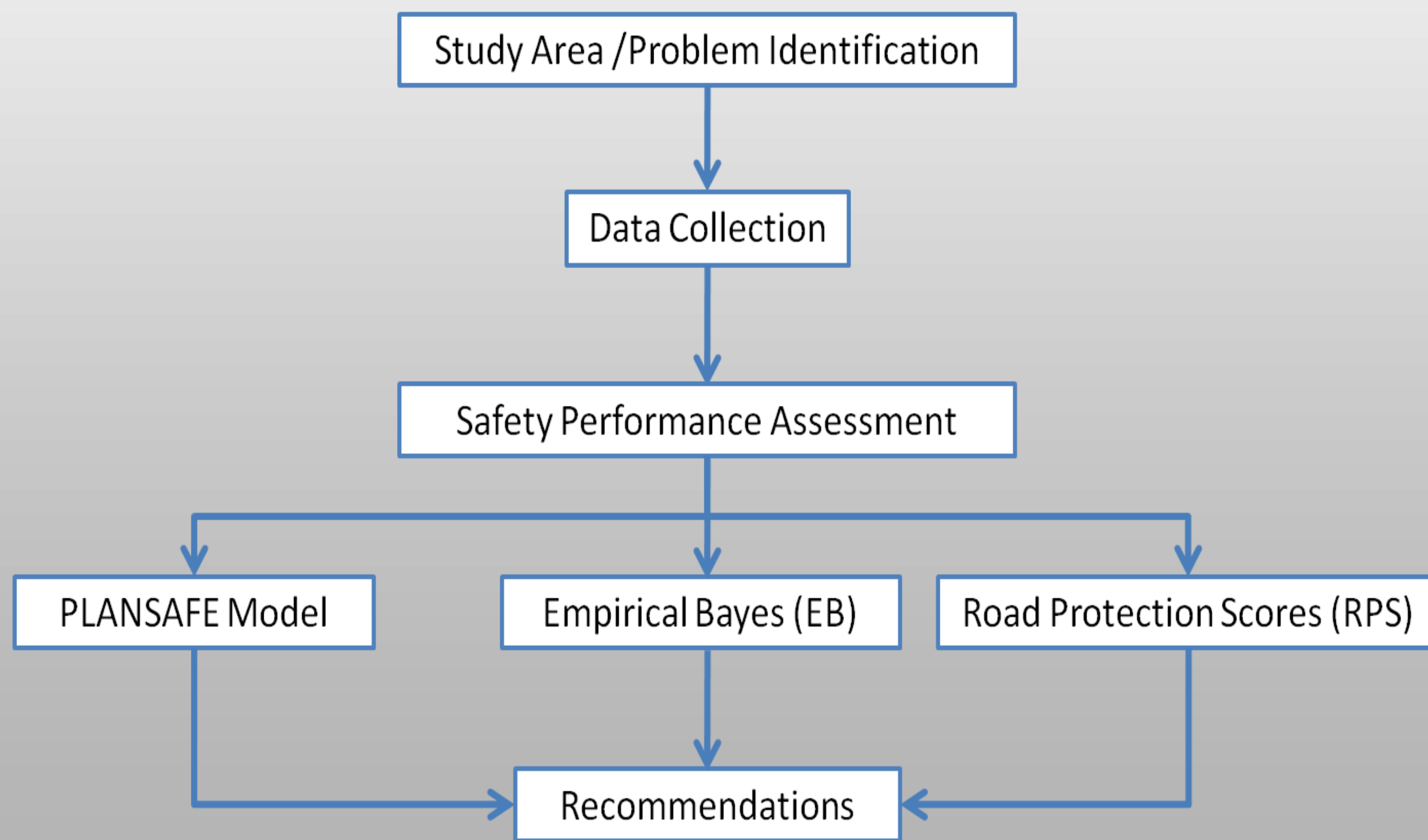


# Incorporating Safety into Transportation Planning for Small and