

## ASSOCIATIONS BETWEEN TRAFFIC AND CARDIOVASCULAR MORTALITY IN A COHORT OF CALIFORNIA WOMEN

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**Background and Aim:** Several studies have reported associations between exposure to traffic and cardiovascular events and mortality. We examined relationships between exposures to traffic and various measures of mortality and morbidity in a cohort of over 65,000 residentially stable female teachers and administrators participating in the California Teachers Study, who were followed from 1996 through 2005. Mean age of the cohort at inception was 54; the baseline active smoking rate was 5%, and participants had similar occupational exposures.

**Methods:** Participants' geocoded addresses were linked with cross-sectional measures of traffic intensity from the year 2000. We developed three measures of traffic exposure: (1) traffic density (estimated number of vehicle miles traveled within 150 m of a participant's residence); (2) proximity to a highway within versus beyond 150 m; and (3) vehicle density (number of vehicles registered in each participant's Census block group, divided by the block group area). Using Cox proportional hazards models, we examined associations between these metrics and several measures of mortality, as well as incident myocardial infarction and stroke.

**Results:** We observed several associations between traffic density and elevated risks of all-cause, cardiopulmonary, and cardiovascular mortality, with statistically significant risk gradients with increasing vehicle density. For example, the hazard ratio for participants in the 90<sup>th</sup> percentile of traffic density in relation to those below the 50<sup>th</sup> percentile was 1.20 (95% CI = 1.03, 1.39) for cardiovascular mortality. Associations were not observed between traffic density and incident myocardial infarction or stroke, or for any of the other traffic metrics.

**Conclusion:** This study provides additional evidence that exposure to traffic is associated with mortality from heart disease in a cohort of middle-aged and older women.