berkeley/Oakland, SJ
 - Antioch, Richmond/San Pablo, Vallejo



- From 2000 Census data
 - Block group level aggregated to 2km grid
- 1.85 factor selected to reflect higher cost of living/wages in the San Francisco Bay Area
- Some concentrated spots in NE SF and parts of Oakland