Medium-Sized Communities

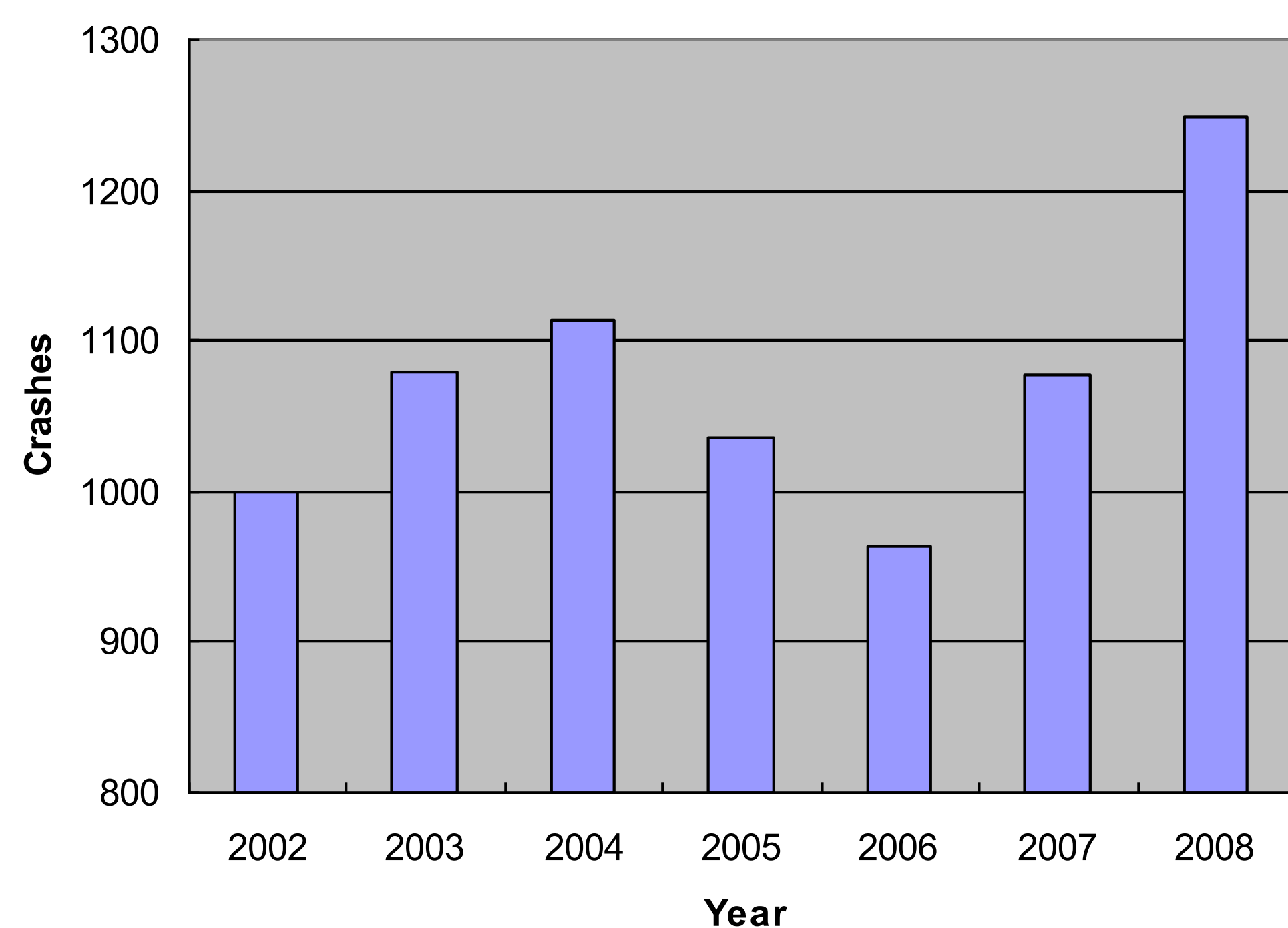
## A Transportation Safety Planning Framework



