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Traffic Safety Center SETTING NEW DIRECTIONS IN TRAFFIC SAFETY
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How San Francisco's Public Health Department Found Its Voice in Land Use and Transportation Planning Efforts...

And why other public health agencies should, too.

Dr. Rajiv Bhatia, Director of Occupational and Environmental Health for the San Francisco Department of Public Health, and an assistant clinical professor of medicine at UCSF on "The Struggle for Sustainable Transportation: What Can Public Health Contribute?", at the March 7 TSC Safety Seminar.

Public health professionals should participate early on in land use and transportation planning discussions, especially in urban areas, said the **Director of Occupational and Environmental Health for the San Francisco Department of Public Health**. Often it can be a matter of life or death.

Rajiv Bhatia, who is also an **assistant clinical professor medicine at University of California, San Francisco**, told a **Traffic Safety Center seminar** on March 7 that public health experts have developed valuable tools to quantify the effects of air pollution, noise and increased traffic on human health. Their input early on is especially important when working on smart growth, or infill, projects.

"Planning has created a lot of social inequality in the last hundred years," he told the group. "A lot of things we did, including building highways and planning policies, created a growing gap in the health status between the social classes in the U.S. over the past 30 years."

While everybody's health has generally improved, Bhatia said there is a 10-year life-expectancy gap between the health of the lower and upper social classes.

"A child born in a poor neighborhood…is basically going to live, on average, a decade less," he said. "And I think any historical look at transportation and land use planning shows that transportation land use planning is culpable in that dynamic."

When it comes to planning, "we really need to get transportation people thinking about health, planning people thinking about health, and economic development people thinking about health."

West Oakland's Diesel Problem

As an example of the complexity of health effects and their relationship to transportation, Bhatia pointed to the diesel fumes from trucks coming and going to the **Port of Oakland** on Oakland's streets and freeways. Fine particulates in diesel are associated with cancer in people breathing diesel-laden air.

But Bhatia said there are other problems that are less often considered. "If you took

the diesel out of the fuel, you would *still* have a health problem from air pollution for the residents of West Oakland," he said. "In fact, the more immediate problem of garden variety vehicle emissions is asthma."

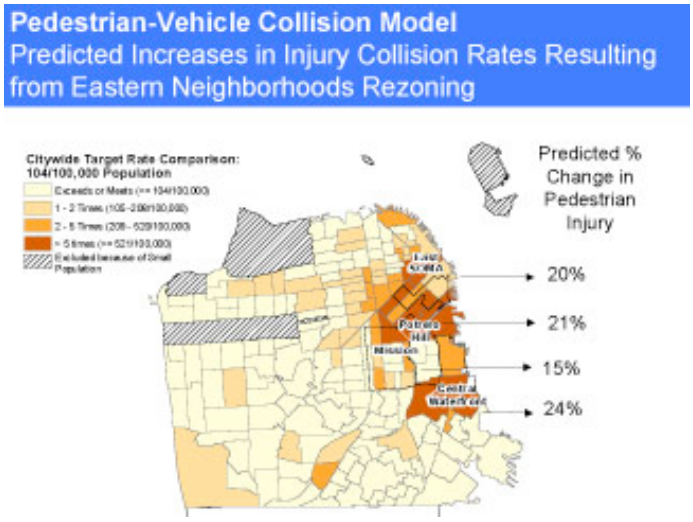
According to an article in a recent issue of *The New England Journal of Medicine*, pediatric asthma results in 14 million missed days of school each year, which also results in lost workdays and wages for parents.

But that's only part of the story. Noise above 65 decibels in a residential neighborhood increases the risk of having a heart attack earlier. "That's a well-demonstrated fact," said Bhatia. In West Oakland near freeways, noise levels are 70 to 80 decibels. Similarly, in newly established residential areas of San Francisco like SoMa (South of Market St.), decibel levels are well above what is considered healthy.

Finally, Oakland's truck traffic—and traffic generally—in residential neighborhoods increases the risk of pedestrian and bicycle deaths and injuries.

Making Smart Growth Healthier

The current solution to getting people out of their cars—in the interest of reducing pollution and congestion—is infill development. But Bhatia says that solution creates its own hazards.



"Sure, putting someone on [San Francisco's] Ninth and Market is going to reduce their commute by car—it will reduce trips versus living in Dublin. But the area where they'll be living doesn't have the greatest environmental quality. There are pedestrian hazards, noise, and poor air quality. I know," he added. "I'm one of the people who get the calls from the person who bought a loft in SoMa and complains that it's too noisy there."

And living near a freeway is a little like living near thousands of tiny factory smokestacks whizzing down the road. While the EPA regulates what comes out of each tailpipe, nobody regulates the number of tailpipes that drive by in any given moment. "While the air district regulates industrial smokestack, no one is regulating the location of sensitive land use near an industrial pollution source—the freeway—at all," Bhatia adds.

Still, you can analyze it, he says, to learn what kind of fine particulate matter is coming from the exhaust, the tires, the brake and road dust. You can take into account not only these emissions, but also wind direction and get a "pretty refined picture" of any given area.

Over the last four of five years, Bhatia has built a close relationship with San Francisco planners, to the extent that his office co-edits the all-important California Environmental Quality Act (CEQA)

documents. One important result is that every developer planning a project in an area that Bhatia's office has labeled an air quality hotspot, must install a ventilation system to filter out the bad air. To avoid installing that filtration system, a developer must do a site-specific air quality analysis to show there is no risk. "We have put the burden on the developer to do this."

Urban Health and Place researchers at the San Francisco health department's Program on Health Equity and Sustainability have developed statistical models to assess not only air quality in an area, but risk of pedestrian injury—based on traffic volume, arterial streets, land area, car ownership, commuting via walking or public transit, and number of residents. With this model Bhatia and his staff can predict the effect a development will have on the number of pedestrian injuries.

Another model measures vehicle traffic noise.

"Not only can we identify these problems, but we have a list of tools to analyze these problems, to provide numbers, where appropriate, to the harm," he explained, which is why he believes it is so important for public health experts to be part of the conversation about land use from the beginning. "Transport and land use planners have a number of design strategies in their existing toolboxes to address these problems. The health impacts tools help make the case to use these planning and design tools."

Web resources: San Francisco Department of Public Health: www.sfdph.org/phes/

UC Berkeley Health Impact Assessment (HIA) Course: http://ehs.sph.berkeley.edu/hia/

Healthy Development Measurement Tool: www.TheHDMT.org

—Christine Cosgrove