Strategies for Making Streets Safe: A newly released study of 130,000 crashes in medium-sized California cities undertaken by Wesley Marshall and Norman Garrick of the University of Connecticut provides new insights into the relationship between street design and accident rates. Their results, and others, provide us with crucial information about how to design streets that are safe for pedestrians, cyclists, and cars.

The researchers gathered data on nine years of road safety records for 159 California cities of 30,000 to 150,000 population, and ultimately zeroed in on 24 medium-sized cities with some of the best and worst crash frequencies. They concluded that the most unsafe cities in California, in terms of traffic fatalities, are the newest ones — those developed primarily since 1950. The cities with the fewest fatalities, by contrast, are those with significant portions built before 1950.

Newer cities tend to have more streets with tree-like configurations that include many cul-de-sacs that limit the movement of traffic through residential areas. They also don’t have as many intersections. The safer, pre-1950 cities, on the other hand, tend to be more grid-like, giving motorists many more routes to choose from.

Why are the cities with grids safer? An American Society of Civil Engineers (ASCE) study cited by the researchers found that more connected street networks tend to reduce travel speeds. People don’t drive as fast because they are constantly slowing or stopping at each intersection. That’s important because even a small reduction in speed can boost safety, mainly by reducing the severity of accidents.

A recent report from Europe found that when average vehicle speeds drop by just 5%, the number of injuries drops by 10% and the number of fatalities falls 20%. Extensively connected street networks may not have fewer crashes over all, but the crashes that occur are less likely to leave someone dead.

The safer cities identified by Marshall and Garrick were municipalities such as Santa Cruz, San Mateo, Berkeley, La Habra, and Danville. They had about twice the population density of the more dangerous cities — 5,736 people per square mile, versus 2,673 per square mile. And they had one-third fewer accidents that resulted in deaths.

Street widths are also a critical factor. A well-known study in Longmont, CO some years ago found a strong correlation between street widths and accident rates. The narrower the street, the lower the number of crashes, most likely due to the slower speeds on narrow streets.

Another method of slowing speeds and reducing accidents while increasing traffic volume is the roundabout. The City of Modesto has built more roundabouts than any other community in the State — a total of 12 — and has collected information about accident rates along the way. The locations and roundabout configurations vary, but all have reduced traffic backups and accidents according to Firoz Vohra, Deputy Director of Public Works. Nationally, the Federal Highway Administration reports that roundabouts reduce all crashes by 37% and injury crashes by 51%. In other countries the rate in reduction of injury crashes is as high as 87%.

Use Economic Stimulus $$$ to Create More Walkable Neighborhoods: The recently passed American Recovery and Reinvestment Act (ARRA) included $48 billion for transportation infrastructure investments. Of that $48 billion, more than $27.5 billion are in categories that make funds eligible for use in projects with complete streets elements, and another $3.8 billion are available for bicycle and pedestrian infrastructure. For more information, go to www.completestreets.org/stimulus.html.

In addition, there are $3.2 billion appropriated nationally in Energy Efficiency Block Grants that can be used to reduce fossil fuel emissions in buildings and transportation. Projects that modify streets to better accommodate bikes and pedestrians are among the eligible uses.

Should a local jurisdiction wish to undertake a more comprehensive approach, the preparation of a new zoning requirement such as a form based code for new or existing development that reduces auto use and supports walking and biking may also be funded using this money.

Cities with a population of over 35,000 will apply directly through the U.S. Department of Energy and smaller cities will get their funding from the California Energy Commission. This program is awaiting the preparation of final guidelines from DOE.
Researchers Identify Most Effective Carbon Reduction Strategies: The most effective way to reduce the carbon footprint is to make communities in urban areas more dense, according to economics professors at UCLA (Dr. Matthew Kahn) and Harvard (Edward Glaeser).

They studied 66 major metropolitan areas in the U.S. looking at overall energy use and carbon emissions. They then looked at the household emissions in 44 of these regions to see what would happen if someone moved from the suburbs in these areas to the city center. Household energy use and greenhouse gas emissions from the transportation sector dropped dramatically.

The five metropolitan areas with the lowest levels of carbon emissions in the country are all in California. Congratulations to San Francisco, San Jose, San Diego, Los Angeles, and Sacramento. These areas have remarkably low levels of both home heating and electricity use.

Many CA communities are now beginning to look at densifying more urban areas of their jurisdictions. San Mateo has solicited applications for developers for multifamily housing at the site of the current police station. Another 68-unit, four-story apartment building on a former Goodyear Tires site in San Mateo awaits bond funds. San Francisco’s affordable housing builders have started construction on a 47-unit development north of the panhandle to house formerly homeless seniors. The list goes on. While these plans are not often listed as components of a greenhouse gas reduction plan, they are among the most effective that a city or county can implement.

From Commercial Strip to Compact Neighborhood: Even before the recession, retail experts warned that cities were permitting the construction of more retail square footage than needed to meet the demand. According to retail consultant Rod Stevens, today’s supply of retail space is sometimes two or three times what the market will support. In today’s economic climate, this fact is becoming increasingly obvious as retail establishments continue to close their doors.

The City of Napa is tackling this problem by looking to locate state-mandated higher density housing in the downtown area and along two major traffic corridors. This will help the City meet new affordable housing laws that require minimum densities of 20 units per acre. It avoids NIMBY opposition to siting dense housing in existing residential neighborhoods. And it makes economic sense—urban planner Michael Freedman has studied the concept of putting higher density housing along failing commercial corridors and calculates this is likely the best economic use for these vacant properties.

Not only are there environmental and economic benefits to redeveloping commercial strips, the EPA is promoting the redevelopment of vacant retail sites as a strategy for saving undeveloped watersheds. EPA official Lynn Richards in her “Managing Stormwater Runoff: A Green Infrastructure Approach” paper in the Planning Commissioners Journal (Winter 2009), calls decisions “about where and how our towns, cities and regions grow” the first and perhaps the most important for long-term water quality. “The single most effective strategy for efficient land use is redeveloping abandoned shopping centers or underutilized parking lots rather than paving greenfield sites.”

Such sites can be made very appealing. The City of West Sacramento sited new loft style housing along a newly landscaped commercial corridor. The City of Napa is tackling this problem by looking to locate state-mandated higher density housing in the downtown area and along two major traffic corridors. This will help the City meet new affordable housing laws that require minimum densities of 20 units per acre. It avoids NIMBY opposition to siting dense housing in existing residential neighborhoods. And it makes economic sense—urban planner Michael Freedman has studied the concept of putting higher density housing along failing commercial corridors and calculates this is likely the best economic use for these vacant properties.

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