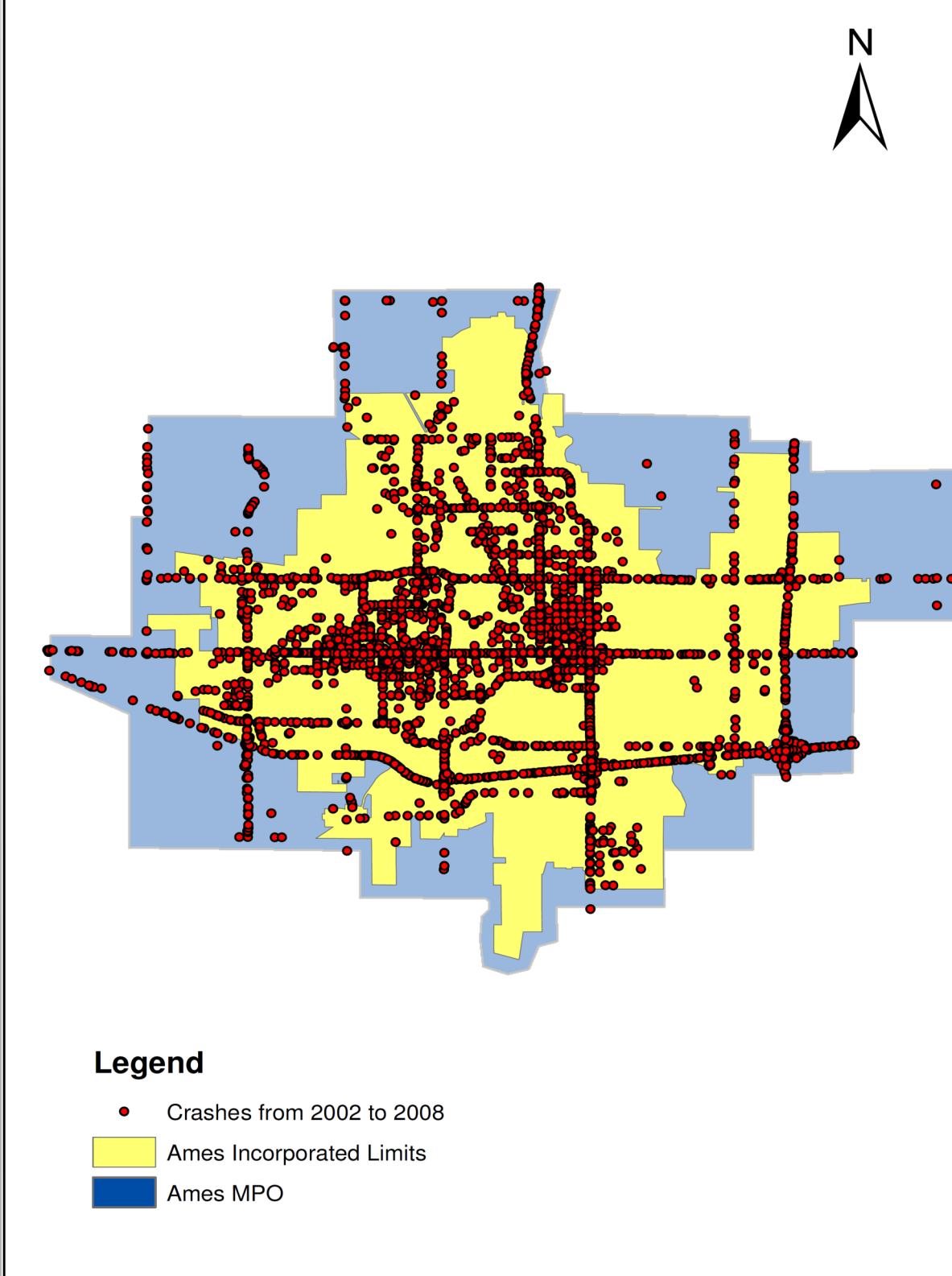
### City of Ames:

- Population: 50,731 (US Census, 2000)  
56,510 (Iowa Data Center, 2008)
- Area: 21.6 square miles (US Census, 2000)
- MPO: 36 square miles, designated in 2003
- Iowa State University : 27,945 students (as of Fall 2009)

