# HEALTH EFFECTS OF LIVING NEAR BUSY ROADS – AND THE ROLE OF DIESEL EMISSIONS

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In the past decade, several studies have been conducted among subjects living near busy roads. Some of these studies have suggested that living near busy roads is associated with adverse effects on the respiratory system. A variety of study designs have been used, including cross-sectional questionnaire studies, case-control studies, and cohort studies. Assessment of exposure to traffic exhaust has varied widely between studies. In some, subjects were asked to rate their own exposure; in others, air pollution measurements have been conducted, and some studies have also used geographic information systems (GIS) to characterize exposure. There have been some attempts to study diesel exhaust specifically by inquiring about “truck traffic” or “heavy traffic” in the street of residence, by using traffic count data, and/or by measuring specific air pollution components such as elemental carbon or “black smoke”.

Health endpoints measured have usually included questionnaire assessment of symptoms and doctors’ diagnoses of respiratory and allergic disease. Some studies have also included objective assessments of lung function, bronchial hyperresponsiveness, and allergic sensitization. Experimental studies have suggested that exposure to diesel exhaust may enhance allergic responses, but few epidemiologic studies have so far been able to study interactions between diesel exhaust and allergen exposure in producing symptoms.

The presentation will review epidemiologic studies conducted among subjects living near busy roads. It will discuss the strengths and weaknesses of the various study designs that were employed, and it will focus on the question to what extent a specific role of diesel emissions can be deduced from the findings.