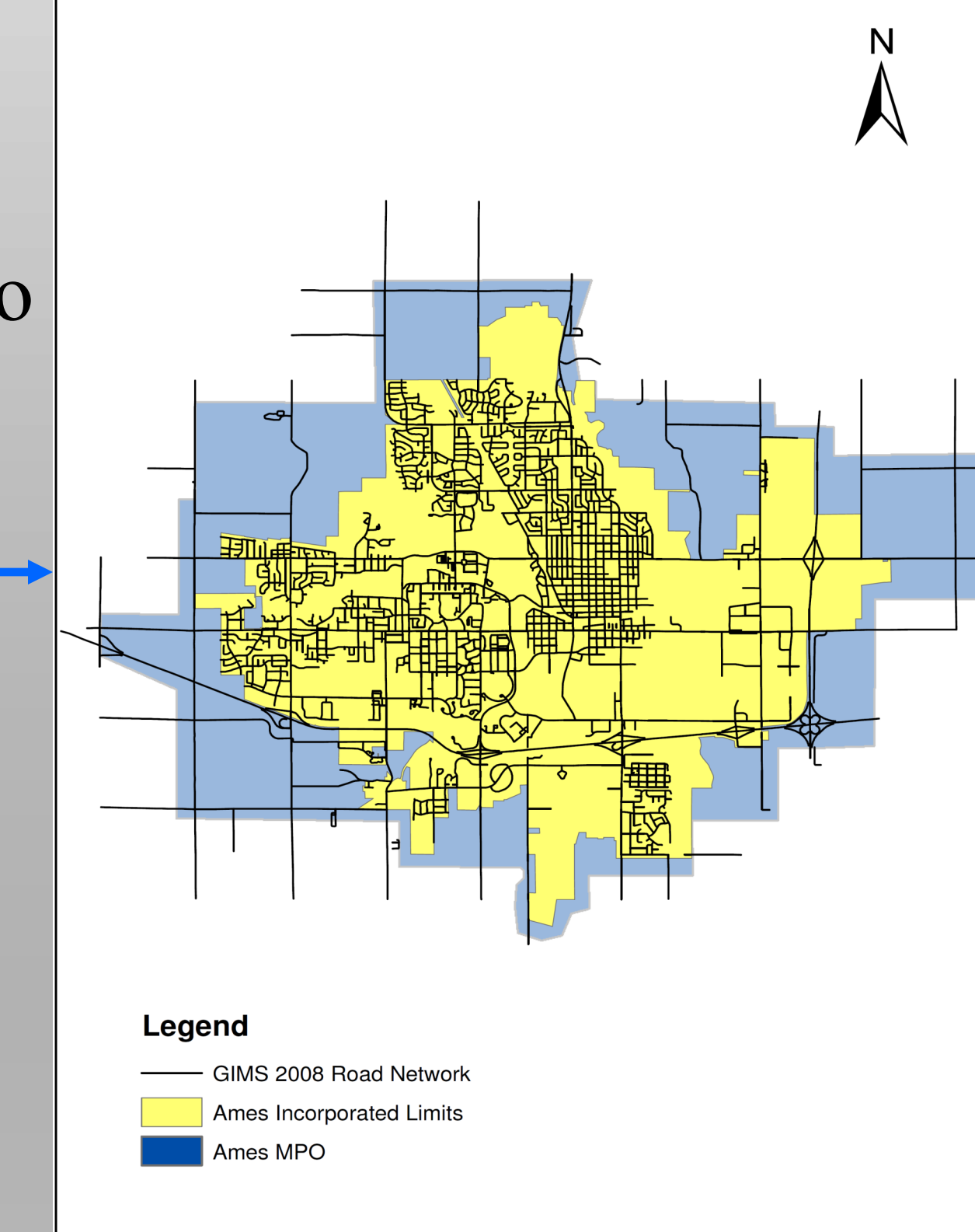
Crashes in COA from 2002 to 2008



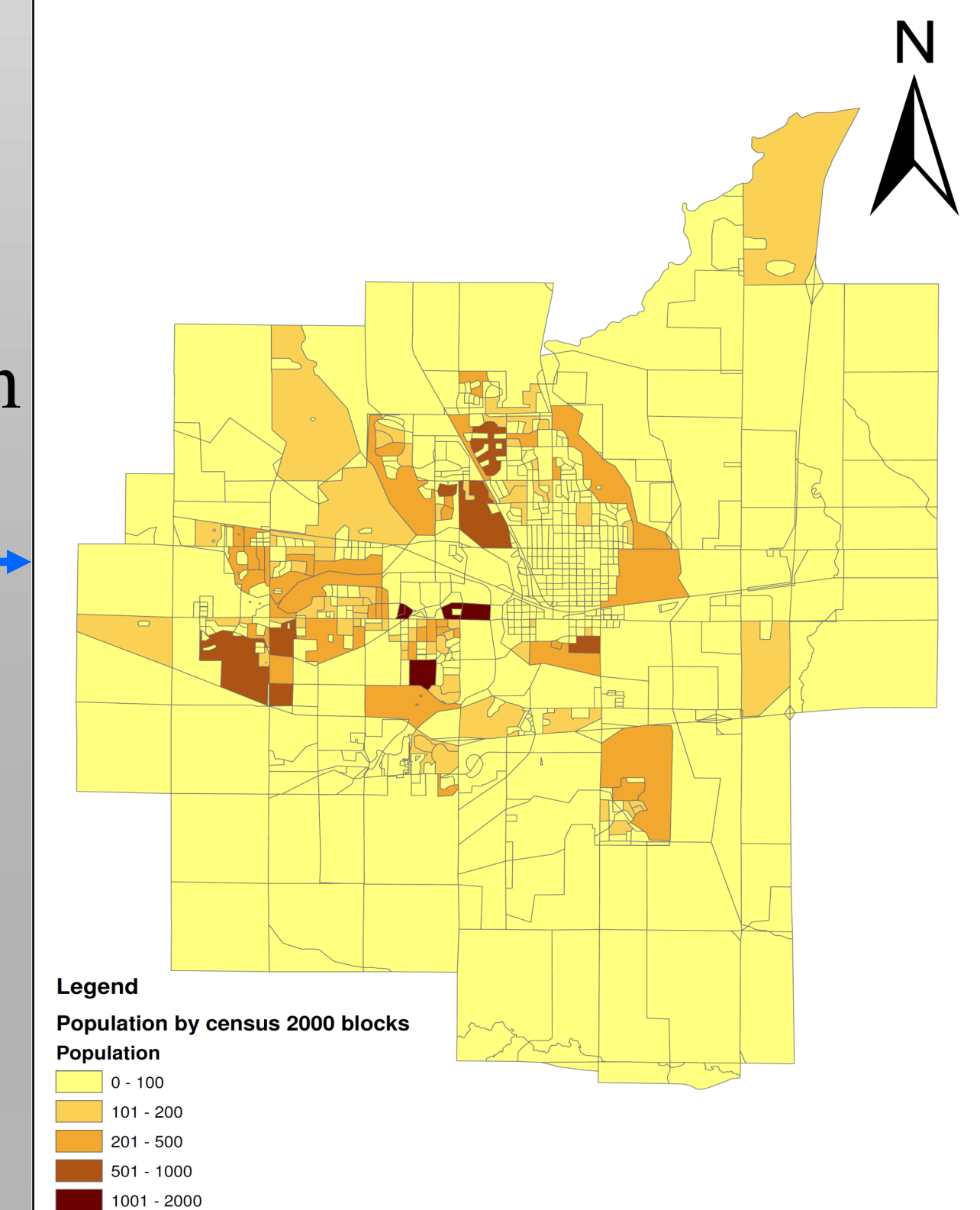
**Crash Data:**  
Geocoded crash points:  
severity, users, and  
collision type.



**Road Network Data:**  
Geocoded road network  
data: functional class,  
AADT, segment length  
and intersections.



**Socio-Demographics:**  
Population, housing,  
children, working adults,  
population density, etc.



Point to  
Line

Line to  
Polygon

### Toolbox: three quantity approaches.

**PLANSAFE:** Forecasting and estimating safety in the future due to the effect of socio-demographic changes, traffic demand, road network changes, and countermeasures at the planning level.

**Empirical Bayes (EB):** Build Safety Performance Functions (SPFs) to estimate future safety performance.

**Road Protection Scores (RPS):** Using video logs of city streets to rate the safety features of each road segment by giving scores.

### Recommendations

Incorporating Safety into Transportation Planning for Small and Medium-Sized Communities.